

# Chapter 2: Healthy People 2020

## Introduction

For more than three decades, the Healthy People initiative has served as the nation's agenda for health promotion and disease prevention. Coordinated by the United States (U.S.) Department of Health and Human Services, the initiative provides a vision and strategy for improving the health of all Americans by setting priorities, identifying baseline data and 10-year targets for specific objectives, monitoring outcomes, and evaluating progress. Since its inaugural iteration in 1980, in each decade the program has released updated plans that reflect emerging health priorities, and have helped to align health promotion resources, strategies, and research. Healthy People 2020 (HP2020, 2010) launched on December 2, 2010. It represents the fourth-generation plan, and encompasses more than 1,000 objectives organized into 42 different topic areas. Built on the success of the three previous initiatives, HP2020 seeks to achieve the following overarching goals:

- Assist all Americans in attaining high-quality, longer lives free of preventable disease, disability, injury, and premature death;
- Achieve health equity, eliminate disparities, and improve the health of all groups;
- Create social and physical environments that promote good health for all; and
- Promote quality of life, healthy development, and healthy behaviors across all life stages (HP2020, 2010).

One of the key priorities of the HP2020 initiative is to “reduce new cases of chronic kidney disease (CKD) and its complications, disability, death, and economic costs.” The development of CKD and its progression to end-stage renal disease (ESRD) is a major source of reduced quality of life in the U.S., and is responsible for significant premature mortality.

The HP2020 CKD objectives are designed to reduce the long-term burden of kidney disease, increase lifespan, and improve quality of life among those with this condition, and to eliminate health care disparities among patients. To accomplish these goals, the HP2020 program developed 14 objectives (with 20 indicators) related to CKD, accompanied by targets designed to evaluate the program's success. Herein, we provide data for nine of these objectives, as well as information on urine albumin testing in non-CKD patients diagnosed with diabetes mellitus (DM). Because we use the Medicare 5 percent data sample to evaluate objectives related to CKD patients who are not on dialysis, results are limited to those aged 65 and older.

Overall, the data demonstrate both areas of improvement and continued need. Encouraging trends were noted for nearly all objectives, with 10 out of 15 CKD indicators meeting or exceeding their targets. For example, with respect to provision of appropriate care, indicators related to the proportion of patients with DM and CKD receiving recommended medical evaluation have surpassed their targets. Nearly all indicators related to reductions in mortality among ESRD patients have exceeded their targets. However, the data demonstrate that five indicators continue to fall short of their targets. Though the trend is moving in the direction of improvement, rates of kidney failure due to DM still exceed the overall target (151.9 cases per million population) by just over two cases per million. Indicators related to kidney transplant wait-listing and timely receipt remain below their respective targets, with the indicator for patients receiving a kidney transplant within three years of ESRD onset appearing to lose ground in recent years.

It is important to highlight that one of the four overarching goals of HP2020 is to eliminate health care disparities. While much of the data show promising trends, progress overall has not always translated into reduced disparities across subgroups.

For example, even though the overall target is close to being achieved for reducing the rate of new cases of ESRD (347.7 new cases per million population), non-Hispanic Blacks and Latinos experience substantially higher incidence rates than do non-Hispanic Whites. The overall target for increasing the proportion of CKD patients receiving care from a nephrologist at least 12 months before the start of renal replacement therapy (30.0 percent) has been exceeded. However, when examined by race and ethnicity, only non-Hispanic Whites, American Indians, and Asians have exceeded this target.

Below, the detailed findings and time trends for each of the nine objectives (with 17 indicators) are presented separately. Additional information on the HP2020 program objectives can be found at [www.healthypeople.gov](http://www.healthypeople.gov).

### Analytical Methods

See the ESRD Analytical Methods chapter for an explanation of analytical methods used to generate the figures and tables in this chapter.

## Recommended Care

In recent years, the link between acute kidney injury (AKI) and subsequent adverse renal outcomes has become increasingly recognized, further highlighting the importance of this objective. Follow-up of AKI patients provides the opportunity to identify

development of CKD, and to institute renoprotective measures early in the course of evolving disease. Over the past decade, there has been a significant increase in follow-up renal evaluation after an episode of AKI, but the levels remain low overall. In 2012, 13.2 percent of patients aged 65 and older who were hospitalized for AKI had a follow-up renal evaluation during the following 6 months (see Table 2.1). This is the second consecutive year that the HP2020 goal of 12.3 percent was achieved.

Of note, rates of renal evaluation vary significant by age group. While 17.6 percent of patients aged 65-74 receive follow-up evaluation, just 7.4 percent of those age 85 and older receive such care. In addition, men appear more likely to receive follow-up renal evaluation as compared with women.

In the diabetic population aged 65 and older, the percentage of patients receiving an annual urine albumin measurement has more than doubled in the past decade, increasing from 18.1 percent in 2002 to 42.4 percent in 2012, surpassing the HP2020 target of 36.6 percent (see Table 2.2).

The temporal trend of increasing testing is seen in all age groups, but the absolute rates decline with age. Nearly 50 percent of patients aged 65-74 had urine albumin testing compared with 28.0 percent of patients older than 85 years. Rates appear relatively stable when examined by race, with the exception of a markedly low rate of 23.9 percent for Native

**vol 2 Table 2.1 HP2020 CKD-3 Increase the proportion of hospital patients who incurred acute kidney injury who have follow-up renal evaluation in 6 months post-discharge: Target 12.3%**

	2001 (%)	2002 (%)	2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	2012 (%)
<b>All</b>	2.4	3.1	4.5	8.4	9.1	10.5	11.2	10.6	11.5	11.9	12.8	13.2
<b>American Indian or Alaskan Native only</b>	0.0	0.0	2.9	16.7	4.8	13.2	12.0	15.2	6.9	11.0	16.7	11.5
<b>Asian only</b>	3.8	2.0	4.5	8.1	12.6	19.0	15.2	11.4	16.7	15.4	16.5	16.8
<b>Black or Af Am only</b>	2.9	2.5	4.0	7.9	9.8	9.2	11.3	10.4	12.3	11.3	12.3	13.5
<b>White only</b>	2.3	3.2	4.5	8.3	8.8	10.5	11.1	10.4	11.2	11.9	12.7	13.0
<b>Hispanic or Latino</b>	1.4	6.6	7.1	12.8	12.2	10.1	12.4	15.5	13.5	13.6	17.1	15.0
<b>Male</b>	2.8	3.5	4.6	8.8	9.9	11.3	12.6	11.9	12.5	12.8	14.0	14.3
<b>Female</b>	2.0	2.8	4.3	8.0	8.3	9.7	10.0	9.4	10.6	11.1	11.8	12.2
<b>65-74</b>	3.6	4.2	6.2	11.7	12.9	14.7	16.1	14.8	16.0	16.5	17.7	17.6
<b>75-84</b>	2.0	3.2	4.2	8.5	8.6	10.4	11.1	10.8	11.3	12.4	13.3	13.4
<b>85+</b>	0.8	1.1	2.2	3.1	4.4	5.1	5.1	5.0	6.4	5.9	6.2	7.4

Data Source: Special analyses, Medicare 5 percent sample. Medicare patients age 65 & older with a hospitalized AKI event in given year. Abbreviations: Af Am, African American; AKI, acute kidney injury; CKD, chronic kidney disease.

**vol 2 Table 2.2 HP2020 D-12 Increase the proportion of persons with diagnosed diabetes who obtain an annual urine albumin measurement: Target 36.6%**

	2001 (%)	2002 (%)	2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	2012 (%)
<b>All</b>	15.3	18.1	21.2	25.5	28.5	31.0	33.3	35.3	36.9	38.6	40.5	42.4
<b>American Indian or Alaskan Native only</b>	11.4	12.0	13.0	15.5	18.9	20.2	20.9	21.1	24.1	22.9	24.6	23.9
<b>Asian only</b>	16.8	20.6	23.9	28.8	30.4	33.4	34.9	37.3	39.5	41.7	43.8	47.4
<b>Black or Af Am only</b>	13.1	15.6	18.5	23.5	26.4	29.0	31.5	33.3	35.3	36.9	39.0	40.6
<b>White only</b>	15.5	18.5	21.6	25.7	28.7	31.2	33.5	35.5	37.1	38.7	40.6	42.4
<b>Hispanic or Latino</b>	15.4	17.8	20.7	25.5	29.6	31.3	33.2	35.1	37.5	40.2	42.3	44.3
<b>Male</b>	15.9	18.8	21.9	26.5	29.4	31.9	34.5	36.4	37.9	39.5	41.6	43.3
<b>Female</b>	14.8	17.6	20.7	24.7	27.8	30.2	32.4	34.4	36.2	37.7	39.6	41.6
<b>65-74</b>	18.1	21.2	24.7	29.4	32.6	35.1	37.7	39.9	41.8	43.3	45.3	47.3
<b>75-84</b>	13.7	16.7	19.6	23.8	26.8	29.6	31.8	33.7	35.3	37.1	39.1	41.0
<b>85+</b>	7.2	9.0	10.9	13.9	16.1	18.1	20.5	22.2	23.5	25.0	26.7	28.0

Data Source: Special analyses, Medicare 5 percent sample. Medicare patients with diabetes mellitus, age 65 & older. Abbreviations: Af Am, African American; D, diabetes mellitus.

