

Chronic Kidney Disease Initiative

—Protecting Kidney Health

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Improving blood sugar and blood pressure control in people with diabetes lowers the risk for developing kidney disease.

CDC's CKD Initiative provides public health strategies for promoting kidney health.

Chronic kidney disease (CKD) is a condition in which the kidneys are damaged and cannot filter blood as well as they should. CKD has varying levels of seriousness that can range from leakage of extra protein into the urine to kidney failure requiring dialysis, in which a machine filters the blood like healthy kidneys would, or a kidney transplant, where a kidney is donated from another person. If left untreated, CKD can progress to kidney failure (also known as end-stage renal disease) and early cardiovascular death.

- More than 20 million (or more than 10%) US adults are estimated to have CKD and most are undiagnosed.
- Kidney disease is the 9th leading cause of death in the United States.
- In the United States, diabetes and hypertension are the leading causes of kidney failure, accounting for 72% or about 3 out of 4 new cases.
- The number of kidney failure cases in the US population has more than tripled since 1990 and is expected to grow because of an aging population and the increasing number of people with conditions, such as diabetes and high blood pressure, which place them at risk of developing CKD.
- Total Medicare spending (excluding prescription drugs) for patients with kidney failure reached nearly \$29 billion in 2012, accounting for about 6% of the Medicare budget costs. In addition, overall Medicare costs for people aged 65 years or older with CKD were about \$45 billion in 2012, or more than \$20,000 per person per year.

The Good News

Disability and death from CKD is not inevitable.

- Among people with diabetes, early detection and treatment of kidney disease can help prevent or delay cardiovascular death and advancing to kidney failure. Among those with diabetes and high blood pressure, blood sugar and blood pressure control have been shown to lower the risk of developing kidney disease.
- Several studies have shown the possibility for preventing or delaying the start of diabetic kidney disease by treating patients who have diabetes with blood pressure-lowering drugs. In addition to lowering blood pressure, these medications reduce protein in the urine, a risk factor for developing kidney disease.

CDC's Investment

In recognition of the growing problem of kidney disease, [CDC's CKD Initiative](#) is designed to provide public health strategies for promoting kidney health. These strategies seek to prevent and control risk factors for CKD, raise awareness, promote early diagnosis, and improve outcomes and quality of life for those living with CKD. Current activities include surveillance and epidemiology, state-based demonstration projects, and health outcomes and economic studies in partnership with other government agencies, universities, and national organizations.

Surveillance and Epidemiology

In collaboration with the University of California at San Francisco and the University of Michigan, CDC implemented the national [CKD Surveillance System](#). The surveillance system is crucial for tracking national trends in the number of cases, risk factors, and care practices that affect CKD prevention and control, evaluate quality improvement efforts, and monitor kidney disease objectives for Healthy People 2020.

Together with other federal agencies, universities, national organizations, and other partners, CDC developed and disseminated the [2014 National Chronic Kidney Disease Fact Sheet](#). This document provides a consensus about the burden of CKD in the United States. The fact sheet includes data on the extent of the problem in racial/ethnic groups, risk factors, and health consequences.

In addition, CDC is supporting the collection of national data on kidney measures in the [National Health and Nutrition Examination Survey \(NHANES\)](#) to supplement our CKD surveillance efforts.

Health Outcomes

In partnership with the National Kidney Foundation, CDC is finishing a screening demonstration project for early detection of CKD in high-risk populations in four states. The program called CKD Health Evaluation and Risk Information Sharing (CHERISH) was designed to identify individuals at high risk for CKD, find out about the participant's access to follow-up care, and examine the course of disease in those with CKD.

Working with partners, CDC is using national datasets like NHANES and the United States Renal Data System to investigate the epidemiology of CKD in the general and in special populations; for example, deaths among people with CKD and the rate of new cases of kidney failure among people with diabetes, among other topics. In addition, CDC collaborates with the Veterans Administration to examine the natural history and health outcomes of CKD in this population.

Health Economics

Working with RTI International, CDC is conducting cost-effectiveness studies using a lifetime simulation model to assess the costs and benefits of various CKD care and prevention interventions. The model will be used to predict the development, progression, and complications of CKD, and will also test the effectiveness of various public health interventions. CDC cost-effectiveness studies have found that CKD screening should target people aged 50 years or older with diabetes or high blood pressure. It is not cost effective to screen people who are not at high risk for CKD.

Also with RTI International, CDC started an economic study on the direct and indirect costs of CKD. These studies will be very important in making health policy decisions about CKD, as it has become one of the most costly diseases in the Medicare budget.



CKD surveillance data are available at www.cdc.gov/ckd/surveillance.

Citation:

Centers for Disease Control and Prevention (CDC). *Chronic Kidney Disease Initiative—Protecting Kidney Health*. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention; 2015.

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For more information, please contact the Division of Diabetes Translation

4770 Buford Highway, N.E., Mailstop F-73, Atlanta, GA 30341-3717

Telephone: 800-CDC-INFO (232-4636) • TTY: 888-232-6348

E-mail: www.cdc.gov/info • Web: www.cdc.gov/diabetes