

Prevention Pays

Using therapeutic footwear, PQRI and the comprehensive diabetic foot evaluation can increase practice revenue and reduce the overall cost of patient care.

By Josh White, DPM

Podiatry, like the rest of our healthcare system, is on the precipice of tremendous reform. Currently, Medicare funds only a few programs that offer a preventative approach to care: flu shots and therapeutic shoes for persons with diabetes. In most instances, Medicare pays for tests, treatments, and hospitalization. When an approach doesn't work, Medicare keeps on paying as other ways are attempted. Physician reimbursement is predicated on utilization. Generally, the quicker a patient heals, the less the provider earns. Newly-enacted Medicare programs focus on preventative care and help podiatrists to assume a key role in reducing the costly impact of diabetes.

President Obama said in a speech in March 2009, "By a wide margin, the biggest threat to our nation's balance sheet is the skyrocketing cost of healthcare." Studies have shown that no association can be made between the total cost of care and overall health. Dartmouth researchers found that "the more money Medicare spent per person in a given state the lower that state's quality ranking. The four states with the highest level of spending—Louisiana, Texas, California and Florida—were near the bottom of the national rankings on the quality of patient care."¹ It is becoming increasingly recognized that to rein in today's escalating healthcare costs, a pre-requisite to expanded healthcare coverage, two important principles must be applied:

- Measures must be taken to prevent costly conditions from developing.

- Reimbursement should reward treatments that are therapeutic and cost-effective, offer quick recovery, and reduce utilization.

Podiatry offers ample opportunity to apply these necessary principles. The estimated incidence of diabetes in the U.S. exceeds 1.5 million new cases annually, with an overall prevalence of 20.8 million people or 7% of the nation's population. An estimated 15% of patients with diabetes will develop a lower extremity ulcer during the course of their dis-

Podiatry, like the rest of our healthcare system, is on the precipice of tremendous reform.

ease.^{2,3} According to one large British study of neuropathic patients, the one-year incidence of initial foot ulcer was 7%.⁴ The prevalence of foot ulcers reported for a variety of populations ranges from 2% to 10%.⁴

While 7% to 20% of patients with foot ulcers will subsequently require an amputation, foot ulceration is the precursor to approximately 85% of the lower extremity amputations in persons with diabetes.⁴ Diabetes continues to be the most common underlying cause of non-traumatic lower extremity amputations (LEAs) in the U.S. and Europe.⁴ In

2002, there were 82,000 diabetes-related LEAs, accounting for 911,000 days of hospital stay with an average length of stay (LOS) of 11.2 days.⁴ The age-adjusted rate of amputation for that year was 5.2 per 1,000 persons with diabetes, a notable decrease from the highest rate of 8.1 per 1,000 in 1996.

The sequelae of ulceration, including amputation, cost of prosthesis, and rehabilitation after amputation are enormous. The estimated cost for foot ulcer care in the U.S. ranges from \$4,595 per ulcer episode to nearly \$28,000 for the two years after diagnosis.⁴ One report estimates 800,000 prevalent ulcer cases in the U.S., with costs averaging \$5,457 per year per patient, or total national annual costs of \$5 billion.⁴

A study of Medicare claims data found that expenditures for patients with lower extremity ulcers averaged three times higher than expenditures for Medicare beneficiaries in general. According to a large prospective study of diabetic patients with foot ulcers, about 7% will subsequently require a lower extremity amputation.⁴ While hospital LOS for diabetes-related LEA have progressively decreased in the U.S., the overall direct costs remain high.¹⁰ Direct and indirect costs of LEA—which range from \$20,000 to \$40,000 per event—vary by year, payer, level of amputation, LOS, and attendant co-morbidities.⁴ If the lower figure is applied to the 82,000 amputations performed in 2002, estimated total costs of LEA might exceed \$1.6 billion annually. When out-patient costs for ulcer care preceding these amputations are added, the estimated total costs in

Continued on page 108

Prevention...

the U.S. for diabetic foot disease can easily approach or exceed \$6 billion annually.

