

## Changing Practice to Reduce Diabetes Complications

### Kidney Disease

#### How successful is the U.S. health care system in addressing kidney disease in people with diabetes?

Thirty percent of end-stage renal disease (ESRD) patients received no pre-ESRD nephrology care.

In a national sample of primary care physicians, a substantial number didn't correctly identify their patients with chronic kidney disease stages two to four. (Israni, 2009)

Less than half of people over 35 with diabetes identify kidney disease as a serious problem caused by diabetes.

#### Why change the healthcare system?

“Every system is perfectly designed to achieve exactly the results it gets. If we want new results - and we do - we need a new system.”

--Donald Berwick, formerly Centers for Medicare & Medicaid Services & Institute for Healthcare Improvement



Diabetes can lead to costly and debilitating complications such as kidney disease.

- Improving blood pressure and blood glucose control in people with diabetes reduces the risk for kidney disease by up to 40%. (CDC, 2011)
- Treatment with angiotensin-converting enzyme inhibitors (ACEIs) and angiotensin receptor blockers (ARBs) is more effective in reducing the decline in kidney function than treatment with other blood pressure lowering drugs. (CDC, 2011)

Changing health systems and provider practices benefits people with diabetes:

- *Interventions based on the Chronic Care Model* (see below) improved at least 1 process or outcome measure for people with diabetes in primary care practices. (Bodenheimer, 2012)
- *Use of electronic health records* (EHRs) led to higher achievement of care & outcome standards for patients with diabetes than use of paper records, including meeting blood pressure and LDL-cholesterol goals. (Cebul, 2011)
- *Achieving NCQA patient-centered medical home recognition* led to significant improvement in the percentage of patients with diabetes who had evidence-based complications screening. (Gabbay, 2011)
- *Involvement of non-physician providers* such as pharmacists, case managers, and community health workers is strongly supported as a way to improve diabetes outcomes. (NIH, 2011)

### Diabetes and Kidney Disease

Diabetes is associated with reduced quality of life, especially for people with multiple and/or severe complications.

Medicare recipients with diabetes and kidney disease account for over 13% of Medicare expenditures although they are only 4% of the total Medicare population (2008). (Foley, 2009)

#### Chronic Care Model Components ([www.improvingchroniccare.org](http://www.improvingchroniccare.org))

- Health care organization
- Delivery system design
- Clinical information systems
- Self-management support
- Decision support
- Community resources and policies

The Chronic Care Model is an effective frame-work for practice redesign.

## How Can Providers Assure Quality Care Related to Major Complications for People with Diabetes?

- Assess A1C 2 to 4 times a year
- Assess and control blood pressure and blood lipids
- Consider self-monitoring for blood pressure, especially for those with poorly controlled hypertension.
- Assure receipt of annual dilated eye exams and foot exams, appropriate immunizations and other preventive services
- Assess weight; recommend physical activity, healthy diet and medical nutrition therapy as appropriate
- Review, adjust and/or administer medications
- Promote self-management training
- Assess smoking status and advise smokers to quit
- Provide psychosocial assessment; refer to a mental health specialist familiar with diabetes, as appropriate
- Assess urine albumin & albumin/creatinine ratio (ACR) and estimated glomerular filtration rate (eGFR) annually

### **Guidelines for Diabetes Management**

#### **• American Diabetes Association •**

Standards of medical care in diabetes-2013  
[*Diabetes Care*. 2013;36(Suppl 1):S11-S66]

#### **• American Association of Clinical Endocrinologists •**

AACE Medical guidelines for clinical practice for developing a diabetes mellitus comprehensive care plan  
[*Endocr Pract* 2011 Mar-Apr;17(Suppl 2):1-53]

#### **• National Kidney Foundation •**

KDOQI clinical practice guidelines for chronic kidney disease  
[*Am J Kidney Dis*. 2002;39(Suppl 1):S1-S266]

#### **• Task Force on Community Preventive Services •**

[www.thecommunityguide.org/diabetes](http://www.thecommunityguide.org/diabetes)

Download fact sheets & references from the NACDD Diabetes Council web pages at <http://www.chronicdisease.org>. Click on *Diabetes*, then *Resources/Tools*.

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