

National Institute of Diabetes and Digestive and Kidney Diseases

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U.S. Kidney Failure Rates Stabilize, Ending a 20-Year Climb

Troubling Racial Disparities Persist

After 20 years of annual increases from 5 to 10 percent, rates for new cases of kidney failure have stabilized, according to new research from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) of the National Institutes of Health. At the same time, dramatic racial disparities persist.

In 2003, the rate for new cases of kidney failure was 338 per million population, down slightly from 2002 and continuing a four-year trend, finally allowing researchers to be cautiously optimistic that rate decreases have not happened by chance. The average annual increase has been less than 1 percent since 1999, compared to an average 5 percent in the previous decade, according to research published recently by NIDDK's U.S. Renal Data System (USRDS) at www.usrds.org and being presented next month at the annual scientific meeting of the American Society of Nephrology.

Diabetes and high blood pressure remain the leading causes of kidney failure, accounting for 44 percent and 28 percent of all new cases, respectively. The most striking trends were found in diabetes, where rates for new cases in whites under age 40 were the lowest since the late 1980's, in stark contrast to rates for their African American counterparts, which have not budged. "It's gratifying to see progress, however small, and to know that NIDDK activities undoubtedly have had a hand in that success," said Paul W. Eggers Ph.D., NIDDK's co-director for the USRDS. "But persistent disparities are sobering."

Credit for recent gains likely goes to clinical strategies proven in the 1990s to significantly delay or prevent kidney failure: angiotensin-converting enzyme inhibitors (ACE-inhibitors) and angiotensin receptor blockers (ARBs), which lower protein in the urine and are thought to directly prevent injury to the kidneys' blood vessels; and careful control of diabetes and blood pressure. The launch of private and government programs to improve care and increase awareness coincided with these developments, including NIDDK's National Kidney Disease Education Program (NKDEP).

NKDEP encourages early diagnosis and management by increasing awareness about:

- the connection between diabetes, high blood pressure and kidney disease
- strategies proven to prevent or delay kidney failure

- estimating kidney function (eGFR) to find kidney disease earlier
- efforts to standardize testing for kidney disease and encourage more labs to automatically report eGFR, and
- time-saving tools for health professionals at www.nkdep.nih.gov, including eGFR calculators that eliminate most of the work to estimate kidney function; and a letter template, which automatically calculates patient-specific eGFR, generates a list of next steps based on kidney disease stage and is designed to improve communication between kidney specialists and primary care physicians.

Despite incremental successes in preventing kidney failure and in improving health and survival of people who have it already, the increasing and aging U.S. population means that more people than ever before are getting and living with the disease. In 2003, nearly 537,000 people received dialysis or a kidney transplant. The cost to Medicare was \$18.1 billion, with another \$9.2 billion borne by private insurers and patients. Another 10 million people in the United States have earlier kidney disease; most don't know they have it, let alone that the disease increases the risk for premature death, heart attacks, strokes, and other problems.

The research also found both encouraging and discouraging news about the quality of care for people with chronic kidney disease (CKD), an earlier stage that precedes kidney failure. Tests to find kidney disease at the earliest, most-treatable stages are not widely used. Only 10 percent of the general Medicare population had a blood test and only 5 percent had urine tested for kidney disease. But, while ACE-inhibitors and ARBs are still underutilized, there has been a dramatic increase in their use. In the past decade, the use of these drugs doubled among people over age 60 with CKD, from 16 percent to 32 percent of patients, and nearly half of those who also had diabetes or hypertension or congestive heart failure used them.

"We could prevent or delay a lot more kidney failure, simply by using the box of tools that are already in the trunk," said Josephine P. Briggs, M.D., a kidney specialist and director of NIDDK's Division of Kidney, Urologic, and Hematologic Diseases.

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USRDS research depends on collaborations with other agencies of the U.S. Department of Health and Human Services (HHS), especially the Centers for Medicare and Medicaid Services, but also the United Network for Organ Sharing and the Centers for Disease Control and Prevention. Patient registries for other countries also contribute data for analyses.

NIDDK, part of the National Institutes of Health (NIH), conducts and supports research and education programs on kidney disease and diabetes, among others. Learn more about NIDDK programs and diseases at www.niddk.nih.gov.