

National Kidney and Urologic Diseases Information Clearinghouse (NKUDIC)

A service of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institutes of Health (NIH)

Kidney Disease Statistics for the United States

On this page:

- [The Growing Burden of Kidney Disease](#)
- [Definitions](#)
- [CKD Incidence](#)
- [CKD Prevalence](#)
- [ESRD Incident Rate](#)
- [ESRD Incident Rates by Race](#)
- [ESRD Prevalence and Prevalent Rate](#)
- [AKI Incidence](#)
- [CKD Co-morbidities](#)
- [ESRD Treatment Modality](#)
- [Kidney Transplantation](#)
- [ESRD Mortality](#)
- [Mortality Rates for Dialysis Patients](#)
- [General Graft Survival Rates](#)
- [Graft Survival Rates by Race](#)
- [Patient Survival Rates for Dialysis and Transplant Patients](#)
- [ESRD Costs](#)
- [Costs per Patient](#)
- [Definition](#)
- [AV Fistula Use among Men and Women](#)
- [AV Graft Use among Men and Women](#)
- [Catheter Use for Vascular Access](#)
- [Acknowledgments](#)

The Growing Burden of Kidney Disease

Kidney disease statistics for the United States convey the burden of chronic kidney disease (CKD) and end-stage renal disease (ESRD). Based on these statistics, researchers can estimate the size of the ESRD population in years to come and gauge the need for resources such as dialysis and transplant clinics to treat the growing ESRD population.

Over time, kidney disease statistics show trends and movement. For example, statistics show which ethnic and age groups and geographical regions have the highest incidence of kidney disease. This demographic information helps direct targeted programs to the people who need them most. Statistics can later help measure progress in preventing and treating kidney disease. With the knowledge provided by statistics, researchers and health care providers can make great gains in the fight against kidney disease.

Unless otherwise noted, the following statistics are from the United States Renal Data System's *2010 Annual Data Report and 2011 Annual Data Report*.

One in 10 American adults, more than 20 million, have some level of CKD.

Source: Centers for Disease Control and Prevention

[\[Top\]](#)

Definitions

chronic kidney disease (CKD): any condition that causes reduced kidney function over a period of time. CKD is present when a patient's glomerular filtration rate remains below 60 milliliters per minute for more than 3 months or when a patient's urine albumin-to-creatinine ratio is over 30 milligrams (mg) of albumin for each gram (g) of creatinine (30 mg/g).

end-stage renal disease (ESRD): total and permanent kidney failure. When the kidneys fail, the body retains fluid. Harmful wastes build up. A person with ESRD needs treatment to replace the work of the failed kidneys.

acute kidney injury (AKI): sudden, temporary, and sometimes fatal loss of kidney function

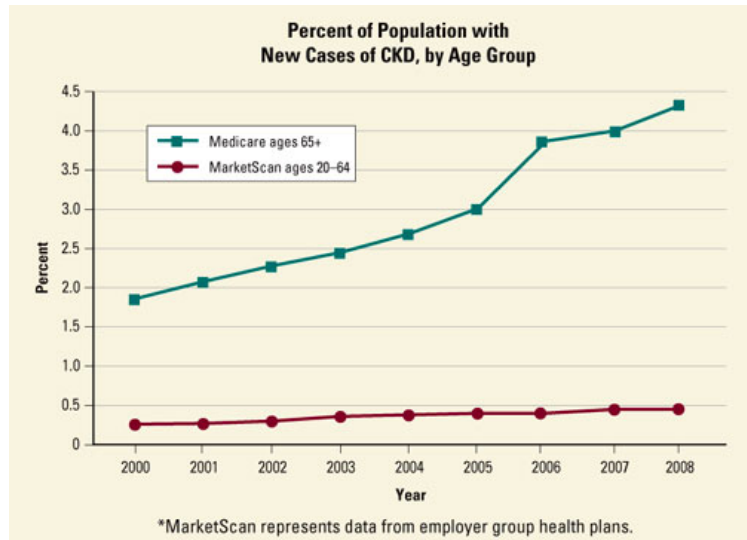
incidence: the number of new cases of a disease in a given time period

prevalence: the number of existing cases of a disease at a given point in time

[\[Top\]](#)