Americans. However, testing in Native Americans may be under-reported, as the Indian Health Service does not report claims through the Medicare system.

Serum creatinine and urine albumin are important laboratory markers for monitoring the presence and progression of CKD, and lipid tests are important for assessing cardiovascular risk in this population. Table 2.3 shows that in the Medicare population aged 65 and older, 31.2 percent of CKD patients underwent serum creatinine, lipid, and urine albumin testing in 2012, above the HP2020 goal of 28.3 percent, and a nearly

fourfold increase since 2002. Testing rates vary by race, ranging from 18.6 percent among Native Americans to 41.2 percent among Asians (again, testing by Indian Health Services is not reported to Medicare). Rates also decrease with age; testing occurred in 40.0, 31.2, and 17.0 percent of individuals in the 60-74, 75-84, and 85 years and older age groups, respectively.

**vol 2 Table 2.3 HP2020 CKD-4.1 Increase the proportion of persons with chronic kidney disease who receive medical evaluation with serum creatinine, lipids, and urine albumin: Target 28.3%**

	2001 (%)	2002 (%)	2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	2012 (%)
<b>All</b>	7.3	9.1	10.6	19.8	22.1	23.4	25.7	26.7	28.1	29.0	30.2	31.2
<b>American Indian or Alaskan Native only</b>	8.2	5.5	7.0	13.7	19.2	15.8	16.9	16.7	18.4	20.3	21.1	18.6
<b>Asian only</b>	8.4	14.4	14.1	27.5	27.9	32.5	35.3	34.1	37.6	36.9	39.5	41.2
<b>Black or Af Am only</b>	6.6	8.7	10.1	20.8	22.8	24.4	26.7	27.8	30.1	30.6	32.3	33.2
<b>White only</b>	7.1	8.8	10.4	19.3	21.6	22.9	25.1	26.3	27.4	28.3	29.4	30.4
<b>Hispanic or Latino</b>	13.1	17.3	17.7	26.8	30.5	31.1	33.0	32.0	36.0	36.7	38.9	41.3
<b>Male</b>	7.5	9.3	11.3	21.1	23.4	24.5	27.1	28.4	29.6	30.6	32.0	33.1
<b>Female</b>	7.0	8.9	10.0	18.6	20.9	22.3	24.3	25.2	26.7	27.6	28.6	29.5
<b>65-74</b>	10.3	12.6	14.2	26.1	29.2	31.4	33.9	35.1	36.7	37.7	38.9	40.0
<b>75-84</b>	6.2	8.0	9.8	18.5	20.8	22.6	24.9	26.2	27.7	28.9	30.3	31.2
<b>85+</b>	2.3	3.1	4.0	8.2	10.0	10.1	12.1	13.1	14.0	14.8	16.2	17.0

Data Source: Special analyses, Medicare 5 percent sample. Medicare patients age 65 & older with CKD. Abbreviations: Af Am, African American; CKD, chronic kidney disease.

Patients with either Type 1 or Type 2 DM and CKD require comprehensive laboratory monitoring to assess for development of complications. The glycosylated hemoglobin (HgbA1c) test is used to assess blood glucose control over prolonged periods of time in patients with DM, while diabetic retinopathy can be detected through regular eye examinations. In the

diabetic CKD population aged 65 and older, 27.7 percent of patients received serum creatinine, urine albumin, HgbA1c, and lipid testing, as well as an eye examination in 2012. This was above the HP2020 goal of 25.3 percent, and continues a steady trend in improvement from 10.4 percent in 2002 (see Table 2.4).

**vol 2 Table 2.4 HP2020 CKD-4.2 Increase the proportion of persons with Type 1 or Type 2 diabetes and chronic kidney disease who receive medical evaluation with serum creatinine, urine albumin, HgbA1c, lipids, and eye examinations: Target 25.3%**

	2001 (%)	2002 (%)	2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	2012 (%)
<b>All</b>	9.0	10.4	12.1	18.4	20.0	21.1	23.0	23.7	25.1	26.5	26.9	27.7
<b>American Indian or Alaskan Native only</b>	7.3	2.4	5.7	5.6	15.8	12.5	10.2	10.9	10.9	15.1	14.2	11.5
<b>Asian only</b>	8.3	12.4	12.8	24.9	21.8	26.1	26.7	25.3	27.0	29.6	30.8	32.5
<b>Black or Af Am only</b>	6.7	7.2	9.9	16.3	17.9	18.8	19.7	21.1	22.4	23.8	25.1	25.4
<b>White only</b>	9.4	11.0	12.5	18.6	20.3	21.4	23.4	24.2	25.6	27.0	27.1	28.0
<b>Hispanic or Latino</b>	10.4	11.8	11.8	20.4	20.3	19.8	22.2	21.7	24.6	24.0	26.5	25.3
<b>Male</b>	9.3	10.6	12.4	18.8	20.3	21.4	23.5	23.7	25.6	26.7	27.3	27.9
<b>Female</b>	8.7	10.3	11.8	18.0	19.7	20.9	22.5	23.6	24.7	26.2	26.6	27.5
<b>65-74</b>	10.9	12.3	14.3	22.0	23.4	24.6	26.6	27.2	28.5	30.0	30.1	30.8
<b>75-84</b>	8.1	9.9	11.6	16.9	18.9	20.7	22.6	23.3	25.2	26.7	27.4	28.4
<b>85+</b>	4.0	4.2	4.9	9.5	11.5	11.3	13.0	14.2	15.5	16.6	17.7	18.4

*Data Source: Special analyses, Medicare 5 percent sample. Medicare patients age 65 & older with CKD & diabetes mellitus. Abbreviations: Af Am, African American; CKD, chronic kidney disease; HgbA1c, glycosylated hemoglobin.*

## Incidence of End-Stage Renal Disease

The rate of new cases of ESRD has been slowly declining since 2006, and at 359.2 new cases per million population, is now nine percent lower than in 2006. Unfortunately, this rate still exceeds the target rate of 347.7 new cases per million population. As seen in Table 2.5, there also continues to be substantial variation in the rate of new ESRD cases by race, with the lowest rates observed among Whites (290.7 new cases per million) and Asians (343.8 new cases per million). Much higher rates are seen among Blacks/African Americans (955.4 new cases per million) and Native Hawaiians/Pacific Islanders (NH/PI; 2,527.7 new cases per million). The extraordinarily high rates among NH/PI may be due in part to differential race reporting between the Census Bureau and the ESRD Medical Evidence Report forms (CMS 2728; ME) reporting. In the Census, one-half of NH/PI persons self-identify as of multiple race. In the ME, it is only seven percent. The rate of incident ESRD among Hispanics (521.1 per million) is nearly 50 percent greater than among non-Hispanics (349.1 per million).

The overall rates have decreased in both sexes, with a rate of 452.4 cases per million population among men and a rate of 283.7 new cases per million among women. However, the gap has increased from 2001, when males had a rate 42 percent higher than females, to 2012, where males have a 59 percent higher rate.

vol 2 Table 2.5 HP2020 CKD-8 Reduce the rate of new cases of end-stage renal disease: Target 347.7 new cases per million population

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
All	384.0	384.6	384.6	384.1	387.5	394.4	386.3	382.3	385.7	378.7	362.3	359.2
American Indian or Alaskan Native only	704.3	671.6	618.2	636.0	613.0	523.2	536.0	548.8	539.8	498.4	473.3	469.9
Asian only	319.9	312.9	304.6	282.0	337.8	355.2	357.1	357.3	365.3	358.5	350.3	343.8
Native Hawaiian or other Pacific Islander only~	3368.2	3505.6	3464.8	3650.9	2872.8	2781.5	2370.6	2125.0	2376.3	2565.5	2321.6	2527.7
Black or Af Am only	1120.1	1126.6	1126.1	1088.9	1099.7	1109.3	1085.5	1069.7	1070.8	1034.0	995.1	955.4
White only	291.4	292.3	292.5	296.8	301.0	309.5	303.6	301.4	305.9	303.3	289.9	290.7
Two or more races	.	.	.	.	.	122.6	113.1	112.0	89.2	71.2	47.3	16.1
Hispanic or Latino	622.4	632.1	631.0	607.2	594.0	594.9	580.6	576.4	573.7	568.9	554.5	521.1
Not Hispanic or Latino	368.0	368.3	369.1	370.4	373.3	378.6	371.6	368.3	372.5	365.7	350.0	349.1
Black or Af Am only, not Hispanic or Latino	1136.5	1144.0	1143.8	1103.5	1116.0	1126.0	1105.1	1088.9	1088.4	1053.3	1012.9	975.4
White only, not Hispanic or Latino	267.3	266.3	266.3	271.8	274.1	279.1	273.3	270.1	273.5	269.6	255.9	259.1
Male	459.8	465.8	465.2	473.0	479.6	489.2	481.5	479.0	484.4	477.0	456.9	452.4
Female	323.6	320.3	321.0	313.3	314.5	318.6	310.8	305.5	307.2	300.0	285.9	283.7
<18	12.0	12.3	12.4	12.7	12.6	11.5	12.3	12.1	12.0	11.6	11.8	11.7
0-4	9.6	8.3	9.7	11.1	10.2	9.1	11.1	10.2	10.9	11.3	11.5	11.6
5-11	7.8	9.3	7.9	8.0	8.0	6.5	7.0	7.6	7.2	7.2	6.9	7.5
12-17	18.9	19.1	20.0	19.5	20.0	19.2	19.5	18.9	18.4	17.0	17.8	16.7
18-44	113.5	112.7	111.7	112.9	117.5	121.2	119.4	118.7	122.4	118.9	115.6	115.2
18-24	44.5	42.3	42.6	39.6	42.2	43.3	42.5	41.3	40.4	39.4	39.6	36.3
25-44	137.6	137.3	135.9	138.5	143.9	148.5	146.3	145.8	151.1	146.7	142.1	142.9
45-64	617.6	607.3	608.8	602.3	603.5	613.7	598.4	594.0	594.4	577.8	558.0	562.2
45-54	391.4	389.4	391.9	390.3	388.0	404.1	391.1	386.9	389.6	375.2	372.8	373.3
55-64	843.9	825.2	825.7	814.3	819.1	823.3	805.6	801.0	799.1	780.3	743.1	751.1
65+	1585.2	1629.4	1619.0	1616.4	1634.9	1657.7	1624.5	1602.1	1614.7	1609.2	1526.4	1476.7
65-74	1441.5	1429.3	1410.2	1400.9	1389.7	1416.2	1381.1	1354.9	1364.1	1359.6	1275.7	1252.3
75-84	1761.0	1857.9	1848.3	1850.1	1896.8	1917.0	1878.9	1856.7	1871.3	1871.0	1792.6	1716.0
85+	1264.6	1346.6	1414.5	1433.5	1469.3	1479.2	1514.3	1527.6	1555.0	1486.7	1372.6	1327.1

