CD Summary

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OREGON PUBLIC HEALTH DIVISION • DEPARTMENT OF HUMAN SERVICES

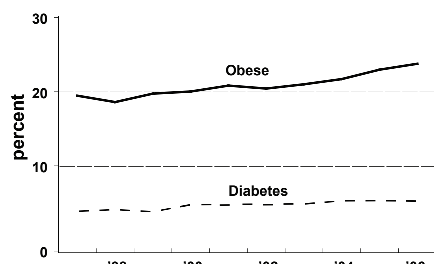
DIABETES CARE IN OREGON: BETTER BUT NOT BEST

Diabetes is a serious, common, and costly disease affecting more than 184,000 Oregonians. In addition, an estimated 590,000 Oregonians have pre-diabetes. While preventing diabetes from developing in the first place is clearly optimal, numerous strategies can be used by patients and providers to prevent, delay, and minimize its complications. This *CD Summary* reviews receipt of preventive services among Oregonians with diabetes and the prevalence of diabetes self-management activities.

DIABETES IN OREGON

Over the past decade, the percent of adult Oregonians with diabetes has increased from 4.6% in 1997 to 6.3% in 2006, mirroring the rise in obesity (see figure 1). Age-adjusted mortality rates from diabetes have also increased, from 23.8 per 100,000 in 2000 to 29.3 in 2005. Diabetes has a huge economic impact. Based on American Diabetes Association estimates, in 2007, Oregonians spent $1.4 billion for direct diabetes health care alone. When indirect costs such as disability and lost productivity are considered, the total economic impact of diabetes in Oregon tops $2.1 billion annually.[1]

Figure 1 Diabetes and obesity among adults in Oregon



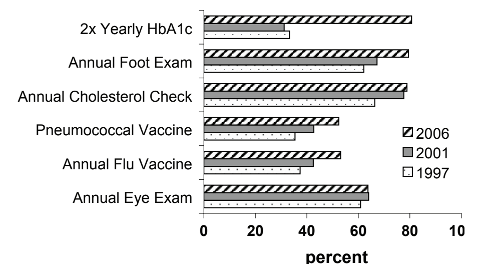
DIABETES PREVENTIVE CARE

The *Oregon Population-Based Guidelines for Diabetes Mellitus* provides a set of evidence-based practices for diabetes preventive care.[2] These include annual foot exams, dilated eye exams, lipid screenings and routine hemoglobin A1C testing. Provision of annual foot and retinal exams is supported by cohort studies and/or randomized controlled trials. Lowering LDL-cholesterol to <100 mg/dl has been demonstrated to decrease the likelihood of both cardiovascular events and mortality among patients with diabetes.[3] Although a recent study involving glycemic control was halted due to concerns about increased mortality in the aggressive treatment group[4], maintaining hemoglobin A1c at or below 7% has been proven to decrease microvascular complications in several other large studies.[5,6] The *Guidelines* also recommend pneumococcal vaccination and annual influenza immunization.[2] While there is less evidence behind these recommendations, they make sense in light of the increased risk of severe infection among persons with diabetes.

HOW ARE WE DOING?

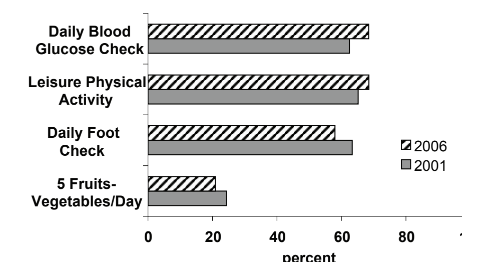
Based on data from Oregon's Behavioral Risk Factor Surveillance System (BRFSS), preventive care among Oregonians with diabetes improved in several areas from 1997 to 2006 (see figure 2). Semi-annual hemoglobin A1c testing increased from 57% in 2003 to 81% in 2006, and annual foot exams were reported by 79% of respondents, surpassing *Healthy People 2010* benchmarks in both these areas. The percentage reporting a cholesterol check in the past year (79%) is only slightly higher than it was ten years ago (75%). Pneumococcal vaccinations among Oregonians with diabetes increased from 35% to 52%, and rates for annual flu shots (53%) also increased slightly; nonetheless, almost half of diabetes patients are still not receiving these vaccinations. In addition, the rate for annual dilated eye exams, has remained mired in the 60% range since 1997.

Figure 2 Diabetes preventive services



BRFSS also allows us to track diabetes self-care practices including: daily self-monitoring of blood glucose, extent of physical activity, foot checks, and consumption of five or more servings of fruits and vegetables. On a positive note, (figure 3) the percent of Oregonians with diabetes who perform daily blood glucose checks rose to 68% in 2006, exceeding the *Healthy People 2010* benchmark in this area. Daily foot checks, and fruit and vegetable consumption, on the other hand, have decreased slightly, with rates of 58% and 21% respectively.

Figure 3 Diabetes self-management



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RESOURCES

Several tools are available to assist patients with diabetes preventive services and self-management.

- The Oregon Diabetes Coalition recently revised the *Diabetes Care Card*, which helps track scheduling and receipt of preventive services. The card is also set up to record test results, management goals, and information about medications, allergies, and other health conditions. You can order up to 250 *Care Cards* at no cost by visiting *www.oregon.gov/DHS/ph/diabetes/carecard.shtml* or calling the Oregon Diabetes Program at 971-673-0984.
- The services and practices in the *Care Card* are based on recommendations provided in the *Oregon Population-based Guidelines for Diabetes Mellitus, 4th edition.* You can get a copy of the *Guidelines* by visiting *www.oregon.gov/DHS/ph/diabetes/guidelines.shtml* or calling the Oregon Diabetes Program.
- The Oregon Diabetes Coalition recently developed patient education handouts with information about specific preventive services and self-management practices. The materials are designed to be useful for low-literacy patients, easy to understand, and clinically accurate. Additional materials are nearing release, including a handout called *"Quality care for diabetes: Are you getting all the care you should be getting?"* To download and print materials, visit our website at: *www.oregon.gov/DHS/ph/diabetes/resourcebank/index.shtml*.
- The National Diabetes Education Program (NDEP) has a resource called "*Feet can Last a Lifetime: A Health Care Provider's Guide to Preventing Diabetes Foot Problems*," which provides a number of tools for the patient, including an illustrated, easy-to-read booklet, foot care tips and a to-do list, along with exam rooms posters for your office. Most of the tools are available in both English and Spanish on the on the NDEP website at *http://ndep.nih.gov/resources/feet/index.htm* or by calling 1-888-693-NDEP.

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1. American Diabetes Association. Economic Costs of Diabetes in 2007. Diabetes Care 2008;31:596-615.
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Reporting Diabetes in Children

In accordance with statute (ORS 444.300), the Public Health Division recently established the Childhood Diabetes Database. Its purpose is: 1) to determine the incidence and prevalence of diabetes in Oregon children; 2) to assist in making decisions about allocation of resources; and 3) to support research that improves care for children with diabetes.

The law requires that health care practitioners and schools report children ≤18 years with diabetes to the Public Health Division. Statewide school reporting began with the 2007–2008 school year, and we are currently working with health care practitioners to implement the provider reporting process. Options include electronic reporting, reporting by mail, faxing, and installing the reporting form as a template in the electronic medical record (EMR), which is then populated with information during a patient visit and faxed to our office. Explanatory materials, including an information sheet for providers, a brochure for parents, and a provider reporting form are available at: *www.healthoregon.org/cdd*.

For more information or assistance in developing a reporting mechanism, contact us at: phone: 971-673-0984/fax: 971-673-0994; email: childhood.diabetes-database@state.or.us.