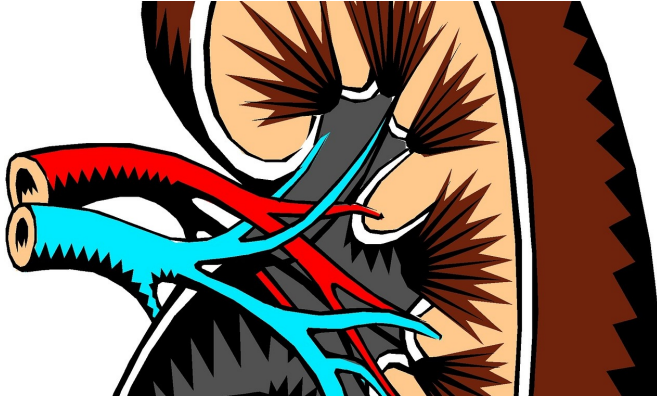


Rates of chronic kidney disease, deaths outpace other diseases

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Advances in treating cancer, heart disease and other major health conditions in recent decades have extended life spans for millions of people.

However, [chronic kidney disease](#) is an outlier, with cases accelerating at a faster pace than all other noninfectious diseases, according to a study from Washington University School of Medicine in St. Louis and the Veterans Affairs (VA) St. Louis Health Care System.

The researchers found that the burden of chronic [kidney](#) disease, as well as the probability of [death](#) related to chronic kidney disease, have increased substantially over the past 15 years in all 50 U.S. states. Such increases also were seen in younger adults ages 20 to 54, a group in which kidney disease had been uncommon.

The findings are published Nov. 30 in *JAMA Network Open*.

"Unfortunately, chronic kidney disease is known as a 'silent epidemic' because many people don't realize they have it until the disease is at an advanced stage," said Ziyad Al-Aly, MD, the

study's senior author and an assistant professor of medicine. "It is particularly concerning that chronic kidney disease is becoming more common in younger people. This is a remarkable move in the wrong direction."

The researchers noted that the abundance of high-sugar, high-salt foods in many American diets and obesity-related health problems such as high blood pressure and type 2 diabetes are likely driving the increase in kidney disease. This is because poor diets and metabolic problems contribute to the buildup of toxins that can interfere with the kidneys' job, which is to remove harmful waste from the body.

The researchers also showed that the increasing rates of chronic kidney disease varied considerably by state. For example, while all states experienced rising rates of chronic kidney disease, significantly higher increases occurred in states with the highest obesity rates among adults—such as West Virginia, Mississippi, Louisiana, Georgia and Alabama.

"The findings suggest the need to address the [health risks](#) such as diabetes that can lead to kidney disease," Al-Aly said. "This means healthier diets and exercise, as well as increased monitoring by health-care workers of patients with obesity or metabolic disorders who are at a greater risk of developing kidney disease."

To compare rates of kidney disease with other diseases, the researchers tapped into a public database of the Global Burden of Disease (GBD) initiative. It provides a detailed epidemiologic assessment of about 350 diseases and injuries by age and sex, as well as more than 80 risk factors, in all U.S. states and countries worldwide. For this study, the analysis focused on U.S. data by age from 2002 to 2016.

The researchers measured and compared the percent change in healthy life-years lost due to

kidney disease with the diseases and injuries in the GBD database. They found that chronic kidney disease rates are increasing faster than the rates of all noninfectious diseases, including cardiovascular disease, cancer, cirrhosis and other chronic lung diseases, mental disorders and neurological disorders.

The measure of how many years of healthy life are lost is often referred to as "disability-adjusted life years." During the 15-year period covered by the study, health loss due to kidney disease increased by 18 percent, while the burden of cardiovascular disease and cancer have decreased by 22 percent and 13 percent, respectively.

"The decline is largely reflective of medical advances in cardiovascular disease and cancer treatment," Al-Aly said. "Similarly, the increase in chronic kidney disease reflects a relative stagnation in new treatments. There have been no major advances to slow or reverse kidney disease during the past two decades."

Overall, deaths due to chronic kidney disease increased 58 percent from 52,127 in 2002 to 82,539 in 2016.

While deaths attributable to chronic kidney disease are rare among younger people, the numbers are rising. Among adults ages 20 to 54, the probability of death due to chronic kidney disease increased almost 26.8 percent, from 0.1 percent (or 100 deaths per 100,00 people) in 2002 to 0.125 percent (125 deaths per 100,000 people) in 2016.

"This also is worrisome from an economic perspective because it is the [younger adults](#), in particular, who often contribute most to economic prosperity on local, state and federal levels," Al-Aly said.

Those 55 years and older experienced a 25.6 percent increase in deaths due to chronic kidney disease, from 1.95 percent (1,950 deaths per 100,000 people in 2002 to 2.45 percent (2,450 deaths per 100,000 people) in 2016.

Chronic kidney disease also accounted for a 52 percent increase among all age groups of healthy

life-years lost, from 1.2 million in 2002 to 2 million in 2016.

"Public health priorities, policy initiatives, funding allocation and advocacy efforts need to catch up to this reality that the burden of chronic [kidney disease](#) is rising, and the speed of change now outpaces other noncommunicable diseases," Al-Aly said. "A concerted effort should be made to put the brakes on this."

More information: *JAMA Network Open* (2018). DOI: [10.1001/jamanetworkopen.2018.4412](https://doi.org/10.1001/jamanetworkopen.2018.4412)

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