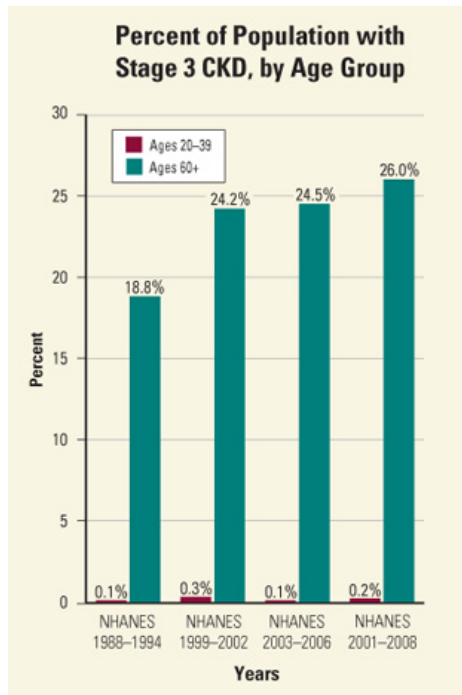
CKD Incidence

- The incidence of CKD is increasing most rapidly in people ages 65 and older.
- The incidence of recognized CKD in people ages 65 and older more than doubled between 2000 and 2008.
- The incidence of recognized CKD among 20- to 64-year-olds is less than 0.5 percent.

[\[Top\]](#)

CKD Prevalence

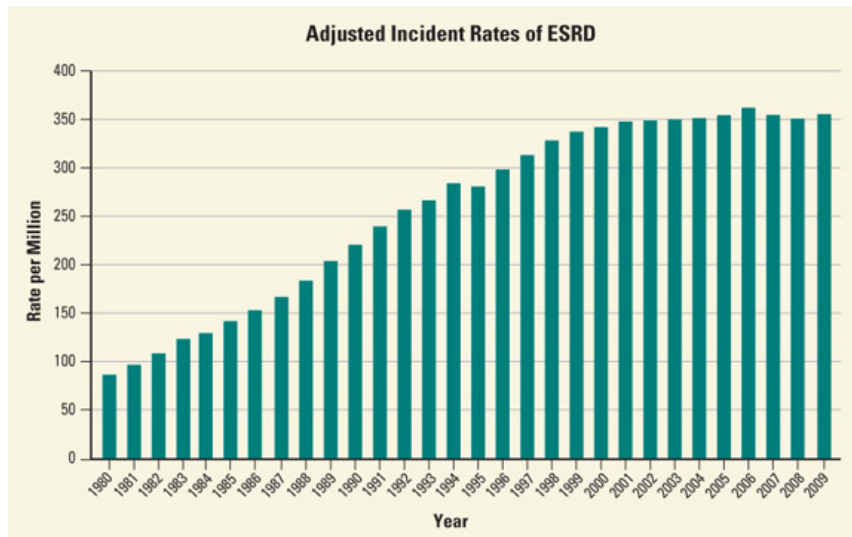
- The prevalence of CKD is growing most rapidly in people ages 60 and older.
- Between the 1988–1994 National Health and Nutrition Examination Survey (NHANES) study and the 2003–2006 NHANES study, the prevalence of CKD in people ages 60 and older jumped from 18.8 to 24.5 percent.
- During that same period, the prevalence of CKD in people between the ages of 20 and 39 stayed consistently below 0.5 percent.



[\[Top\]](#)

ESRD Incident Rate

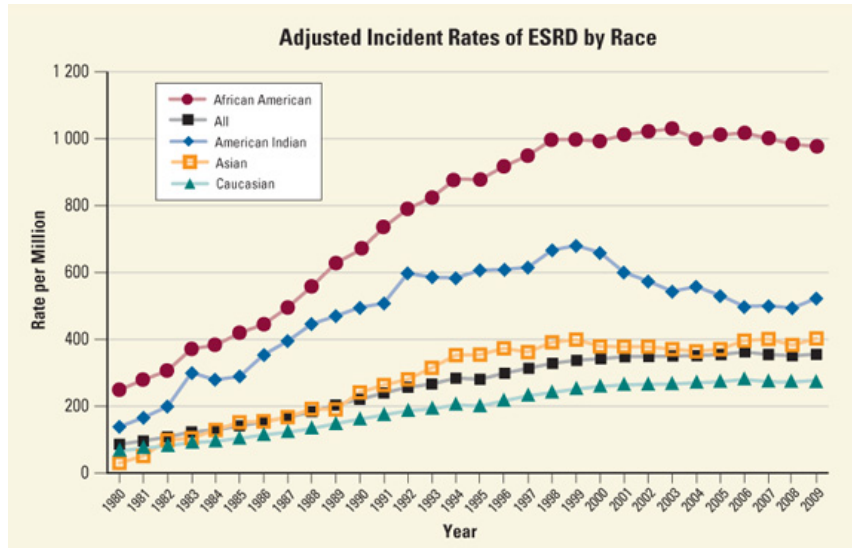
After rising steadily from 1980 to 2001, the incident rate of ESRD **leveled off**.



