

Changing Practice to Reduce Diabetes Complications

Cardiovascular Disease

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

Less than 14% of people with diabetes met all goals for blood pressure, A1C & LDL-cholesterol. (2003-2004 NHANES)

About one fourth of people with diabetes have a blood pressure $\geq 140/90$. (CDC, 2009)

Only about half of people over 35 with diabetes identify cardiovascular 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, including cardiovascular disease.

- Reducing diastolic blood pressure from 90 mmHg to 80 mmHg in people with diabetes reduces the risk of major cardiovascular events by 50%. (CDC, 2011)
- Implementing clinical reminders for diabetes care, enhancing patient education and other program changes significantly improved the proportion of patients achieving A1C, blood pressure, and LDL-C goals in a VA medical center study. (Vouri, 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 received 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 Cardiovascular Disease

Heart disease is one of the top ten costliest health conditions. (Soni, 2011)

Heart trouble, stroke, hypertension and diabetes are among the top 15 conditions causing disability. (CDC, 2005)

Diabetes, high blood pressure or a combination of these two diseases accounted for 9.4% of health care costs in the U.S. (2003-2005).

Chronic Care Model Components (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

Comprehensive 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;17(Suppl 2):1-53]

• **National Institutes of Health** •

Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7 Express)
[<http://www.nhlbi.nih.gov/guidelines/hypertension/jncintro.htm>]

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

[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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