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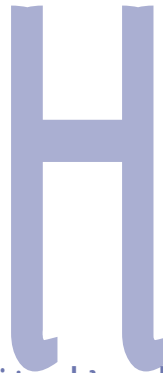
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**Healthy People
2010**

Disease can never be conquered, can never be quelled by
emotion's wailful screaming or faith's cymballic prayer. It
can only be conquered by the energy of humanity and
the cunning in the mind of man. In the patience of a Curie,
in the enlightenment of a Faraday, a Rutherford, a Pasteur,
a Nightingale, and all other apostles of light and cleanli-
ness, rather than of a woebegone godliness, we shall find
final deliverance from plague, pestilence, and famine.

Sean O'Casey, Inishfallen, Fare Thee Well



Healthy People 2010 is a set of national health objectives designed to address preventable threats to health and to establish national goals to reduce these threats.

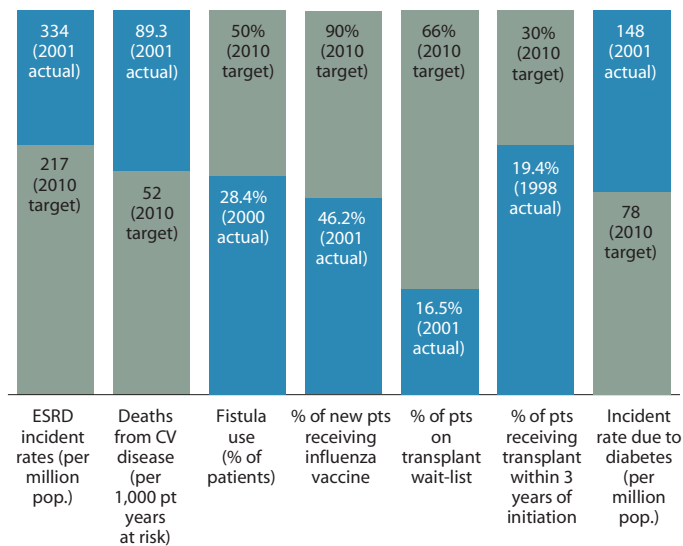
The program presents goals for ten leading health care indicators, which are further subdivided into 28 focus areas, including chronic kidney disease (CKD). The program's website can be found at www.health.gov/healthypeople. The document *Tracking Healthy People 2010*, available on the website, addresses the different methods through which the HP2010 targets were set. ■ HP2010 sets an overall goal of reducing "new cases of CKD and its complications, disability, death, and economic costs," and its CKD-related objectives respond to significant disparities in health care, to the growing costs of the ESRD program, and to the continued increase in the number of new ESRD patients. Achieving these objectives is no small task, as there are an estimated 20 million individuals in the U.S. with chronic kidney disease. ■ Not all of the HP2010 objectives related to CKD can be evaluated using data routinely collected by CMS or the USRDS. Data for the eight objectives we are able to address show that none of the targets is close to being achieved, and for three objectives we have in fact moved further away from those targets since 2000. ■ The number of new cases of ESRD continues to rise, and the rate of 334 per million population in 2001 is far above the target of 217. The incident rate may, however, be stabilizing; continued observation is needed to determine if it has reached a plateau. ■ We project that the number of diabetics in the U.S. will increase dramatically by 2030, with concurrent growth in the number of patients whose ESRD is caused by diabetes (see pages 54–55). It is encouraging to note that the rate of increase in diabetic ESRD incident rates has slowed, and may be leveling off, but the growth in the diabetic population continues to be a concern. Because this projected growth is fueled in part by increases in minority populations, who have high rates of ESRD caused by diabetes, and by growth in the number of people suffering from obesity, also associated with diabetes, prevention programs should target these populations. ■ Though cardiovascular death rates remained fairly flat in the mid-1990s, they increased 2 percent from 2000 to 2001, moving farther away from the HP2010 target of 52 deaths per 1,000 patient years at risk. Rates of mortality due to cardiovascular disease have risen more quickly since 1991 than those of all-cause mortality. Because it remains the leading cause of death in