[\[Top\]](#)

ESRD Incident Rates by Race

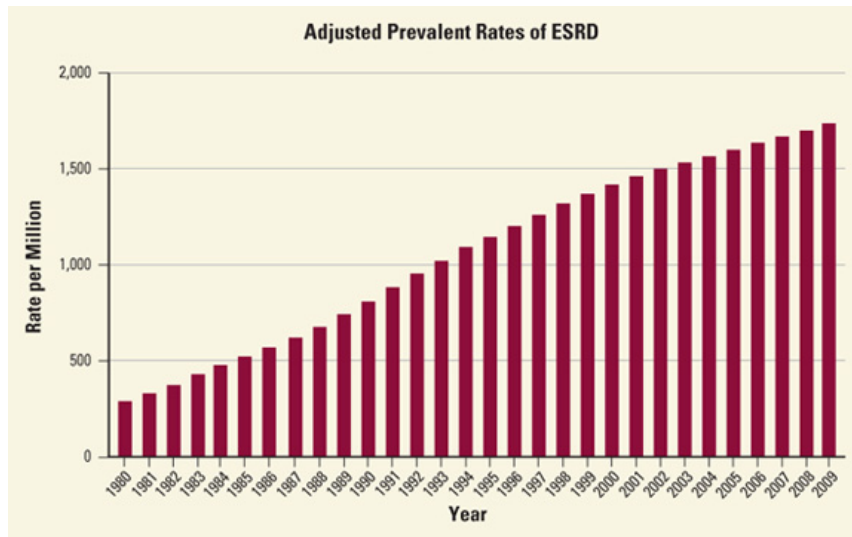
- ESRD incident rates are more than three times higher for African Americans than for Caucasians.
- After rising from 1980 to 2000, the incident rates for all races **stabilized**.
- African American rates rose more quickly than rates for all other races.
- In 2001, incident rates for American Indians **started to decline**.



[\[Top\]](#)

ESRD Prevalence and Prevalent Rate

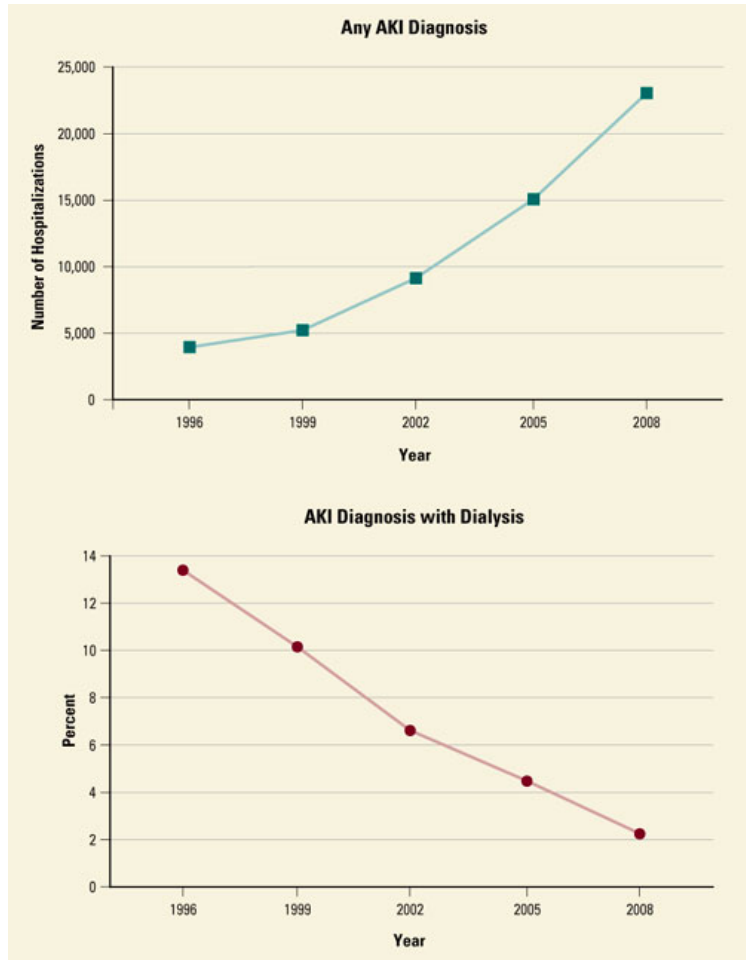
- At the end of 2009, more than 871,000 people were being treated for ESRD.
- Between 1980 and 2009, the prevalent rate for ESRD increased nearly 600 percent, from 290 to 1,738 cases per million.