The keys to wound care are prevention and early intervention. It is postulated that 50% of non-traumatic diabetic amputations can be prevented through a comprehensive lower extremity amputation prevention program.⁵ Peripheral sensory neuropathy in the face of unperceived trauma is the primary factor leading to diabetic foot ulcerations.⁴ Approximately 45% to 60% of all diabetic ulcerations are purely neuropathic, while up to 45% have neuropathic and ischemic components.⁴ According to an important prospective multicenter study, sensory neuropathy was the most frequent component in the causal sequence to ulceration in diabetic patients.⁴

Once an ulcer develops, early detection and aggressive, comprehensive care is essential to prevent it from getting worse. Unfortunately, 70% of people with ulcers have little or no regular follow-up care.⁶ In a study of inpatient ulcer care, only 1.6% had prescriptions for off-loading materials at discharge, and only 11.0% had arrangements for home health wound care.⁷

The American Diabetes Association's Clinical Practice Guidelines state that significant reductions in amputations can be achieved through the adoption of lower extremity amputation programs (LEAP) that combines:

- Comprehensive diabetic foot risk assessment
- Effective patient care and education
- Daily self-examination
- Footwear selection

Unfortunately, despite the broad consensus of what should be done to prevent amputation, the basics are not being followed by many podiatry offices:

- Healthcare providers not performing the recommended foot assessment exams; exam complexity and subjectivity result in a failure to identify at-risk patients and accurately chart their medical conditions.

- Patient education is generally inadequate; patients do not generally understand or acknowledge their at-

risk conditions and, as a result, tend to minimize the importance of self care. This results in a failure to utilize required diabetic shoes, insoles, and moisturizers. A program of preventative care for patients with diabetes should offer patients scheduled reminders based on risk categorization.

- Ineffective self-examination; even if at-risk patients are identified and instructed to self-monitor their feet at home, they are not given an effective means to recognize the early signs of ulceration, and are thus unable to prevent complications from developing. Patient must be reminded, on an ongoing basis, to perform daily self-evaluation and seek professional assistance at the earliest sign of ulceration.

Therapeutic footwear is not being provided to enough patients at risk for ulceration.

Since 1993, based on the role therapeutic footwear is believed to play in a comprehensive plan to prevent ulceration among patients with diabetes and at least a single additional risk factor, Medicare has provided coverage for a pair of shoes and up to three pair of accommodative inserts per calendar year.

In 2005, according to American Podiatric Medical Association BMAD data, podiatrists dispensed 517,860 pairs of depth shoes that were billed to Medicare. Of the over 20 million people in the U.S. with diabetes, approximately 1/3, or over six million, are Medicare recipients.

The American Diabetes Association recommends that all people with diabetes routinely see a podiatrist for palliative care. A high proportion of the over six million patients who should be seeing a podiatrist, have at least one of the risk factors that qualify them for coverage under Medicare's Therapeutic Shoe Program for Patients with Diabetes. Clearly, there are many patients with Medicare and diabetes who are not getting from podiatrists the therapeutic footwear they should have, and are entitled to, to decrease their likelihood of developing pedal ulceration.

What is PQRI and how can it help patients and podiatrists?

First introduced and authorized under the Tax Relief and Health Care Act of 2006, the Physician Quality

Reporting Initiative (PQRI) represents CMS's first step towards "pay for performance" reimbursements. PQRI, a voluntary program available to all eligible healthcare professionals, rewards providers for submitting data that can be used to evaluate patient outcomes and approximate the quality of care delivered. In exchange for this information, CMS is offering to pay podiatrists 2% of their total Medicare Part B reimbursements as a participation bonus. A better way to think of PQRI may be "pay for reporting" rather than "pay for performance."

Given that the typical podiatrist has annual billings of roughly \$500,000 and a payer mix that is 25%—50% Medicare, the potential PQRI bonus payment for the average provider is between \$2,500 and \$5,000 per year. Politically popular, pay-for performance plans are likely to gain ground, and what could happen is that what begins as a voluntary participation bonus can quickly become a non-participation penalty. Podiatrists who start using PQRI have an opportunity to become accustomed to the program, train their staff to handle workflow changes, and earn additional reimbursement while doing so.

Podiatrists are lucky in that performing a comprehensive diabetic foot evaluation, as should already be part of one's routine diabetic care, can easily satisfy the three PQRI measures required to qualify for the cash bonus. It is the act of reporting itself, and not the quality of care indicated by the reporting, that determines whether a provider will meet the requirements for earning the PQRI bonus. To calculate whether a provider has successfully met the reporting requirements, CMS computes a "denominator" and "numerator" for each measure.

The "denominator" is the number of patients seen by the physician whose age, diagnoses, and/or procedures meet the requirements for one of the PQRI measures. Each claim containing the quality data is then added to the numerator for this particular measure. So long as the numerator divided by the denominator is greater than 80%, the provider will meet the reporting requirements.