CHAPTER HIGHLIGHTS ■ **Table hp.b** The cardiovascular mortality rate in prevalent ESRD patients was 89.3 per 1,000 patient years at risk in 2001, 72 percent above the HP2010 target. ■ **Table hp.c** The percentage of new patients using arteriovenous fistulas was 28.4 percent in 2000, well below the HP2010 target of 50 percent. ■ **Table hp.d** There have been only minimal increases in the annual percentages of patients who receive influenza vaccinations; in 2001, 46.2 percent—barely half of the HP 2010 target of 90 percent—were vaccinated. ■ **Table hp.e** The proportion of patients on the transplant waiting list was 16.5 percent in 2001, well below the HP2010 target of 66 percent. ■ **Table hp.f** The percent of incident patients receiving a transplant within three years of registration on the transplant waiting list was 19.4 in 1998, ten percent under the HP2010 target.

ESRD patients, cardiovascular disease and its risk factors in CKD patients should be targeted for intervention. ■ The HP2010 goal related to vascular access sets a target of 50 percent of new hemodialysis patients using arteriovenous fistulas as their primary mode of vascular access. Because it is difficult to determine a patient's initial access from Medicare claims records, we use data from the Clinical Performance Measures (CPM) project. In 2000, only 28.4 percent of patients in the CPM data had an AV fistula. ■ Only 46.2 percent of ESRD patients received an influenza vaccination in 2001, barely half of the HP2010 target of 90 percent, and non-white and younger patients are least likely to receive this preventive care. For pneumococcal pneumonia, HP2010 recommends that 90 percent of adults receive a vaccination at some point in

hp.1 · Healthy People 2010 targets & levels achieved in 2001

for patient populations & analytical methods, see figure captions for the individual objectives on the following pages.