[\[Top\]](#)

AKI Incidence

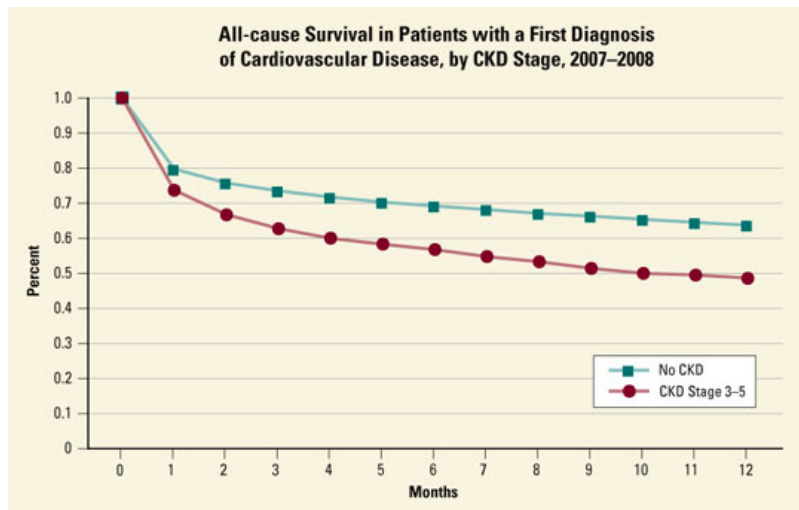
- The number of hospitalizations that included an AKI diagnosis rose from 3,942 in 1996 to 23,052 in 2008.
- The percentage of AKI diagnoses that required dialysis **declined** from 13.39 in 1996 to 2.25 in 2008.



[\[Top\]](#)

CKD Co-morbidities

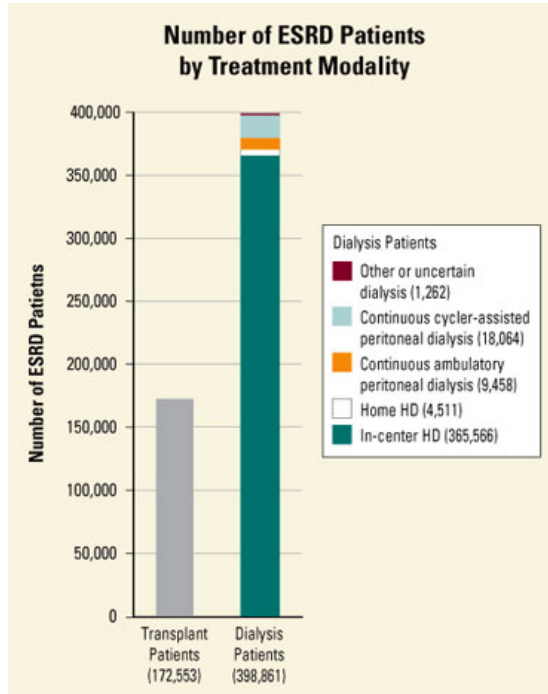
- People with no CKD are more likely than people with stage 3 to 5 CKD to be alive 1 year after a heart attack.
- The 1-year mortality for heart attack patients without identified CKD is 36 percent, compared with 51 percent for patients with stage 3 to 5 CKD.



[\[Top\]](#)