The three PQRI measures that

Continued on page 110

Prevention...

podiatrists can easily report, for their patients with Medicare and diabetes, each once per year, include:

Measure #126

Diabetes Mellitus: Diabetic Foot and Ankle Care, Peripheral Neuropathy—Neurological Evaluation

How to Perform: This measure is to be reported a minimum of once per year for patients with diabetes. The evaluation of neurological status in patients with diabetes is used to assign a risk category and therefore direct appropriate foot and ankle care to prevent ulcerations and infections. According to ACFAS/ACFAOM Clinical Practice Guidelines, risk categorization and a follow-up treatment plan should be done according to the system outlined in Table 1.

Numerator: Patients who had a lower extremity neurological exam performed at least once within 12 months. The Lower Extremity Neurological Exam consists of a documented evaluation of motor and sensory abilities including reflexes, vibratory, proprioception, sharp/dull and 5.07 filament detection.

Denominator: Number of patients with Medicare and diabetes as a primary diagnosis.

Rationale: Foot ulceration is the most common single precursor to lower extremity amputations among persons with diabetes. Shoe trauma, in concert with loss of protective sensation and concomitant foot deformity, is the leading event precipitating foot ulceration in persons with diabetes. Treatment of infected foot wounds accounts for up to one-quarter of all in-patient hospital admissions for people with diabetes in the United States. Peripheral sensory neuropathy in the absence of perceived trauma is the primary factor leading to diabetic foot ulcerations. Approximately 45-60% of all diabetic ulcerations are purely neuropathic. In people with diabetes, 22.8% have foot problems such as amputations and numbness

TABLE 1

Risk Categorization System

Risk Category	Qualifying Conditions	Evaluation Frequency
0	Normal	Annual
1	Peripheral Neuropathy (LOPS)	Semi-annual
2	Neuropathy, deformity, and/or peripheral artery disease (PAD)	Quarterly
3	Previous ulcer or amputation	Monthly to quarterly

compared with 10% of non-diabetics. Over the age of 40 years old, 30% of people with diabetes have loss of sensation in their feet.

PQRI Measure #127

Diabetes Mellitus: Diabetic Foot and Ankle Care, Ulcer Prevention—Evaluation of Footwear

How to Perform: The Evaluation for Proper Footwear includes a foot examination documenting the vascular, neurological, dermatological, and structural/biomechanical findings. The foot should be measured using a standard measuring device and counseling on appropriate footwear should be based on risk categorization.

Numerator: Patients who were evaluated for proper footwear and sizing at least once within 12 months.

Denominator: Number of patients with Medicare and diabetes as a primary diagnosis.

PQRI Measure #163

Diabetes Mellitus: Foot Exam

How to Perform: The diabetes mellitus foot exam consists of a documented evaluation of motor and sensory abilities including reflexes, vibratory, proprioception, sharp/dull and 5.07 filament detection. There should be noted any structural abnormalities, dermatological findings,

history and ulceration and amputation. Vascular testing should include at a minimum grading of dorsalis pedis and posterior tibialis pulses, as well as subpapillary venous plexus filling time.

Numerator: Patients who received a foot exam (visual inspection, sensory exam with monofilament, or pulse exam)

Denominator: Number of patients with Medicare and diabetes as a primary diagnosis.

Rationale: The most common consequences of diabetic neuropathy are amputation and foot ulceration (ADA, 2006). In developed countries, up to five percent of diabetic patients have foot ulcers (IDF, 2005). One in every six diabetics will have an ulcer during their lifetime (IDF, 2005). Amputation and foot ulceration are also major causes of morbidity and mortality. One half to 80% of all amputations are diabetes-related.⁹ The risk of ulcers or amputations increases the longer someone has diabetes. Early recognition and management of risk factors can prevent or delay adverse outcomes (ADA, 2006).

How DPMs can reduce ulceration, avail their patients of footwear, save Medicare money, and increase practice revenue all at the same time.

The prevalence of diabetes combined with Medicare programs to re-

Continued on page 112

Prevention...

duce ulceration creates a tremendous opportunity for podiatrists as a part of the federal government's effort to reform healthcare. Unfortunately, many podiatrists do not practice in the comprehensive way recommended by the ADA and others by performing screening tests, and do not provide at-risk patients with therapeutic footwear.

The following are suggested steps that can help patients to get the protection they require, podiatrists to increase their practice revenue and Medicare to save money.

Step 1: Identify patients with diabetes and Medicare.

Step 2: Remind office staff of the importance of routine diabetic care and footwear via chart stickers and patient lists.

Step 3: Remind patients of the importance of routine diabetic care and footwear via patient reminder letters and office signs.

Step 4: Schedule qualified patients for Comprehensive Diabetic Foot Evaluation.

Step 5: Do a Comprehensive Diabetic Foot Evaluation:

- Perform foot risk categorization.
- Determine appropriate footwear based on consideration of patient foot size, shape, need for stability and desired style.