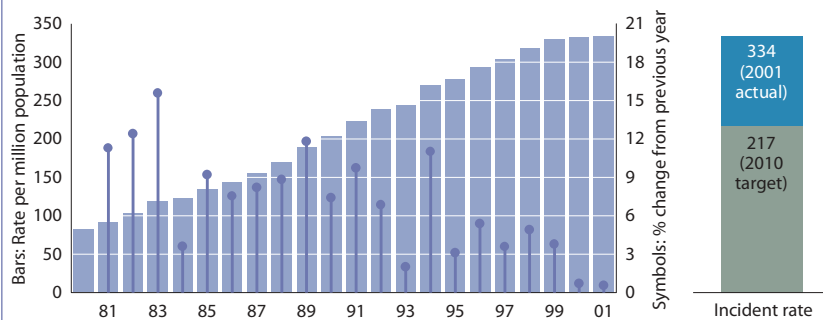


their lives, though the Advisory Committee on Immunization Practices recommends that CKD patients receive an initial vaccination and a revaccination every six years. To have 90 percent of ESRD patients vaccinated every six years, approximately 30 percent must be vaccinated every two years. In 2000–2001, however, pneumococcal pneumonia vaccinations were given to only 10.1 percent of ESRD patients—including older patients, who are most likely to be vaccinated. ■ The percent of patients placed on the kidney transplant waiting list increased slightly in 2001, but still falls severely short of the HP2010 target of 66 percent. The percent of patients transplanted within three years of initiation, meanwhile, has continued to fall, particularly among blacks and Asians. State policies on kidney donation should be evaluated to determine whether policy changes could increase the rate of organ donation, and the continued racial disparities in patients receiving transplants should be addressed. ■ The American Diabetes Association (ADA) recommends that diabetic patients receive 2–4 glycosylated hemoglobin (HbA1C) tests per year, and annual lipid and eye examinations. The percent of elderly pre-ESRD patients receiving eye examinations has decreased since 1995, while that of patients receiving lipid and HbA1c measurements, and that of patients receiving all three tests, have increased. Testing rates in 2000 still fell below those of the general Medicare population, and need attention, particularly for blacks and Native Americans. The rate of ESRD due to diabetes can be reduced through better adherence to ADA guidelines on diabetes management, including improved diabetic evaluation and management of CKD patients. ■ Achievement of the HP2010 objectives is clearly a difficult mandate. There are, however, screening programs and management guidelines that exist specifically for CKD patients. The National Kidney Foundation's Kidney Early Evaluation Program (KEEP), for example, identifies patients at high risk for CKD, and screens them for early signs of kidney disease. Guidelines from the Kidney Disease Outcomes and Quality Initiative (K/DOQI) focus on areas such as anemia, dyslipidemia, bone metabolism and disease, and hypertension, each of which relate directly to the achievement of HP2010 objectives. Such guidelines need to be further incorporated into ESRD and CKD programs, with monitored management guidelines. Providers can encourage CKD patients to pursue healthier lifestyles and to participate in provider and community-based programs. HP2010 objectives should also be translated into performance measurement activities; the ESRD networks, for example, could incorporate many HP2010 targets into their continuous quality improvement programs.

hp.a - Adjusted ESRD incident rates (per million population)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
All	82	91	103	118	123	134	144	156	170	189	203	223	238	243	270	278	293	303	318	330	332	334
Am. Indian/Al. Native	196	205	224	291	268	283	333	366	437	509	537	582	692	640	704	827	915	661	935	749	758	696
Asian/Pacific Islander	50	68	106	150	204	227	243	271	259	199	240	257	277	304	358	387	406	373	414	428	401	395
Black/Af. American	292	306	306	372	371	404	430	473	524	602	634	704	753	788	872	897	949	944	987	994	984	988
White	57	65	76	85	88	97	105	112	122	138	149	163	173	174	192	197	208	223	233	246	252	254
Hispanic or Latino																	437	415	463	467	471	471
Not Hispanic or Latino																	281	294	307	320	322	325
Black or African American*																						
White*																						
Male	101	111	124	145	151	163	176	189	206	231	248	270	286	293	323	329	353	364	382	398	400	404
Female	66	75	84	97	100	110	118	129	140	156	168	186	201	203	228	237	246	256	269	278	280	280
0-19	9	10	11	11	11	11	12	12	12	13	14	14	13	14	15	15	14	13	16	15	15	15
20-44	60	68	72	73	74	77	81	83	89	96	100	104	109	107	116	121	121	118	123	123	122	120
45-64	173	199	216	239	253	273	284	310	340	371	396	432	460	468	532	560	570	583	613	624	619	625
65-74	265	270	320	433	439	502	550	618	664	758	836	938	1,009	1,055	1,144	1,136	1,248	1,294	1,341	1,368	1,384	1,402
75+	141	141	189	290	305	361	418	463	523	617	689	782	860	894	996	1,030	1,188	1,267	1,384	1,490	1,540	1,542