ESRD Treatment Modality

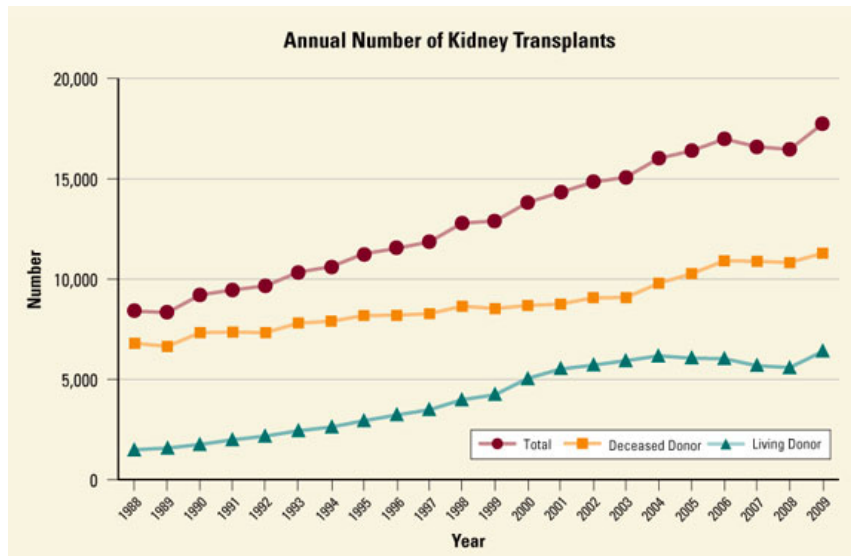
- At the end of 2009, 398,861 ESRD patients were being treated with some form of dialysis; 172,553 ESRD patients had a working transplanted kidney.
- More than 10 times as many ESRD patients receive hemodialysis (HD) treatments at a clinic as those who do peritoneal dialysis (PD) and home HD combined.



[\[Top\]](#)

Kidney Transplantation

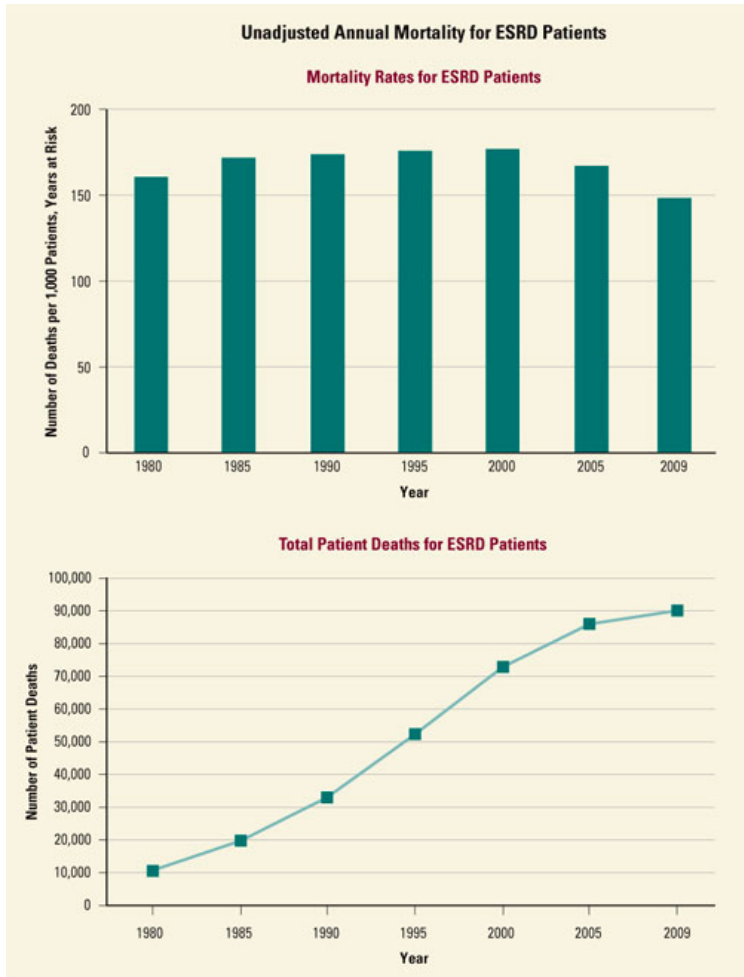
After rising steadily from 1980 to 2006, the annual number of kidney transplants declined in 2007 and 2008.



[\[Top\]](#)

ESRD Mortality

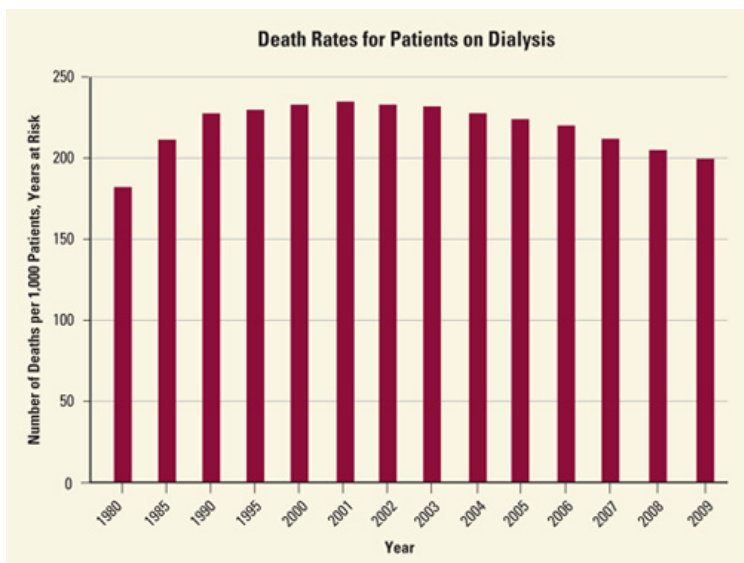
- Though the total number of ESRD patient deaths has continued to rise, the **death rate** has **declined** in recent years after peaking in 2001.
- The number of deaths from ESRD rose from 10,478 in 1980 to 90,118 in 2009.



