

Diabetic kidney disease on the rise in America, despite improved diabetes care

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Diabetic kidney disease has become more prevalent in the United States over the past 20 years, despite a substantial increase in the use of medications for the treatment of people with diabetes, according to a study to be published June 22 in *JAMA*, the *Journal of the American Medical Association*.

These medications include drugs that lower glucose, blood pressure and lipids.

The widespread application of medications proven to improve health in clinical trials has markedly bettered the control of blood sugar, blood pressure, and cholesterol in the diabetic population in the United States.

Yet [diabetic kidney disease](#) continues to rise. This increase was mostly due to the growing number of people with diabetes. But researchers were surprised that diabetic [kidney disease](#) increased in direct proportion to the percentage of American adults with diabetes. In other words, there was no apparent progress in preventing kidney disease within the diabetic population.

"Improvements in reaching therapeutic targets in diabetes management have not translated into a decline in diabetic kidney disease," said the lead author of the study, Dr. Ian H. de Boer, assistant professor of medicine in the Division of Nephrology, Kidney Research Institute, and an adjunct assistant professor of epidemiology at the University of Washington (UW) in Seattle.

Diabetic kidney disease is a common complication of diabetes, de Boer explained, and develops in about 40 percent of people with diabetes. Diabetes is the leading cause of [chronic kidney disease](#) in the developed world. This type of kidney disease can appear as protein in the urine or impaired functioning of the tubes that filter urine, or both.

Even mild signs of diabetic kidney disease, de Boer noted, are linked with a higher risk of heart disease and death, as well as greater [health-care costs](#)

de Boer added that diabetic kidney disease accounts for almost half of the cases of end-stage [kidney failure](#) in the United States. Approximately 60 percent of patients with end stage kidney disease die within five years of onset. Medicare spending for the treatment of end stage kidney disease hit \$26.8 billion in 2008, based on the latest figures in the U.S. Renal System 2010 Annual Report.

Because the researchers were conservative in estimating diabetic kidney disease, the disorder could be more prevalent than the study figures indicate. The swell in cases of diabetic kidney disease, de Boer said, can't be explained by U.S. demographic changes over the past 20 years in age, gender, race or ethnicity.

One thing that has changed is the clinical manifestation of the disease. Diabetes patients under age 65 are less likely to have protein in their urine than in past years. Earlier studies have shown that tight control of blood sugar levels prevents the appearance of protein in the urine in both type 1 and type 2 diabetes.

However, better diabetes management did not lead to significant improvements in glomerular filtration rate, a test which measures kidney function, de Boer and his research team discovered.

"The results of our research don't suggest that standards of diabetes care for controlling blood sugar levels, high blood pressure, and cholesterol should be changed," de Boer said. "What the findings suggest is that these treatments alone are not doing an effective job of reducing diabetic kidney disease, and researchers need to find additional ways to do that."

The real solution to preventing diabetic kidney disease, de Boer said, is to keep diabetes from occurring in the first place. Diet, exercise, and other lifestyle modifications to prevent or treat obesity are helpful in lowering the risk of type 2 diabetes. Avoiding diabetes frees people from experiencing its many complications, including diabetic kidney disease.

In addition, the study suggests that new interventions are needed to prevent people with [diabetes](#) from developing kidney disease. In particular, interventions focused on preventing glomerular filtration rate problems are needed.

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