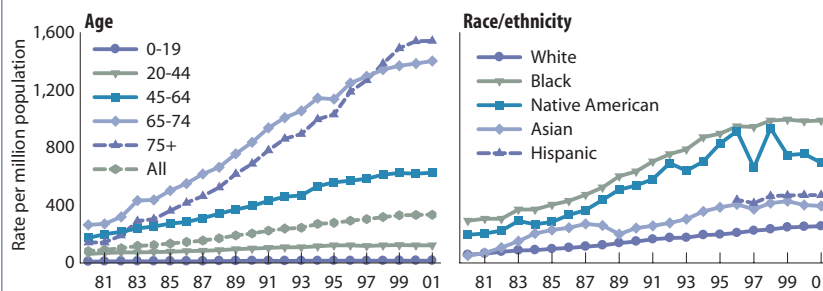
hp.2 - Adjusted ESRD incident rates



HP2010 Objective 4.1:
Reduce the rate of new cases of end-stage renal disease

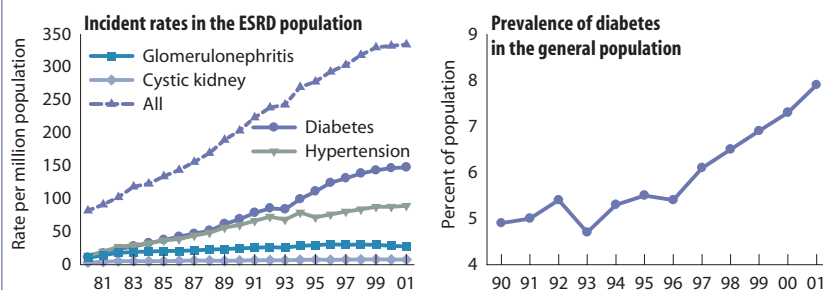
In 2000 and 2001 the annual rate of new cases of ESRD increased less than one percent (Table hp.a and Figure hp.2). There is no indication, however, that these rates will begin to decrease, and with an incident rate of 334 per million population in 2001, it is unlikely that the HP2010 target of 217 will be met.

hp.3 - Adjusted ESRD incident rates, by age & race/ethnicity



Kidney disease continues to have a disproportionate effect on non-white patients and those older than 65 (Figure hp.3). The rate among blacks, for instance, is nearly 1,000 per million population, almost four times higher than that of whites, while rates among Native Americans, Asians, and Hispanics are 696, 395, and 471, respectively.

hp.4 - Adjusted ESRD incident rates, by primary diagnosis, & diabetes in the general population



■ **Table hp.a** incident ESRD patients; rates by age adjusted for gender & race, rates by gender adjusted for age & race, rates by race & ethnicity adjusted for age & gender, rates by primary diagnosis adjusted for age, gender, & race. Rates for non-Hispanics are unadjusted. *Census data are not available for non-Hispanic blacks & whites, so rates cannot be calculated. ■ **Figure hp.2** incident ESRD patients; adjusted for age, gender, & race. ■ **Figure hp.3** incident ESRD patients; rates by age adjusted for gender & race, rates by race & ethnicity adjusted for age & gender. ■ **Figure hp.4** incident ESRD patients; rates adjusted for age, gender, & race. Data on the prevalence of diabetes in the general population obtained from the CDC's Behavioral Risk Factor Surveillance System. ■ For Hispanic patients we present data beginning in 1996, the first full year after the April 1995 introduction of the revised Medical Evidence form, which contains more specific questions on race & ethnicity.

hp.b • Cardiovascular mortality rates in prevalent ESRD patients (deaths per 1,000 patient years at risk)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
All	78.0	85.8	86.1	88.0	85.5	88.5	89.6	89.4	90.0	87.4	89.3
Am. Indian/Al. Native	68.7	72.5	81.0	73.7	74.6	79.6	78.0	72.8	79.7	73.8	75.0
Asian/Pacific Islander	53.7	60.4	52.8	65.5	65.6	74.7	71.2	69.2	75.2	72.2	71.9
Black/Af. American	68.9	74.8	74.8	77.9	75.7	77.1	78.1	78.6	78.9	77.0	79.3
White	85.3	94.4	95.4	96.6	93.9	96.9	98.2	97.9	97.9	95.0	96.9
Hispanic or Latino						59.1	65.4	68.5	71.1	69.5	73.5
Not Hispanic or Latino						91.4	92.2	91.8	92.3	89.8	91.5
Black or African American						77.3	78.2	78.9	79.1	77.1	79.5
White						102.1	103.7	103.1	102.9	100.2	101.7
Male	77.7	84.0	84.9	86.3	83.5	86.8	86.4	86.3	86.7	84.1	86.4
Female	78.4	87.9	87.5	89.9	87.9	90.5	93.3	93.1	93.8	91.5	92.8
0-19	5.0	5.7	6.4	6.3	4.7	4.6	6.2	5.2	7.7	5.6	8.1
20-44	21.5	23.8	22.6	22.6	23.8	23.3	23.2	22.3	21.6	21.7	22.4
45-64	64.0	70.5	67.8	68.5	66.3	67.8	66.4	64.3	64.8	62.5	63.0
65-74	140.7	150.8	148.0	150.3	141.3	144.2	145.2	142.3	140.7	133.9	135.1
75+	201.3	211.9	220.2	219.7	212.7	221.3	222.0	225.2	224.7	217.9	222.3