[\[Top\]](#)

Mortality Rates for Dialysis Patients

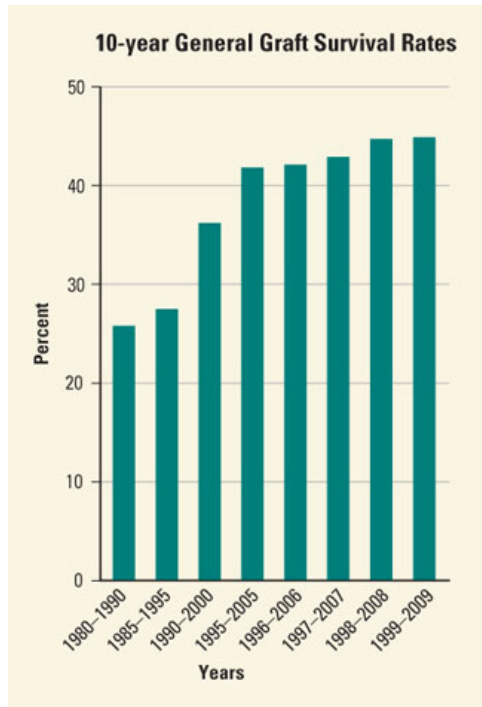
After rising from 1980 to 2001, mortality rates for dialysis patients started to fall every year. By 2008, they had returned to early 1980s levels.



[\[Top\]](#)

General Graft Survival Rates

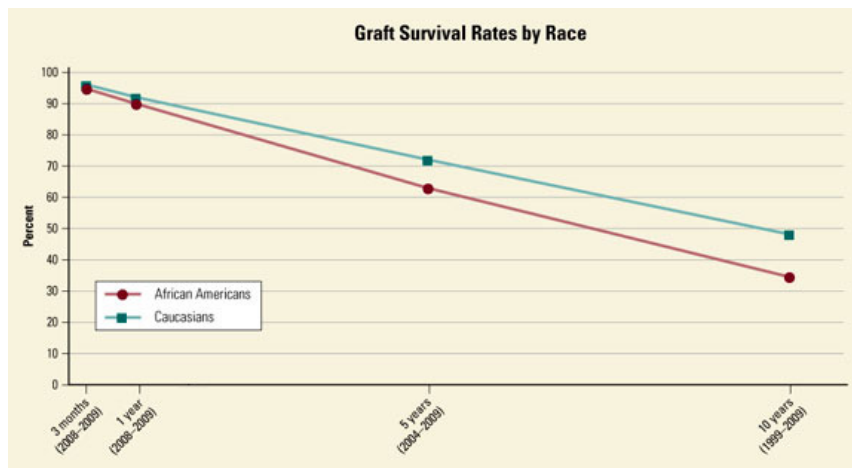
The percentage of grafts transplanted in 1980 that survived to 1990 was 25.7. That percentage **improved steadily** in the following decades, with the survival rate from 1999 to 2009 rising to 44.9.



[\[Top\]](#)

Graft Survival Rates by Race

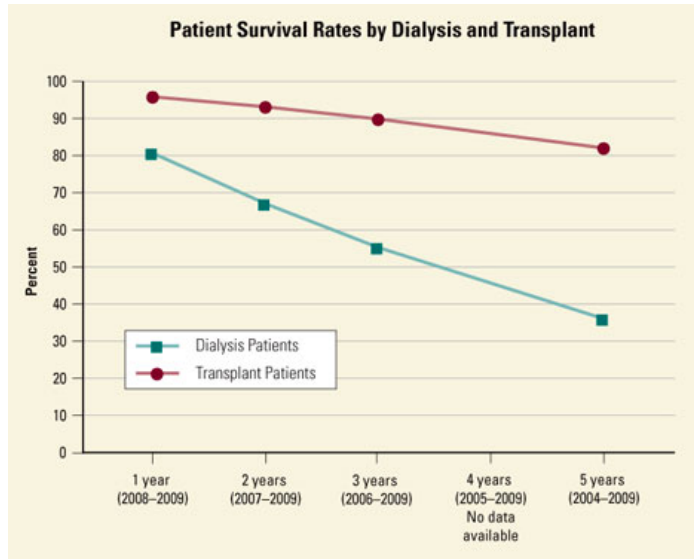
While graft survival is lower in African Americans than in Caucasians, patient survival rates are about equal.