Data Source: Special analyses, USRDS ESRD Database and CDC Bridged Race Intercensal Estimates Dataset Incident ESRD patients. Adj: overall, age/sex/race; rates by age adjusted for sex/race; rates by sex adjusted for age/race; rates by race/ethnicity adjusted for age/sex. Reference: 2011 patients. "" Zero values in this cell. ~Estimate shown is imprecise due to small sample size and may be unstable over time. Abbreviations: Adj, adjusted; Af Am, African American; CKD, chronic kidney disease; ESRD, end-stage renal disease.

## Kidney Failure Due to Diabetes

While DM remains the leading cause of ESRD in the United States, Table 2.6 illustrates that the rate of kidney failure due to DM has decreased by 12 percent in the last decade, reaching 154.0 per million population in 2012 compared with 172.3 per million in 2002. Wide variation exists in these rates by race, with

Whites having the lowest rate, at 127.2 per million, compared with 402.4 among African Americans. Males also had a higher rate of diabetic kidney failure than females, at 186.5 compared with 126.4 per million population. The overall rates remain just short of the HP2020 goal of 151.9 per million, although this target is being met by some subgroups, including Whites, females, and patients aged 44 years and younger.

vol 2 Table 2.6 HP2020 CKD-9.1 Reduce kidney failure due to diabetes: Target 151.9 per million population

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>All</b>	175.1	172.3	171.4	171.3	171.6	174.6	168.7	166.2	167.0	164.4	157.0	154.0
<b>American Indian or Alaskan Native only</b>	519.8	492.2	464.8	475.0	427.5	363.0	376.9	391.2	388.0	353.2	327.5	318.3
<b>Asian only</b>	150.8	142.0	138.3	128.2	159.5	176.4	171.4	178.9	179.7	172.8	173.5	165.1
<b>Native Hawaiian or other Pacific Islander only~</b>	2158.0	1960.9	1966.1	2220.1	1664.7	1700.4	1467.6	1283.7	1476.3	1609.1	1411.8	1462.8
<b>Black or Af Am only</b>	519.7	513.8	504.0	490.7	492.1	495.6	473.5	468.7	466.7	452.4	431.2	402.4
<b>White only</b>	132.0	130.6	130.8	132.7	133.9	137.8	134.3	132.2	133.5	132.9	127.5	127.2
<b>Two or more races</b>	.	.	.	.	.	59.4	58.7	49.0	42.3	29.3	18.4	4.6
<b>Hispanic or Latino</b>	397.4	398.8	400.6	386.1	371.7	368.9	360.5	361.2	353.5	351.0	340.1	315.5
<b>Not Hispanic or Latino</b>	162.3	159.4	158.7	159.6	159.7	162.0	156.5	154.2	155.6	153.1	146.1	144.7
<b>Black or Af Am only, not Hispanic or Latino</b>	527.5	521.3	511.3	497.1	499.3	503.3	481.4	476.7	475.2	460.4	438.7	411.6
<b>White only, not Hispanic or Latino</b>	113.5	111.1	110.7	113.0	113.2	115.1	111.4	108.1	109.2	108.0	102.2	103.6
<b>Male</b>	191.5	192.2	191.9	197.5	199.3	203.5	199.1	197.8	200.2	198.0	190.1	186.5
<b>Female</b>	161.2	155.5	154.3	149.5	148.4	150.2	143.4	140.0	139.3	136.2	129.2	126.4
<b>&lt;18</b>	0.1	0.1	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1
0-4	*	*	*	*	*	0.2	.	*	0.3	0.3	*	0.2
5-11	.	0.1	.	.	*	.	.	*	.	.	.	*
12-17	*	*	*	*	0.2	*	*	*	*	*	*	*
<b>18-44</b>	33.8	32.8	33.6	34.4	35.2	38.5	37.8	37.5	39.9	39.6	39.7	37.8
18-24	3.7	2.9	3.0	2.1	3.1	3.2	2.7	2.4	2.6	2.5	2.3	2.4
25-44	44.3	43.3	44.3	45.7	46.5	50.9	50.2	49.8	53.0	52.6	52.8	50.1
<b>45-64</b>	344.2	333.8	329.3	324.1	323.5	323.3	309.9	307.9	306.6	295.0	280.6	281.1
45-54	191.7	188.8	187.3	185.6	182.9	189.2	179.2	178.1	179.8	175.6	173.0	173.9
55-64	496.8	478.8	471.4	462.5	464.2	457.5	440.6	437.6	433.3	414.5	388.3	388.3
<b>65+</b>	679.1	688.9	682.4	690.1	694.8	705.8	690.0	672.8	673.1	678.9	645.4	611.1
65-74	749.6	734.6	727.7	721.3	712.1	724.4	697.2	676.9	674.6	668.1	630.1	607.5
75-84	649.1	682.2	673.4	693.2	714.1	722.0	715.1	698.4	700.0	719.2	689.4	641.1
85+	274.9	298.4	318.4	345.9	329.3	358.0	366.4	376.7	389.8	383.8	358.5	345.6

Data Source: Special analyses, USRDS ESRD Database and CDC Bridged Race Intercensal Estimates Dataset Incident ESRD patients. Incident ESRD patients. Adj: age/sex/race; Reference: 2011. "." Zero values in this cell. \*Values for cells with 10 or fewer patients are suppressed. ~Estimate shown is imprecise due to small sample size and may be unstable over time. Abbreviations: Adj, adjusted; Af Am, African American; CDC, Centers for Disease Control and Prevention; CKD, chronic kidney disease; ESRD, end-stage renal disease.

In 2012, the adjusted rate of kidney failure due to DM among diabetic patients was 2,245 per million population, continuing a favorable trend since 2007, when the rate was 2,618 per million, and below the HP2020 target of 2,356 for the third consecutive year (see Table 2.7). Rates remain highest in Black/African American diabetics, at 3,670 per million, although

this represents an 18 percent drop from 2007. Male diabetics also remain at higher risk for kidney failure compared with females; again, both sexes have experienced significant declines overall, by 14 and 15 percent respectively since 2007.



**vol 2 Table 2.7 HP2020 CKD-9.2 Reduce kidney failure due to diabetes among persons with diabetes: Target 2,356 per million population**

	2007	2008	2009	2010	2011	2012
<b>All</b>	2,618	2,487	2,405	2,350	2,276	2,245
<b>American Indian or Alaskan Native only</b>	2,585	2,968	2,992	2,667	2,306	2,278
<b>Asian only</b>	2,091	2,213	2,247	2,154	2,124	2,137
<b>Native Hawaiian or other Pacific Islander only</b>	.	.	.	.	.	.
<b>Black or Af Am only</b>	4,492	4,347	4,262	3,996	3,841	3,670
<b>White only</b>	2,278	2,141	2,054	2,033	1,976	1,967
<b>Two or more races</b>	447	346	273	196	158	36
<b>Hispanic or Latino</b>	3,313	3,170	2,955	2,903	2,895	2,772
<b>Not Hispanic or Latino</b>	2,517	2,389	2,322	2,264	2,181	2,159
<b>Black or Af Am only, not Hispanic or Latino</b>	4,698	4,536	4,489	4,204	4,075	3,871
<b>White only, not Hispanic or Latino</b>	2,050	1,903	1,829	1,806	1,734	1,751
<b>Male</b>	2,931	2,745	2,627	2,547	2,523	2,516
<b>Female</b>	2,327	2,236	2,180	2,144	2,026	1,975
<b>&lt;18</b>	*	34	34	51	35	59
0-4	.	.	.	.	.	.
5-11	*	.	.	.	.	*
12-17	*	*	*	*	*	*
<b>18-44</b>	1,613	1,532	1,507	1,462	1,561	1,497
18-24	341	272	289	293	338	291
25-44	1,748	1,678	1,642	1,579	1,668	1,632
<b>45-64</b>	2,380	2,257	2,199	2,139	2,072	2,096
45-54	2,010	1,844	1,855	1,869	1,879	1,874
55-64	2,645	2,573	2,441	2,313	2,182	2,233
<b>65+</b>	3,102	2,941	2,807	2,728	2,579	2,489
65-74	3,188	2,993	2,900	2,776	2,624	2,544
75-84	3,351	3,159	2,941	2,884	2,804	2,702
85+	1,950	2,069	1,985	2,085	1,774	1,688

Data Source: Special analyses, USRDS ESRD Database and CDC Bridged Race Intercensal Estimates Dataset Incident ESRD patients. Incident ESRD patients. Adj: age/sex/race; Ref: 2011. NHIS 2006–2012 used to estimate diabetes mellitus prevalence; “.” Zero values in this cell. \*Values for cells with 10 or fewer patients are suppressed. Abbreviations: Adj, adjusted; Af Am, African American; CDC, Centers for Disease Control and Prevention; CKD, chronic kidney disease; ESRD, end-stage renal disease; NHIS, National Health Interview Survey; Ref, reference.