HP2010 Objective 4.2: Reduce deaths from cardiovascular disease in persons with chronic kidney failure

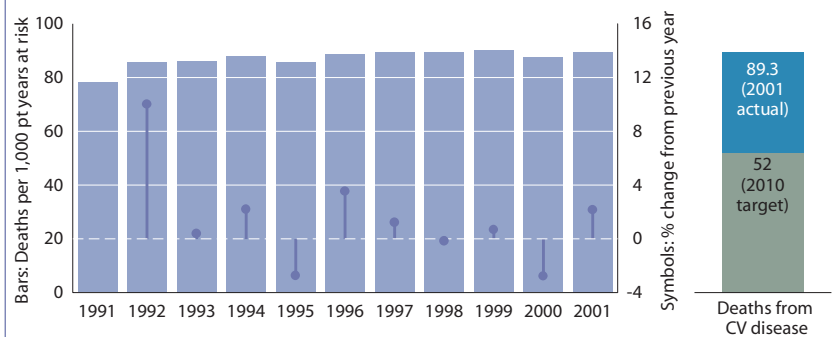
After an almost 3 percent decrease between 1999 and 2000, rates of cardiovascular mortality rose 2 percent in 2001, reaching a level 72 percent higher than the goal of 52 deaths per 1,000 patient years at risk (Table hp.b and Figure hp.5). Rates have risen more quickly since 1991 than those of all-cause mortality—15 versus 7 percent for blacks, for example, and 34 versus 22 percent for Asians (Figure hp.6).

Rates of mortality due to ASHD and AMI have fallen 13–15 percent since 1991; rates for all cardiovascular diseases, in contrast, have grown 14.5 percent (Figure hp.7). Overall mortality rates remain slightly higher in females, and higher in whites than in patients of other races or ethnicities.

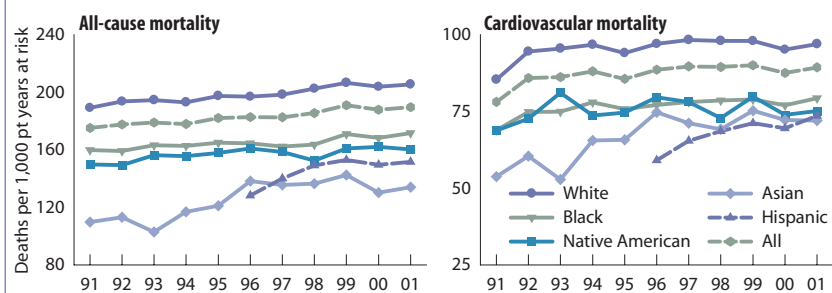
Improved pre-ESRD care, and the targeting of populations at high risk for cardiovascular disease, will contribute to efforts to reach the HP2010 target, and reduce overall mortality in the ESRD population as well.

■ **Table hp.b & Figures hp.5–7** period prevalent ESRD patients; unadjusted. The Death Notification form was revised in September 1990 to include more detailed categories for cause of death; prior to this time cardiovascular deaths were often classified as being of “other” causes. Because of this, data for cardiovascular & “other” deaths prior to 1991 have been omitted here. ■ For Hispanic patients we present data beginning in 1996, the first full year after the April 1995 introduction of the revised Medical Evidence form, which contains more specific questions on race & ethnicity.