[\[Top\]](#)

Patient Survival Rates for Dialysis and Transplant Patients

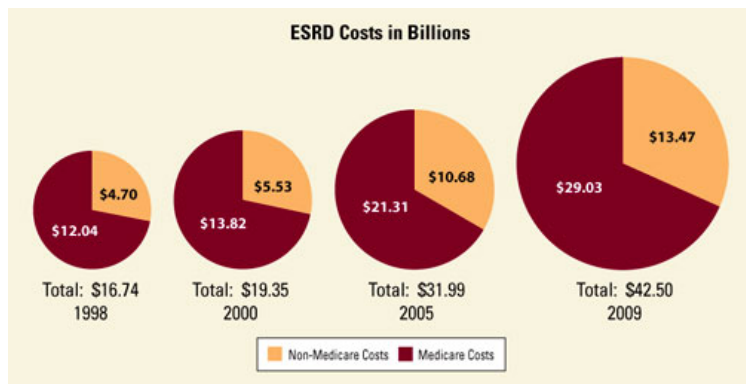
At 85.5 percent, the 5-year survival rate for transplant patients is more than twice the 35.8 percent survival rate for dialysis patients.



[\[Top\]](#)

ESRD Costs

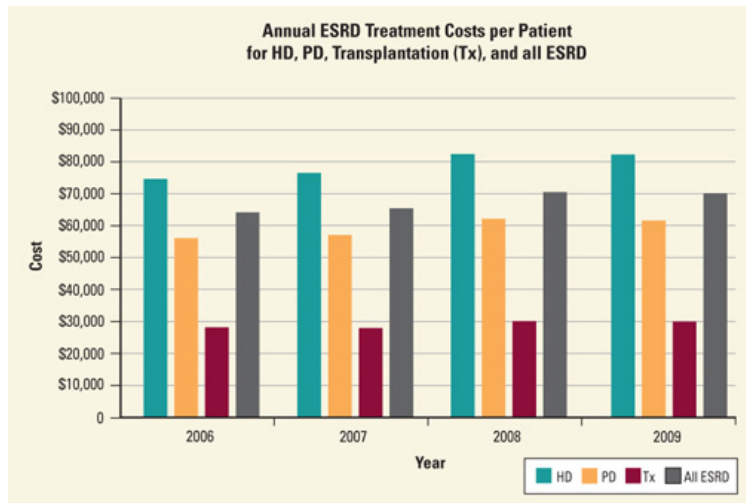
Treating ESRD patients cost the United States over \$40 billion in public and private funds in 2009.



[\[Top\]](#)

Costs per Patient

- ESRD annual expenditures per patient have increased slightly in recent years.
- From 2006 to 2007, transplant costs per patient decreased but increased again in 2008.
- Yearly costs for treating a patient on HD are nearly triple the costs for treating a transplant patient.



[\[Top\]](#)

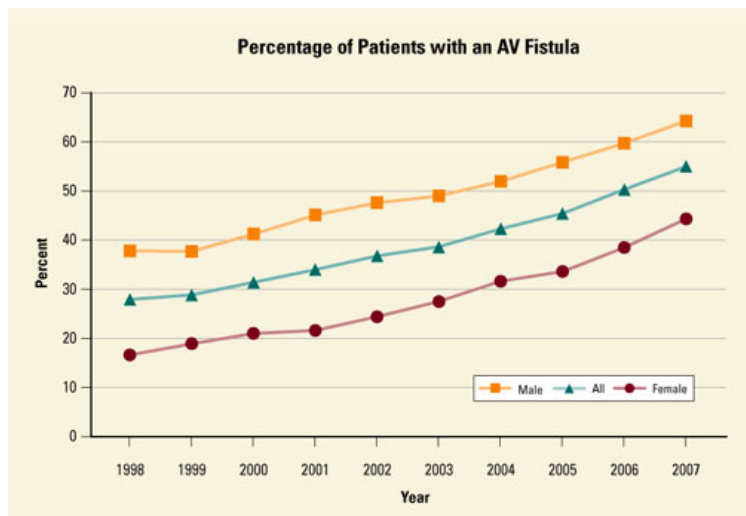
Definition

vascular access: a general term to describe where blood is removed from and returned to the body during HD. A vascular access may be an arteriovenous (AV) fistula, an AV graft, or a catheter. An AV fistula is the preferred type of vascular access because it causes fewer problems with infection and clotting. Catheters have the most problems with infection.