## Nephrologist Care

In 2012, 33.1 percent of patients beginning ESRD therapy on hemodialysis (HD) had received care from a nephrologist at least 12 months prior to initiation, exceeding the HP2020 goal of 30.0 percent, and reflecting an increase from the level of 25.7 percent seen in 2005 (Table 2.8).

By race, rates of pre-ESRD nephrologist care were highest among Whites (34.7 percent) and Asians (32.1 percent). Rates were lower among Blacks/African Americans (29.7 percent) and American Indians/Alaskan Natives (30.1 percent). While rates overall have increased, the gap from lowest to highest has increased slightly from 5.1 percent in 2005 to 7.3 percent in 2012. Rates by ethnicity are lowest among Hispanics/Latinos, at 25.9 percent.

Rates of pre-ESRD nephrologist care were nearly identical by sex, at 33.2 percent among males and 33.1 percent among females. However, broader variation was seen by age, with rates ranging from 27.8 percent among those aged 18-44 to 40.7 percent among those under age 18.

## Vascular Access

In 2012, 36.8 percent of incident hemodialysis patients had a maturing arteriovenous fistula or were using one as their primary vascular access, the second consecutive year above the HP2020 target of 35.0 percent, and an improvement from 31.2 percent in 2005 (see Table 2.9). This varied by race, from 36.0 percent among Blacks/African Americans to 40.7 percent among American Indians, and was more common among men than women.

Programs such as HP2020 and the Fistula First Initiative continue to work to increase the use of fistulas and promote early placement prior to initiation of ESRD therapy.

vol 2 Table 2.8 HP2020 CKD-10 Increase the proportion of chronic kidney disease patients receiving care from a nephrologist at least 12 months before the start of renal replacement therapy: Target 30.0%

	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	2012 (%)
<b>All</b>	25.7	26.4	27.3	28.6	28.6	29.6	31.0	33.1
<b>American Indian or Alaskan Native only</b>	25.4	27.0	26.0	27.9	27.2	24.2	28.3	30.1
<b>Asian only</b>	25.8	24.0	26.7	27.7	29.3	29.9	31.6	32.1
<b>Native Hawaiian or other Pacific Islander only</b>	23.2	25.4	24.0	22.0	23.8	25.3	27.1	27.4
<b>Black or Af Am only</b>	22.2	23.1	24.1	24.7	25.0	25.5	27.2	29.7
<b>White only</b>	27.3	28.0	28.8	30.4	30.2	31.3	32.7	34.7
<b>Two or more races</b>	21.4	21.6	22.1	27.5	26.0	25.9	25.0	25.0
<b>Hispanic or Latino</b>	20.0	21.3	21.4	22.3	22.6	23.7	25.1	25.9
<b>Not Hispanic or Latino</b>	26.6	27.2	28.2	29.6	29.5	30.5	32.1	34.4
<b>Black or Af Am only, not Hispanic/Latino</b>	22.2	23.2	24.1	24.7	25.0	25.6	27.3	29.8
<b>White only, not Hispanic or Latino</b>	28.8	29.4	30.5	32.3	32.0	33.2	34.7	37.0
<b>Male</b>	26.1	26.5	27.3	28.4	28.3	29.6	30.8	33.2
<b>Female</b>	25.3	26.3	27.3	28.8	28.9	29.5	31.4	33.1
<b>&lt;18</b>	39.7	36.1	35.1	40.1	39.1	37.7	44.7	40.7
0-4	25.0	19.8	26.0	26.9	22.8	23.3	25.2	26.6
5-11	50.5	48.9	40.7	53.1	47.7	49.0	58.3	51.7
12-17	41.4	37.0	36.7	40.4	42.2	39.3	47.7	42.5
<b>18-44</b>	23.3	23.0	23.7	24.4	23.9	24.3	25.8	27.8
18-24	24.7	23.2	25.0	24.0	24.8	25.4	27.6	26.5
25-44	23.2	22.9	23.5	24.5	23.8	24.2	25.6	27.9
<b>45-64</b>	25.7	26.1	26.7	27.3	27.4	27.9	29.5	31.2
45-54	24.1	25.0	25.5	25.3	25.8	26.2	28.4	29.5
55-64	26.8	26.9	27.4	28.6	28.5	29.0	30.1	32.2
<b>65+</b>	26.1	27.5	28.6	30.5	30.5	32.0	33.4	35.9
65-74	27.0	28.4	28.9	30.6	30.7	32.0	33.4	35.6
75-84	25.9	27.3	28.9	31.2	30.9	32.7	33.9	36.7
85+	22.9	24.2	26.6	27.6	28.4	29.7	31.6	34.2

Data Source: Special analyses, Medicare 5 percent sample. Incident hemodialysis patients with a valid ESRD Medical Evidence CMS 2728 form; nephrologist care determined from Medical Evidence form. Abbreviations: Af Am, African American; CMS, Centers for Medicare and Medicaid Services; CKD, chronic kidney disease; ESRD, end-stage renal disease.



vol 2 Table 2.9 HP2020 CKD-11.3 Increase the proportion of adult hemodialysis patients who use arteriovenous fistulas or have a maturing fistula as the primary mode of vascular access at the start of renal replacement therapy: Target 35.0%

	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	2012 (%)
<b>All</b>	31.2	32.1	31.8	31.3	32.4	33.9	35.2	36.8
<b>American Indian or Alaskan Native only</b>	36.5	39.1	38.0	41.6	41.3	40.9	40.6	40.7
<b>Asian only</b>	36.3	37.7	35.5	35.9	35.8	37.6	37.3	38.1
<b>Native Hawaiian or other Pacific Islander only</b>	40.6	34.9	35.6	32.7	32.3	32.8	36.0	37.7
<b>Black or Af Am only</b>	28.5	29.4	29.9	29.3	30.8	32.2	34.1	36.0
<b>White only</b>	32.0	32.9	32.3	31.9	32.8	34.4	35.5	37.1
<b>Two or more races</b>	23.0	36.2	29.3	24.8	33.2	31.3	33.0	38.1
<b>Hispanic or Latino</b>	31.5	32.4	30.0	29.8	31.1	32.8	33.6	34.5
<b>Not Hispanic or Latino</b>	31.1	32.0	32.0	31.6	32.6	34.1	35.5	37.3
<b>Black or Af Am only, not Hispanic/Latino</b>	28.4	29.3	29.9	29.2	30.7	32.0	34.0	36.0
<b>White only, not Hispanic or Latino</b>	32.1	33.0	32.9	32.4	33.3	34.9	36.2	37.9
<b>Male</b>	35.1	35.3	35.0	34.0	35.0	36.4	38.0	39.3
<b>Female</b>	26.4	28.0	27.6	27.8	29.0	30.6	31.5	33.5
<b>&lt;18</b>	29.6	29.7	28.3	27.6	29.3	31.1	32.0	32.7
0-4	25.9	22.7	20.9	21.0	23.0	23.7	24.9	26.1
5-11	30.0	30.4	29.1	28.3	29.9	31.8	32.7	33.4
12-17	33.3	33.5	32.7	32.6	33.4	34.4	36.0	38.0
<b>18-44</b>	32.5	33.2	32.5	32.2	33.0	34.1	36.0	37.3
18-24	33.9	33.7	32.9	32.9	33.6	34.7	36.0	38.4
25-44	30.0	31.6	31.8	31.1	32.4	34.1	35.3	36.8
<b>45-64</b>	31.8	33.6	34.2	33.0	34.4	36.0	37.1	39.0
45-54	29.4	30.8	30.7	30.9	32.0	33.9	35.1	36.3
55-64	23.7	25.2	25.4	24.3	25.5	26.7	28.4	29.2
<b>65+</b>	26.1	27.5	28.6	30.5	30.5	32.0	33.4	35.9
65-74	27.0	28.4	28.9	30.6	30.7	32.0	33.4	35.6
75-84	25.9	27.3	28.9	31.2	30.9	32.7	33.9	36.7
85+	22.9	24.2	26.6	27.6	28.4	29.7	31.6	34.2

Data Source: Special analyses, Medicare 5 percent sample. Incident hemodialysis patients age 18 & older. Abbreviations: Af Am, African American; CKD, chronic kidney disease.