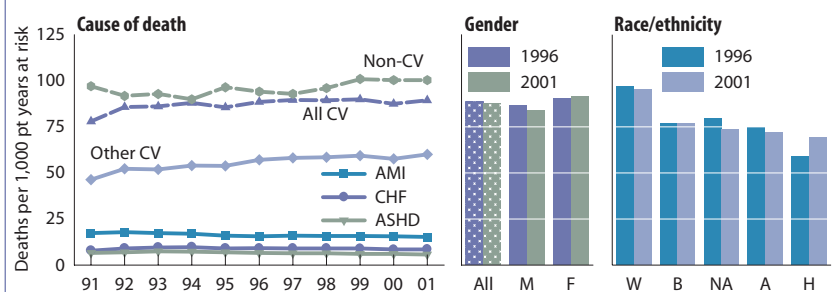
hp.5 • Cardiovascular mortality rates in prevalent ESRD patients



hp.6 • All-cause & cardiovascular mortality rates in prevalent ESRD patients



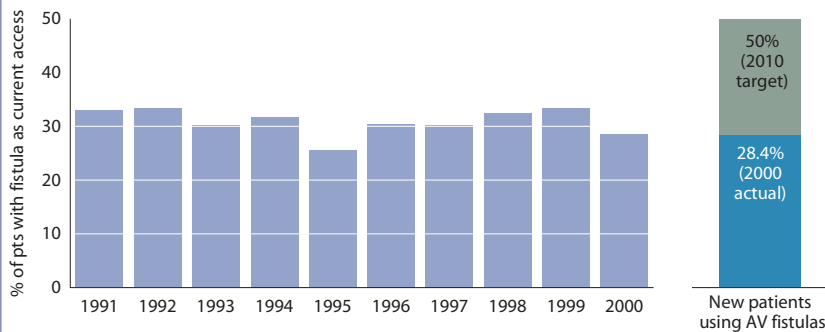
hp.7 • Cardiovascular mortality rates in prevalent ESRD patients, by cause of death, gender, & race/ethnicity



hp.c • Arteriovenous fistula use in prevalent hemodialysis patients (percent of patients)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All	NA	NA	NA	NA	NA	NA	30.2	32.4	33.4	28.4
Am. Indian or Alaskan Native	NA	NA	NA	NA	NA	NA	NA	NA	44.1	30.3
Asian or Pacific Islander	NA	NA	41.7	23.1	27.3	28.6	32.4	40.4	35.5	29.8
Black or African American	30.8	36.8	26.5	28.9	22.8	22.8	24.5	28.2	26.0	25.5
White	35.2	29.3	31.1	36.4	28.9	37.6	33.3	34.0	36.1	29.4
Hispanic or Latino						34.9	29.8	38.5	37.2	32.8
Not Hispanic or Latino						28.6	30.1	31.2	33.3	28.2
Black or African Am.						21.9	23.7	27.9	26.9	25.1
White						35.8	34.9	33.3	36.3	29.9
Male	46.1	38.6	45.5	40.8	37.4	40.5	41.2	40.0	43.2	39.0
Female	18.6	28.2	15.2	22.8	15.0	19.6	18.9	24.0	21.9	16.6
0-19	NA	NA	80.0	NA	NA	NA	NA	NA	NA	NA
20-44	35.7	37.0	33.7	40.0	35.8	40.2	40.5	35.2	49.8	37.8
45-64	31.7	35.5	30.0	29.6	17.9	28.6	30.1	34.6	33.5	31.3
65-74	NA	NA	NA	23.3	28.0	27.1	25.8	29.6	30.9	22.7
75+	NA	NA	NA	NA	26.7	25.9	26.4	26.8	25.5	24.5