[\[Top\]](#)

AV Fistula Use among Men and Women

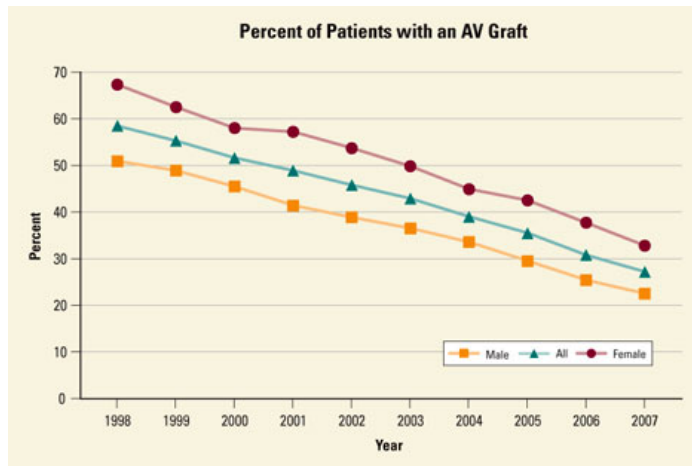
- AV fistula use **increased** from 27.9 to 55.0 percent between 1998 and 2007.
- AV fistula use **increased** in both men and women.
- AV fistula use rates among men were twice as high as among women in the late 1990s.
- Women have begun to **narrow the gap** in AV fistula use.



[\[Top\]](#)

AV Graft Use among Men and Women

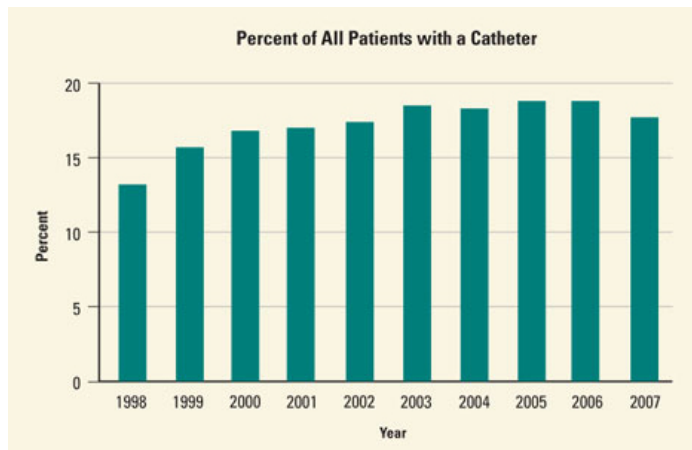
- The decline in AV graft use mirrors the rise in AV fistula use.
- AV graft use among women is higher than among men.
- The gap in AV graft use among men and women narrowed gradually between 1998 and 2007.



[\[Top\]](#)

Catheter Use for Vascular Access

Around 18 percent of dialysis patients use a catheter for their vascular access.



[\[Top\]](#)

Acknowledgments

Publications produced by the Clearinghouse are carefully reviewed by both NIDDK scientists and outside experts.

[\[Top\]](#)

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The National Kidney Disease Education Program (NKDEP) is an initiative of the National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, U.S. Department of Health and Human Services. The NKDEP aims to raise awareness of the seriousness of kidney disease, the importance of testing those at high risk, and the availability of treatment to prevent or slow kidney disease.

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The National Kidney and Urologic Diseases Information Clearinghouse (NKUDIC) is a service of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). The NIDDK is part of the National Institutes of Health of the U.S. Department of Health and Human Services. Established in 1987, the Clearinghouse provides information about diseases of the kidneys and urologic system to people with kidney and urologic disorders and to their families, health care professionals, and the public. The NKUDIC answers inquiries, develops and distributes publications, and works closely with professional and patient organizations and Government agencies to coordinate resources about kidney and urologic diseases.

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NIH Publication No. 12-3895
June 2012

Page last updated November 15, 2012

[\[Top\]](#)

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