## Transplantation

Among 2011 ESRD patients younger than 70, 17.7 percent were wait-listed or received a deceased donor kidney transplant within one year of initiation, a level below the HP2020 target of 18.7 percent.

As shown in Table 2.10, the target is currently being met by Asians (33.3 percent), Whites (18.7 percent), those younger than age 18 (54.9 percent), those aged 18-44 (28.9 percent), and those aged 45-55 (18.8 percent). Groups furthest from the target include those aged 65-69, African Americans, and Native Americans. Gaps between groups with the highest and lowest percentages have remained fairly stable, showing only minor decreases over time.

Among patients younger than age 70 starting ESRD therapy in 2009, 14.7 percent received a kidney transplant within three years of initiation, well below the HP2020 target of 20.1 percent, and approximately one percentage point lower than the previous year (see Table 2.11). This continues the slow but consistent decrease observed since 1998, when 20.1 percent of patients received a transplant within three years of initiating ESRD therapy.

Rates are highest among Whites (18.2 percent) and lowest among Blacks/African Americans (7.7 percent) and American Indians/Alaskan Natives (7.2 percent). Males (15.0 percent) are slightly more likely to receive a transplant as compared with females (13.4 percent). The percentage of patients receiving transplants decreases with age, from 78.2 in pediatric patients to 7.9 among those ages 65-69.

**vol 2 Table 2.10 HP2020 CKD-12 Increase the proportion of dialysis patients wait-listed and/or receiving a deceased donor kidney transplant within 1 year of end-stage renal disease start (among patients under 70 years of age): Target 18.7% of dialysis patients**

	2000 (%)	2001 (%)	2002 (%)	2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)
<b>All</b>	15.4	14.6	14.6	14.7	15.4	15.9	17.0	17.1	16.8	17.3	17.0	17.7
<b>American Indian or Alaskan Native only</b>	12.8	9.7	10.1	9.6	10.2	11.3	10.4	11.3	10.7	11.5	11.5	11.3
<b>Asian only</b>	27.0	29.1	28.0	28.3	32.1	28.2	31.3	30.8	31.3	32.3	32.1	33.1
<b>Native Hawaiian or other Pacific Islander only</b>	17.4	17.5	18.8	19.5	18.1	16.0	15.2	14.9	14.1	15.2	15.2	14.8
<b>Black or Af Am only</b>	11.2	10.5	10.7	10.6	11.6	12.1	13.1	13.3	13.3	13.9	13.9	14.5
<b>White only</b>	17.1	16.3	16.1	16.4	16.8	17.6	18.5	18.6	18.2	18.3	17.9	18.7
<b>Two or more races</b>	*	*	*	*	*	14.1	19.4	14.1	23.7	23.8	23.0	17.4
<b>Hispanic or Latino</b>	13.0	12.7	13.3	14.1	14.6	15.8	17.6	17.7	17.4	18.2	17.6	18.6
<b>Not Hispanic or Latino</b>	15.5	14.7	14.5	14.5	15.4	15.8	16.7	16.8	16.6	16.9	16.8	17.4
<b>Black or Af Am only, not Hispanic or Latino</b>	11.2	10.5	10.7	10.6	11.6	12.0	13.0	13.2	13.2	13.9	13.9	14.5
<b>White only, not Hispanic or Latino</b>	18.1	17.1	16.8	16.8	17.2	18.1	18.8	18.9	18.4	18.3	18.0	18.5
<b>Male</b>	16.5	15.3	15.7	15.6	16.5	16.9	18.0	17.8	17.5	18.1	17.8	18.4
<b>Female</b>	13.4	13.4	12.7	13.1	13.7	14.3	15.3	15.8	15.7	15.8	15.8	16.5
<b>&lt;18</b>	42.9	40.7	43.0	50.1	46.3	53.3	57.5	56.2	58.2	57.9	56.5	54.9
0-4	26.2	32.1	32.9	41.2	32.5	34.3	42.7	38.2	40.2	43.9	39.6	37.5
5-11	44.8	49.5	45.6	50.3	51.9	65.0	65.3	66.7	69.8	65.9	64.9	62.5
12-17	47.5	41.2	43.2	52.9	48.2	55.9	63.5	60.7	64.6	63.0	62.3	61.2
<b>18-44</b>	29.5	27.6	27.7	26.1	27.8	26.9	28.9	27.8	27.6	27.9	27.1	28.9
18-24	31.3	29.3	30.9	29.9	33.8	28.4	32.7	33.0	30.7	33.2	33.1	33.9
25-44	26.2	24.9	23.9	23.4	24.6	24.8	25.8	25.2	25.0	25.4	24.7	26.7
<b>45-64</b>	18.0	17.0	16.3	16.5	17.0	17.5	18.3	18.6	17.7	18.4	18.3	19.1
45-54	18.5	17.4	17.1	16.7	16.8	17.0	18.3	18.6	17.3	18.4	18.0	18.8
55-64	11.3	10.5	10.7	11.4	12.2	13.1	13.9	14.1	14.4	14.2	14.4	15.0
<b>65+</b>	7.4	7.3	7.9	8.4	9.2	10.0	11.1	11.4	11.9	12.3	12.3	12.6
65-69	7.4	7.3	7.9	8.4	9.2	10.0	11.1	11.4	11.9	12.3	12.3	12.6

Data Source: Special analyses, Medicare 5 percent sample. Incident ESRD patients younger than 70. \* Values for cells with 10 or fewer patients are suppressed. Abbreviations: Af Am, African American; CKD, chronic kidney disease; ESRD, end-stage renal disease.

vol 2 Table 2.11 HP2020 CKD-13.1 Increase the proportion of patients receiving a kidney transplant within 3 years of end-stage renal disease: Target 20.1%

	1998 (%)	1999 (%)	2000 (%)	2001 (%)	2002 (%)	2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)
<b>All</b>	20.1	19.5	19.3	18.4	18.4	18.2	18.3	17.8	17.2	16.6	15.7	14.7
<b>American Indian or Alaskan Native only</b>	13.7	9.5	15.5	8.7	11.5	8.8	9.2	8.9	9.9	10.1	6.8	7.2
<b>Asian only</b>	19.2	18.7	18.7	19.1	21.0	21.8	20.3	18.5	19.0	17.6	18.1	16.8
<b>Native Hawaiian or other Pacific Islander only</b>	13.6	13.4	8.3	12.8	12.4	11.8	12.7	9.6	9.8	10.5	10.7	8.4
<b>Black or Af Am only</b>	9.8	9.5	9.8	8.8	9.6	9.2	10.0	9.6	9.0	9.0	8.7	7.7
<b>White only</b>	26.2	25.3	24.6	23.9	23.2	23.0	22.7	22.1	21.4	20.7	19.3	18.2
<b>Two or more races</b>	*	*	*	*	*	*	*	16.3	16.4	14.4	18.3	17.4
<b>Hispanic or Latino</b>	16.8	14.9	15.4	14.6	14.5	14.9	14.7	14.6	14.5	13.8	12.6	11.8
<b>Not Hispanic or Latino</b>	20.1	19.6	19.2	18.5	18.6	18.1	18.4	17.8	17.2	16.8	15.9	14.8
<b>Black or Af Am only, not Hispanic or Latino</b>	9.8	9.4	9.7	8.8	9.5	9.2	9.9	9.6	8.9	9.0	8.6	7.7
<b>White only, not Hispanic or Latino</b>	28.1	27.8	26.9	26.3	25.8	25.3	25.1	24.4	23.8	23.1	21.8	20.5
<b>Male</b>	21.6	20.5	20.1	19.3	19.6	19.2	19.2	18.7	18.1	17.2	16.0	15.0
<b>Female</b>	17.2	16.9	16.8	16.2	15.8	15.6	16.0	15.4	14.9	15.1	14.5	13.4
<b>&lt;18</b>	75.1	75.9	73.2	72.9	72.7	77.5	76.2	76.9	78.7	78.9	77.1	78.2
0-4	78.7	81.8	78.1	77.0	76.6	79.2	77.2	74.6	76.6	76.7	68.5	74.7
5-11	81.4	80.4	75.1	81.9	78.8	82.5	83.9	82.2	82.7	88.5	86.3	83.9
12-17	70.7	72.1	71.0	67.0	68.5	74.8	72.7	75.7	78.1	76.3	76.7	77.5
<b>18-44</b>	33.8	32.6	31.6	30.3	29.8	29.0	29.5	27.7	26.9	25.5	24.1	22.8
18-24	44.4	42.7	44.0	42.6	39.9	42.5	42.6	40.0	37.9	35.9	34.3	35.0
25-44	32.6	31.5	30.2	28.9	28.6	27.4	28.0	26.4	25.6	24.4	23.0	21.5
<b>45-64</b>	16.3	15.7	16.1	15.3	15.1	15.1	15.2	15.0	14.6	14.1	13.3	12.4
45-54	21.1	20.2	20.4	19.6	18.4	18.5	18.5	17.6	17.2	17.0	15.7	14.9
55-64	12.6	12.1	12.6	11.9	12.5	12.5	12.7	13.2	12.7	12.1	11.7	10.7
<b>65+</b>	5.3	6.0	6.3	6.5	7.4	7.7	8.1	7.9	8.3	8.3	8.3	7.9
65-69	5.3	6.0	6.3	6.5	7.4	7.7	8.1	7.9	8.3	8.3	8.3	7.9

Data Source: Special analyses, Medicare 5 percent sample. Incident ESRD patients younger than 70. \*Values for cells with 10 or fewer patients are suppressed. Abbreviations: Af Am, African American; CKD, chronic kidney disease; ESRD, end-stage renal disease.