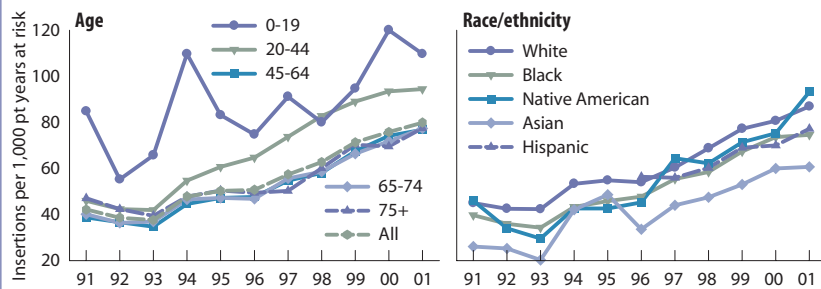
hp.8 • Arteriovenous fistula use in prevalent hemodialysis patients



HP2010 objective 4.4: Increase the proportion of new hemodialysis patients who use arteriovenous fistulas as the primary mode of vascular access

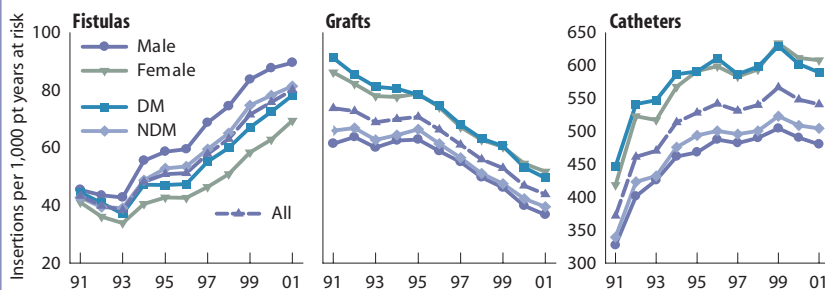
Recent guidelines published by the National Kidney Foundation's Kidney Disease Outcomes Quality Initiative (K/DOQI) concluded that clinical outcomes for hemodialysis patients could be improved with increased use of arteriovenous (AV) fistulas. The percentage of new patients using a fistula in 2000 was 28.4, well below the target of 50 percent set by HP2010 (Table hp.c and Figure hp.8).

hp.9 • Arteriovenous fistula insertions in prevalent hemodialysis patients, by age & race/ethnicity



In 2001, younger patients were the most likely to receive an AV fistula, and Native Americans had the highest fistula insertion rate per 1,000 patient years (93.2) compared to patients of other racial and ethnic groups (Figure hp.9). Insertion rates have been increasing for all racial and ethnic groups. There is little difference in rates between diabetics and non-diabetics (Figure hp.10)

hp.10 • Access insertions in prevalent hemodialysis patients, by gender & diabetic status



■ **Table hp.c & Figure hp.8** prevalent hemodialysis patients from 2001 CPM data, year represents year in which dialysis was initiated; current access from 2001 CPM survey data; includes only patients for whom an access type is known. ■ **Figures hp.9-10** period prevalent hemodialysis patients; includes patients with or without simple fistulas. Data from Part B claims. Some patients may have more than one access at a given point in time. ■ For Hispanic patients we present data beginning in 1996, the first full year after the April 1995 introduction of the revised Medical Evidence form, which contains more specific questions on race & ethnicity.

hp.d · Percent of prevalent ESRD patients receiving influenza & pneumococcal vaccinations