- Satisfy PQRI measures.

Step 6: Submit G codes indicating completion of all required PQRI measures.

Step 7: Facilitate patient returns for fitting of diabetic shoes and therapeutic inserts.

Step 8: Appoint patient for follow-up comprehensive diabetic foot evaluation according to frequency based on risk categorization.

Hopes for the Future

Federal healthcare reform offers podiatrists an opportunity to participate in programs designed to reduce the likelihood of complications in those afflicted with diabetes. The cost of care and complications is staggering and places a tremendous premium on early intervention and prevention.

The measurement of plantar pressure is clinically relevant and integral not only to the required comprehensive diabetic foot examina-

tion for PQRI reimbursement, but also to the appropriate selection and proper fabrication of therapeutic shoes, insoles, and orthotics for people with diabetes and neuropathy.

As early as 1983, Boulton discussed foot pressure in the development of foot ulcers among people with diabetes.¹⁰ Plantar pressure has been determined to be a significant and independent risk factor in the onset of diabetic foot ulcers.

Further research indicates that a clinically apparent plantar bony prominence does not guarantee increased pressure in that area, and more important, the absence of any obvious bony deformity is not a guarantee of low plantar pressure.

The visual aspect of plantar pressure measurement provides a patient education tool which demonstrates to a high risk beneficiary the rationale for utilizing therapeutic footwear to ambulate at all times.

It is therefore expected that the semi-quantitative plantar pressure assessment (measurement) be documented in the medical record as an element of the qualifying comprehensive diabetic foot risk assessment and stratification exam (CDFE), and considered when prescribing the appropriate type of footwear and insole/orthotics solutions for a specific patient.

Prevention of diabetic foot disease entails:

- Identifying patients at risk and qualifying the degree of risk.

- Applying accepted treatment protocols with respect to appropriate visits and degree of risk.

- Ensuring that patients who require therapeutic footwear are fit properly, and that shoes and inserts are replaced as needed.

- Ensuring that patients are aware of potential complications and inspect their feet daily.

- Ensuring patients obtain care at the first incidence of complications to prevent such problems from developing into more serious and expensive problems.

Increasingly, third-party payers, including Medicare and private insurance companies, are recognizing the cost-effectiveness of a comprehensive program for diabetic foot care. The cost of such a program

with the cost of including footwear and accommodative inserts will very easily be offset by the reduced cost of hospitalization and surgery. Podiatrists play a critical role in ensuring that such an approach is effectively executed. n

References

¹ Baicker, Katherine, Chandra, Amitabh: Medicare Spending and the Quality of Care Received by Medicare Beneficiaries, Health Affairs, Vol. 4, pp184-197, April 7, 2004.

² National Institute of Diabetes and Digestive and Kidney Diseases: Diabetic Neuropathy: The Nerve Damage of Diabetes. Washington, DC, US Department of Health and Human Services, 1995.

³ Mayfield JA, Reiber GE, Sanders LJ, et al.: Preventive foot care in people with diabetes. Diabetes Care 1998; 21:2161-2177.

⁴ Frykberg, et al. Diabetic Foot Disorders: A Clinical Practice Guideline (2006 revision). Supplement to the Journal of foot and Ankle Surgery, September/October 2006, Vol.45, number 4.

⁵ Rith-Najarian S, Branchaud C, Beaulieu O, et al.: Reducing lower extremity amputations due to diabetes: application of the staged diabetes management approach in a primary care setting. J Fam Pract 1998; 47:127-132.

⁶ Bloomgarden ZT: Nephropathy and neuropathy. American Diabetes Association Annual Meeting, 1999. Diabetes Care 2000; 23:549-556.

⁷ Edelson GW, Armstrong DG, Lavery LA, et al.: The acutely infected diabetic foot is not adequately evaluated in an inpatient setting. Arch Intern Med 1996; 156:2373-2378.

⁸ National Institute of Diabetes and Digestive and Kidney Diseases: Feet Can Last a Lifetime: A Healthcare Provider's Guide to Preventing Diabetes Foot Problems. Washington, DC, US Department of Health and Human Services, 1997.

⁹ Mayfield, 1998; Reiber, 1995; ADA, 2001; Unwin, 2000.

¹⁰ Boulton AJM, Hardisty CA, Betts RP et al. Dynamic foot pressure and other studies as diagnostic and management aids in diabetic neuropathy. Diabetes Care; 1983; 6:26-33.

Dr. White is a certified pedorthist and is president of SafeStep. He is a member of the APMA DME Sub-Committee, a member of AAPP, and a lecturer in the NYCPM Department of Orthopedics,