The percentage of patients receiving a preemptive transplant at the start of ESRD has risen by approximately 0.5 percent over the past decade, from 3.2 percent in 2001 to 3.7 percent in 2012. As seen in Table 2.12, preemptive transplants are most common in pediatric patients, reaching 30.3 percent among those aged 5-11. Rates are similar by sex at approximately three percent. Substantial variation is observed by race, however, ranging from 0.9 percent among Blacks/African Americans to 4.2 percent among Whites.

vol 2 Table 2.12 HP2020 CKD-13.2 Increase the proportion of patients who receive a preemptive transplant at the start of end-stage renal disease

	2001 (%)	2002 (%)	2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	2012 (%)
<b>All</b>	3.2	3.3	3.3	3.6	3.8	4.0	4.0	3.9	3.8	3.8	3.9	3.7
<b>American Indian or Alaskan Native only</b>	*	*	1.5	*	*	1.4	*	*	1.7	*	1.6	1.1
<b>Asian only</b>	2.0	2.8	2.6	2.4	2.6	2.9	3.1	3.4	2.9	3.4	3.8	3.0
<b>Native Hawaiian or other Pacific Islander only</b>	*	*	*	*	*	*	1.9	2.6	2.0	*	*	*
<b>Black or Af Am only</b>	0.5	0.7	0.7	0.7	0.9	0.9	1.1	1.1	1.0	1.1	1.2	0.9
<b>White only</b>	3.9	4.1	4.0	4.5	4.8	5.0	5.2	4.9	4.6	4.6	4.7	4.2
<b>Two or more races</b>	*	*	*	*	1.3	*	*	*	*	*	*	*
<b>Hispanic or Latino</b>	1.1	1.3	1.3	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.2	2.1
<b>Not Hispanic or Latino</b>	2.8	3.0	2.9	3.3	3.5	3.7	3.9	3.8	3.5	3.6	3.7	3.2
<b>Black or Af Am only, not Hispanic/Latino</b>	0.5	0.7	0.7	0.7	0.9	0.9	1.1	1.1	1.0	1.1	1.2	0.9
<b>White only, not Hispanic or Latino</b>	4.6	4.8	4.7	5.3	5.6	6.0	6.2	5.9	5.4	5.5	5.6	5.0
<b>Male</b>	2.7	2.8	2.8	3.0	3.2	3.6	3.7	3.4	3.3	3.3	3.4	2.9
<b>Female</b>	2.5	2.7	2.6	3.0	3.2	3.3	3.5	3.6	3.3	3.4	3.5	3.2
<b>&lt;18</b>	19.5	18.7	21.1	19.3	23.5	25.2	22.0	22.3	26.3	23.9	26.2	25.2
0-4	17.6	12.7	18.8	17.4	17.6	17.6	19.4	11.9	19.2	16.1	19.4	17.6
5-11	21.3	26.8	28.3	21.8	29.0	33.5	31.1	32.3	36.1	32.6	30.2	30.3
12-17	19.2	16.4	18.7	19.0	23.4	24.7	19.5	22.3	25.0	23.5	27.7	26.6
<b>18-44</b>	5.7	5.8	5.4	6.0	5.7	6.3	6.0	6.0	5.8	5.6	6.0	5.6
18-24	8.5	8.6	8.9	8.9	8.8	10.3	8.4	9.1	9.3	9.5	9.2	9.6
25-44	5.4	5.5	5.0	5.7	5.4	5.8	5.8	5.7	5.5	5.2	5.6	5.2
<b>45-64</b>	2.5	2.6	2.8	3.1	3.3	3.5	3.6	3.4	3.2	3.4	3.3	3.1
45-54	3.5	3.6	3.7	3.9	4.2	4.3	4.6	4.2	3.9	4.3	4.0	3.8
55-64	1.8	1.9	2.1	2.4	2.6	2.8	3.0	2.9	2.7	2.8	2.9	2.7
<b>65+</b>	0.7	0.9	1.2	1.3	1.6	1.9	1.8	2.0	1.9	2.1	2.3	2.2
65-69	0.7	0.9	1.2	1.3	1.6	1.9	1.8	2.0	1.9	2.1	2.3	2.2

Data Source: Special analyses, Medicare 5 percent sample. Incident ESRD patients younger than 70. \*Values for cells with 10 or fewer patients are suppressed. Abbreviations: Af Am, African American; CKD, chronic kidney disease; ESRD, end-stage renal disease.

## Mortality

Since 2001, the overall death rate among prevalent patients on dialysis has fallen nearly 25 percent, from 240.7 deaths per 1,000 patient years to 181.4 in 2012, exceeding the HP2020 target of 193.2 for the second year in a row (Table 2.13). Rates were highest among Whites, at 217.3 deaths per 1,000 patient years, and lowest among those with two or more races, at 125.3 deaths per 1,000. Rates were identical by sex, at 181.4

deaths per 1,000 patient years. Significant reductions in rates since 2001 were observed across all age groups, with approximately 34 percent fewer deaths observed in 2012 (32.3 deaths per 1,000 patient years) compared with those in 2001 (48.9 deaths) for patients younger than 18 years. Overall rates were highest among patients aged 65 and older (281.4 deaths per 1,000 patient years).

vol 2 Table 2.13 HP2020 CKD-14.1 Reduce the total death rate for persons on dialysis: Target 193.2 deaths per 1,000 patient years

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>All</b>	240.7	239.1	237.4	232.1	228.5	224	214.7	207.4	201.6	194.3	190.2	181.4
<b>American Indian or Alaskan Native only</b>	208.1	199.2	192.2	183.6	180	170.8	164.1	167.9	172	150.8	147.4	143.5
<b>Asian only</b>	174.1	164.3	172.9	168.2	172.3	160.4	156.4	142.2	143.5	134.6	138	132
<b>Native Hawaiian or other Pacific Islander only</b>	162.5	180	171.2	165.3	151.3	161.7	162.8	149.1	157.2	153.1	138.7	132.2
<b>Black or Af Am only</b>	189.8	186.7	187.2	186.2	181.7	176.2	169.4	163.1	157.9	150.2	145.2	138.8
<b>White only</b>	286.5	286.2	282.8	274.1	270.8	266.2	254.2	245.8	238.5	231.9	228	217.3
<b>Two or more races</b>	*	*	*	*	159	166.5	150.5	157.1	154.2	140.7	138	125.3
<b>Hispanic or Latino</b>	178.3	177.9	175.9	170.6	167	160.3	149.7	144.1	145.7	137.3	136.5	134.9
<b>Not Hispanic or Latino</b>	245.2	246	245.9	241.7	238.5	234.9	226.4	219.1	212.3	205.4	201	191
<b>Black or Af Am only, not Hispanic/Latino</b>	190.2	187	187.6	186.4	182.1	176.7	170.1	163.7	158.3	150.6	145.5	138.5
<b>White only, not Hispanic or Latino</b>	311.7	312.3	310.2	302.6	299.8	297.6	287.1	280	271.3	266.4	263	251
<b>Male</b>	235.2	233	233.4	228.9	225.3	221.1	212.3	206	201.6	193.6	189.4	181.4
<b>Female</b>	246.8	245.9	242	235.8	232.3	227.3	217.7	209.1	201.7	195.2	191.2	181.4
<b>&lt;18</b>	48.9	48.1	64.9	49.4	41	44.2	42.4	45.6	42.8	49.4	30.5	32.3
0-4	132.1	84.2	93.7	78	70.9	73.5	64.6	84.1	88.8	73.2	36.7	61.6
5-11	37.7	31.3	63.3	53.8	31	40.9	47.2	39.7	37.7	51	*	*
12-17	33.3	46.4	59.6	41.6	37.4	38.2	35.6	36.9	31.4	42.1	29.6	23.4
<b>18-44</b>	103.7	104.7	105.1	101.1	99.7	96.8	93.5	86.2	84.6	79.9	77.7	74.2
18-24	57.9	61	56.1	58.8	56.2	53.5	51.9	51.1	45.9	44.7	46.4	44.5
25-44	108.4	109.2	110.3	105.5	104.2	101.3	97.8	89.9	88.6	83.6	80.9	77.2
<b>45-64</b>	192.6	189.4	190.5	186.1	179.7	177.8	168.3	163.5	159.9	154	150.7	144.6
45-54	161	159.3	157.3	154.4	150.1	149.7	141.4	137	134.8	128.3	124.1	118.9
55-64	218.1	213.8	217.6	212.1	204	200.6	190	184.8	179.7	174.1	171.2	164.1
<b>65+</b>	362.2	360.5	354	348	347.5	339.9	329.4	320.4	310.9	300.8	295.4	281.4
65-74	308.1	305.6	298.8	294.2	291	279.8	268.1	263.9	256.4	244.9	241	229.8
75-84	426.6	420.4	411.9	401.6	402.9	398.7	387.5	373.9	358.5	351.1	344.4	328.8
85+	607.9	614	595.6	578.4	574.1	562.2	557.8	521.8	516.7	500.9	494.3	468.6

Data Source: Special analyses, Medicare 5 percent sample. Period prevalent dialysis patients. \*Values for cells with 10 or fewer patients are suppressed. Abbreviations: Af Am, African American; CKD, chronic kidney disease.

The rate of mortality among dialysis patients in the first three months after initiation has fallen nearly 24 percent from its peak in 2003 of 386.9 deaths per 1,000 patient years at risk to 311.8 in 2012, and for the first time achieves the HP2020 target of 329.0 (see Table 2.14). Rates were substantially higher among Whites, at 372.8 deaths per 1,000, compared with Native Hawaiians and Pacific Islanders (122.4 deaths per 1,000) and Asians (187.1 deaths per 1,000). Females were slightly higher than males, at 317.0 deaths per

1,000 patient years compared with 307.8 deaths per 1,000. Rates were highest among those aged more than 85 years (837.2 deaths per 1,000 patient years).

**vol 2 Table 2.14 HP2020 CKD-14.2 Reduce the death rate in dialysis patients within the first 3 months of initiation of renal replacement therapy: Target 329.0 deaths per 1,000 patient years at risk**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>All</b>	381.0	380.7	386.9	381.3	377.8	370.1	365.6	362.1	352.2	353.3	335.8	311.8
<b>American Indian or Alaskan Native only</b>	172.4	146.8	193.8	209.2	214.2	158.0	175.7	237.3	154.1	151.6	151.2	218.2
<b>Asian only</b>	232.9	226.0	236.2	231.9	251.7	207.8	247.0	203.3	213.4	216.5	177.8	187.1
<b>Native Hawaiian or other Pacific Islander only</b>	212.1	181.3	185.4	187.7	169.3	219.3	173.8	149.2	197.2	163.3	184.5	122.4
<b>Black or Af Am only</b>	274.9	266.4	278.3	274.9	274.8	267.2	254.2	253.6	246.8	243.0	230.6	206.7
<b>White only</b>	448.4	454.3	457.7	447.4	440.0	432.6	431.1	428.1	417.1	419.8	401.2	372.8
<b>Two or more races</b>	*	*	*	*	310.0	302.4	285.3	302.1	197.9	262.8	257.0	*
<b>Hispanic or Latino</b>	247.9	229.0	243.5	227.1	241.1	216.5	219.0	212.3	206.8	207.9	204.2	194.6
<b>Not Hispanic or Latino</b>	398.4	401.9	407.4	403.2	397.1	392.9	387.9	385.7	375.5	377.7	358.8	331.5
<b>Black or Af Am only, not Hispanic/Latino</b>	275.9	266.2	279.0	276.0	274.7	267.5	255.9	254.3	247.3	243.7	232.1	205.1
<b>White only, not Hispanic or Latino</b>	484.8	498.8	499.8	491.8	482.8	483.5	481.1	482.5	470.9	476.5	456.8	421.7
<b>Male</b>	383.1	376.3	386.1	382.4	372.5	367.1	367.4	363.7	357.0	350.5	335.8	307.8
<b>Female</b>	378.7	385.9	387.8	380.0	384.2	373.8	363.2	360.2	346.1	357.0	335.7	317.0
<b>&lt;18</b>	*	*	*	71.1	*	*	*	*	*	*	*	*
0-4	*	*	*	*	*	*	*	*	*	*	*	*
5-11	*	*	*	*	*	*	*	*	*	*	*	*
12-17	*	*	*	*	*	*	*	*	*	*	*	*
<b>18-44</b>	101.6	101.6	103.7	106.5	105.7	102.6	97.5	100.3	102.9	94.2	93.7	70.6
18-24	74.0	60.0	62.5	74.7	59.9	91.7	66.9	56.9	50.2	66.3	72.7	*
25-44	104.4	105.9	108.1	109.7	110.4	103.7	100.6	104.8	108.0	97.0	95.9	74.7
<b>45-64</b>	215.0	210.2	217.5	212.1	213.6	205.0	199.3	206.6	202.9	202.1	193.6	179.8
45-54	158.9	165.3	168.6	166.9	174.8	154.8	156.0	171.7	160.6	157.5	149.2	134.8
55-64	256.9	243.4	252.9	244.3	240.5	240.1	228.6	229.5	230.3	229.7	221.4	206.8
<b>65+</b>	580.5	580.5	590.2	583.0	577.7	571.5	569.3	555.5	537.9	539.2	512.9	480.5
65-74	431.0	427.9	421.0	422.2	418.3	401.4	404.8	405.2	390.9	391.6	367.3	349.8
75-84	673.3	674.3	676.9	668.9	655.4	656.0	652.7	615.7	611.3	610.8	593.2	545.9
85+	1046.0	982.9	1073.5	1009.6	990.6	1007.9	961.6	964.4	889.2	912.1	850.4	837.2

Data Source: Special analyses, Medicare 5 percent sample. Incident dialysis patients; unadjusted. \*Values for cells with 10 or fewer patients are suppressed. Abbreviations: Af Am, African American; CKD, chronic kidney disease.

For the third year in a row, the HP2020 goal of 83.2 cardiovascular deaths per 1,000 patient years at risk was met in 2012, with a rate of 75.5. Over the past decade, since 2001, the rate has fallen approximately 38 percent overall. As shown in Table 2.15, rates were highest—and above the target—among Whites, at 88.1 deaths per 1,000 patient years and lowest among those with two or more races, at 52.8 deaths per 1,000. Rates were slightly lower among females (72.6

deaths per 1,000) compared with males (77.8 deaths per 1,000), though both were below the target. Large reductions in rates by age were observed since 2001, with approximately 40 percent fewer deaths observed in 2012 (110.5 deaths per 1,000 patient years) compared with those in 2001 (184.4 deaths per 1,000) for patients older than 65 years.



**vol 2 Table 2.15 HP2020 CKD-14.3 Reduce the cardiovascular death rate for persons on dialysis: Target 83.2 deaths per 1,000 patient years at risk**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>All</b>	122.1	119.2	116.3	110.8	104.5	98.3	92.4	87.7	84.7	81.6	78.3	75.5
<b>American Indian or Alaskan Native only</b>	105.7	95.3	90.3	83.9	77.2	72	70.2	61.7	69.2	61.4	58.2	56.3
<b>Asian only</b>	97.3	91.1	96.2	86	89.6	73.2	71.4	67.7	69.1	63.4	63.8	59.9
<b>Native Hawaiian or other Pacific Islander only</b>	102.4	111.3	102.7	89.3	77	87.9	80	73.6	82	82.3	67.9	66.1
<b>Black or Af Am only</b>	92.7	91.3	89.3	87.6	83.4	79.4	74.5	71.3	68.4	64.5	61.2	60.4
<b>White only</b>	146.9	142.9	139.2	131.2	123	114.7	107.7	101.6	97.8	95.4	92.1	88.1
<b>Two or more races</b>	*	*	*	*	72.6	76.2	70.1	73.8	67.4	69.4	65.4	52.8
<b>Hispanic or Latino</b>	95.1	93	87.9	84.4	80.3	74.3	68	66.1	67.3	63.9	61.9	61.2
<b>Not Hispanic or Latino</b>	123.8	121.9	120.1	114.8	108.3	102.4	96.7	91.6	88	85	81.6	78.5
<b>Black or Af Am only, not Hispanic/Latino</b>	92.9	91.3	89.5	87.5	83.4	79.6	74.7	71.5	68.5	64.7	61.3	60.2
<b>White only, not Hispanic or Latino</b>	159.2	155.2	152.5	144.1	134.8	126.7	120.2	113.5	108.4	106.8	103.5	99.1
<b>Male</b>	121.7	118.6	116.8	112.1	105.2	99.8	93.6	89.8	87	83.5	80.1	77.8
<b>Female</b>	122.6	120	115.7	109.3	103.6	96.5	90.9	85	81.8	79.2	76	72.6
<b>&lt;18</b>	20.9	14.4	18.7	18.5	17	18.4	14.1	15.2	17.7	17.2	10	13.1
0-4	48.4	*	*	*	*	*	*	*	38	*	*	*
5-11	*	*	*	*	*	*	*	*	*	*	*	*
12-17	16.6	14.2	20.8	16.5	15.8	18.2	14.3	12.9	13.1	20.2	12.2	10.4
<b>18-44</b>	47.8	48.6	48.6	45.9	45.1	43	41.6	38.1	38.1	36.2	34.4	33.5
18-24	22.2	26.5	26.1	25.3	25.9	22.7	21.8	19.8	21.4	20.3	19.9	19.2
25-44	50.5	50.9	50.9	48	47.1	45.1	43.6	40	39.8	37.8	35.9	35
<b>45-64</b>	99.5	96.4	94.3	90.7	84.9	82.1	75.3	73.2	71.7	69	66.4	64.4
45-54	82.6	81.2	76.1	74.8	70.8	69.9	64.2	62.3	61.9	58.1	55.9	54
55-64	113.1	108.8	109.2	103.8	96.5	91.9	84.3	81.9	79.4	77.4	74.5	72.4
<b>65+</b>	184.4	179.6	173.9	165.2	156.1	144.4	137.8	129.8	123.9	119.8	115.1	110.5
65-74	158.9	154.7	147.9	143.5	132.7	122.3	116.5	111.4	106.4	100.5	98.5	93.7
75-84	214.8	205.7	200.3	185.3	179.6	164.8	157.8	146.9	137.1	137.4	128.2	125.6
85+	300.3	303.6	292.7	267.5	245.5	234.1	218.5	197.8	201.1	188.4	184.6	174

Data Source: Special analyses, Medicare 5 percent sample. Period prevalent dialysis patients; unadjusted. \*Values for cells with 10 or fewer patients are suppressed. Abbreviations: Af Am, African American; CKD, chronic kidney disease.

In 2012, the death rate for patients with a functioning transplant fell to 27.2 deaths per 1,000 patient years at risk, just above the HP2020 goal of 27.1 (Table 2.16). Rates were highest among American Indian/Alaskan Natives, at 30.2 per 1,000, and lowest among Asians, at 18.5. Rates were slightly higher among males (28.8 deaths per 1,000 patient years), who were above the target, compared with females, at 24.8 deaths per 1,000, who were below. Functioning transplant rates

were the highest among those aged 65 and older, at 65.5 deaths per 1,000 patient years compared with those aged 18-44, at 6.8.

**vol 2 Table 2.16 HP2020 CKD-14.4 Reduce the total death rate for persons with a functioning kidney transplant:  
Target 27.1 deaths per 1,000 patient years at risk**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>All</b>	33.3	31.7	32.4	30.6	31.5	30.8	30.1	28.8	29.8	29.5	29.9	27.2
<b>American Indian or Alaskan Native only</b>	37.7	34.8	31.8	36.0	37.5	46.0	33.5	31.8	50.3	45.0	42.1	30.2
<b>Asian only</b>	19.3	22.2	17.5	20.5	21.5	19.8	23.2	18.1	16.8	16.7	20.4	18.5
<b>Native Hawaiian or other Pacific Islander only</b>	30.8	32.3	24.5	23.5	37.7	19.0	17.2	18.4	26.7	18.9	17.0	19.8
<b>Black or Af Am only</b>	37.9	35.8	36.2	33.2	33.2	32.7	29.8	30.0	29.6	29.0	30.0	28.4
<b>White only</b>	33.0	31.4	32.7	30.8	31.6	31.2	31.1	29.4	30.7	30.6	30.7	27.7
<b>Two or more races</b>	*	*	*	*	24.5	21.7	15.6	21.9	22.6	22.6	23.8	23.3
<b>Hispanic or Latino</b>	21.1	20.0	18.7	17.3	21.1	22.4	19.9	19.7	21.4	20.9	21.6	18.4
<b>Not Hispanic or Latino</b>	34.6	33.1	34.1	32.3	32.9	32.0	31.6	30.1	31.1	30.9	31.2	28.6
<b>Black or Af Am only, not Hispanic/Latino</b>	38.1	36.3	36.1	33.4	33.7	32.9	30.1	30.5	29.7	29.3	30.2	28.8
<b>White only, not Hispanic or Latino</b>	34.6	32.9	34.8	32.9	33.3	32.6	33.0	31.2	32.7	32.6	32.7	29.7
<b>Male</b>	35.4	33.5	33.7	32.9	33.9	32.7	31.9	30.4	31.1	31.6	31.9	28.8
<b>Female</b>	30.1	29.2	30.4	27.4	28.0	28.1	27.6	26.4	27.9	26.6	27.0	24.8
<b>&lt;18</b>	5.4	7.7	6.6	3.7	7.3	4.0	*	*	3.4	6.4	3.1	*
0-4	*	*	*	*	*	*	*	*	*	*	*	*
5-11	*	*	*	*	*	*	*	*	*	*	*	*
12-17	5.8	7.3	6.5	*	8.4	*	*	*	*	6.4	*	*
<b>18-44</b>	14.8	13.8	12.2	11.9	11.4	11.2	10.5	9.4	9.7	8.7	7.9	6.8
18-24	8.5	3.8	5.1	7.2	7.2	7.8	5.7	6.3	6.4	6.1	4.2	4.7
25-44	15.4	14.8	13.0	12.3	11.9	11.5	11.0	9.7	10.1	9.0	8.4	7.1
<b>45-64</b>	38.4	34.9	35.7	31.8	32.9	31.0	29.1	27.4	26.9	25.8	26.6	22.1
45-54	29.1	27.5	26.3	23.4	25.2	24.0	21.5	20.6	20.7	17.9	17.7	14.2
55-64	51.7	45.0	47.6	42.0	41.8	38.7	37.1	34.3	33.0	33.1	34.7	29.1
<b>65+</b>	90.5	87.3	88.2	84.3	81.1	78.6	77.1	70.9	73.1	71.9	69.5	65.5
65-74	84.3	81.3	79.7	77.0	74.2	70.0	68.3	61.3	63.6	62.8	59.3	55.5
75-84	138.0	130.9	148.5	131.0	119.6	125.2	119.6	116.2	115.7	108.1	109.3	101.4
85+	*	*	*	*	168.6	117.8	196.3	118.9	136.0	172.2	140.3	160.2

Data Source: Special analyses, Medicare 5 percent sample. Period prevalent transplant patients; unadjusted. \*Values for cells with 10 or fewer patients are suppressed. Abbreviations: Af Am, African American; CKD, chronic kidney disease.

The rate of cardiovascular mortality among transplant patients has fallen by 35 percent since 2001, and continues to meet the HP2020 target of 4.4 deaths per 1,000 patients, declining to 3.3 deaths per 1,000 2012 (see Table 2.17). Rates were highest among Blacks/African Americans, though still below the target at 3.9. Rates were lowest among Asians, at 2.2 deaths per 1,000 patients; and similar among Hispanics/Latinos

at 2.4. Rates were the same for males and females, at 3.3 deaths per 1,000 patients, which is below the target.

vol 2 Table 2.17 HP2020 CKD-14.5 Reduce the cardiovascular death rate in persons with a functioning transplant:  
Target 4.4 deaths per 1,000 patient years at risk

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>All</b>	5.1	4.8	4.9	5.3	5.4	5.1	4.9	4.1	4.0	4.1	3.5	3.3
<b>American Indian or Alaskan Native only</b>	*	10.7	*	*	*	8.8	*	*	*	*	*	*
<b>Asian only</b>	*	3.8	*	*	2.3	3.6	3.0	*	*	*	2.0	2.2
<b>Native Hawaiian or other Pacific Islander only</b>	*	*	*	*	*	*	*	*	*	*	*	*
<b>Black or Af Am only</b>	6.6	5.6	5.8	6.0	6.0	5.9	5.3	5.0	4.9	4.8	4.2	3.9
<b>White only</b>	5.0	4.6	4.9	5.4	5.4	5.0	5.0	4.0	4.0	4.2	3.4	3.2
<b>Two or more races</b>	*	*	*	*	*	*	*	*	4.4	*	*	*
<b>Hispanic or Latino</b>	3.2	4.0	3.4	3.0	3.9	4.1	3.2	3.4	3.4	2.8	3.1	2.2
<b>Not Hispanic or Latino</b>	5.4	4.9	5.1	5.5	5.6	5.2	5.1	4.1	4.1	4.3	3.5	3.4
<b>Black or Af Am only, not Hispanic/Latino</b>	6.7	5.7	5.7	6.1	6.1	6.0	5.4	5.1	5.0	4.8	4.2	4.0
<b>White only, not Hispanic or Latino</b>	5.3	4.6	5.2	5.7	5.6	5.1	5.3	4.1	4.1	4.5	3.4	3.4
<b>Male</b>	5.6	5.2	5.2	5.9	5.8	5.3	5.6	4.5	4.0	4.6	3.8	3.3
<b>Female</b>	4.5	4.3	4.4	4.4	4.7	4.7	3.9	3.4	4.0	3.4	2.9	3.3
<b>&lt;18</b>	*	*	*	*	*	*	*	*	*	*	*	*
0-4	*	*	*	*	*	*	*	*	*	*	*	*
5-11	*	*	*	*	*	*	*	*	*	*	*	*
12-17	*	*	*	*	*	*	*	*	*	*	*	*
<b>18-44</b>	2.3	2.3	2.2	2.2	2.1	1.9	1.9	1.6	1.3	1.3	1.0	1.0
18-24	*	*	*	*	*	*	*	*	*	*	*	*
25-44	2.4	2.4	2.3	2.4	2.2	1.9	2.0	1.7	1.4	1.4	1.0	1.1
<b>45-64</b>	6.2	5.4	5.5	5.8	5.8	5.5	4.9	4.1	3.7	3.9	3.3	2.8
45-54	5.7	4.0	4.3	4.8	4.5	4.1	4.2	3.2	3.1	2.8	2.2	1.9
55-64	7.0	7.2	7.0	7.0	7.2	7.0	5.8	5.1	4.4	4.9	4.4	3.7
<b>65+</b>	12.2	12.2	12.0	12.9	13.2	11.3	11.4	8.7	9.7	9.2	7.4	7.2
65-74	12.2	10.9	10.6	12.1	12.8	10.0	10.0	8.0	8.3	8.6	6.8	6.2
75-84	12.0	21.6	22.4	18.1	15.5	18.7	18.2	12.5	16.4	11.2	9.3	11.3
85+	*	*	*	*	*	*	*	*	*	*	*	*

Data Source: Special analyses, Medicare 5 percent sample. Period prevalent transplant patients; unadjusted. \*Values for cells with 10 or fewer patients are suppressed. Abbreviations: Af Am, African American; CKD, chronic kidney disease.

## References

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