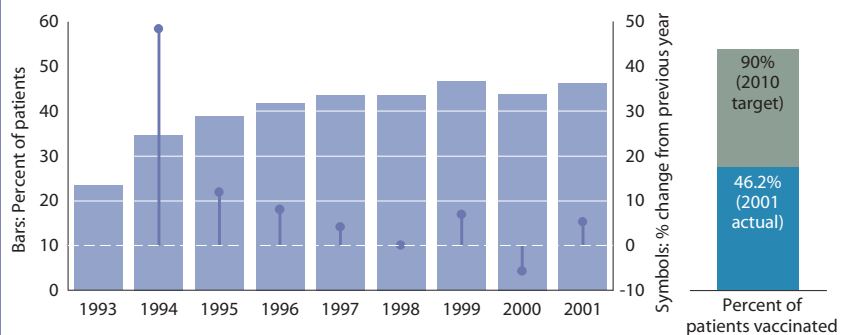
	Influenza vaccinations									Pneumococcal vaccinations, 00-01
	1993	1994	1995	1996	1997	1998	1999	2000	2001	
All	23.4	34.7	38.8	41.9	43.6	43.6	46.6	43.9	46.2	10.1
Am. Indian or Alaska Native	16.3	29.0	35.5	37.1	36.4	40.2	41.5	38.3	38.8	11.5
Asian or Pacific Islander	19.3	27.6	34.0	37.1	40.0	40.3	42.6	38.4	44.8	8.0
Black or African American	19.1	30.7	34.8	38.4	40.0	38.9	42.2	40.4	41.9	9.6
White	26.6	37.9	41.9	44.8	46.6	47.2	50.1	46.9	49.4	10.6
Hispanic or Latino				37.7	39.0	39.7	43.3	37.2	42.9	9.0
Not Hispanic or Latino				42.4	44.1	44.1	47.1	44.8	46.6	10.3
Black or African American				38.5	40.1	39.0	42.3	40.6	41.9	9.6
White				45.8	47.8	48.4	51.3	48.7	50.8	10.9
Male	23.2	34.4	38.6	41.7	43.5	43.5	46.4	43.4	45.6	9.8
Female	23.6	35.1	39.1	42.2	43.8	43.8	46.9	44.4	46.8	10.5
0-19	11.1	15.3	14.3	15.3	17.2	16.4	16.2	15.9	17.4	4.6
20-44	17.6	25.3	28.4	31.0	32.2	31.9	34.5	31.3	33.2	8.3
45-64	22.5	33.5	37.2	40.5	42.0	41.5	44.2	41.3	43.4	10.1
65-74	28.2	41.9	46.8	49.7	51.4	51.8	54.8	51.8	54.2	11.9
75+	28.6	42.9	48.1	51.4	53.2	53.6	57.4	55.0	57.6	11.8

HP2010 Objective 14.29: Increase the proportion of adults vaccinated annually against influenza & ever vaccinated against pneumococcal disease

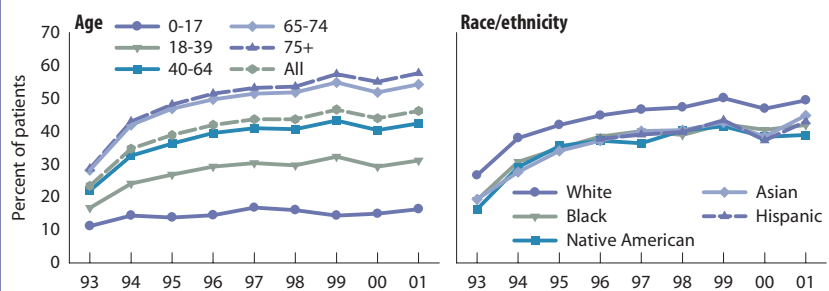
Annual rates of influenza vaccinations have increased only slightly since the mid-1990s, and the 2001 rate is only half of the HP2010 target of 90 percent (Table hp.d and Figure hp.11). Fewer than one-fifth of pediatric patients are vaccinated, and minority patients are least likely to receive this preventive care (Figure hp.12). For pneumococcal vaccinations in the periods we examined, overall rates were unchanged at 10.1 percent, and those for patients age 65 or older decreased (Figure hp.13). The Advisory Committee on Immunization Practices recommends that patients with chronic kidney disease receive an initial pneumococcal vaccination and a revaccination every six years.

■ **Table hp.d influenza:** ESRD patients initiating therapy at least 90 days before September 1 of each year & alive on December 31; vaccinations tracked between September 1 & December 31 of each year. **Pneumococcal pneumonia:** ESRD patients initiating therapy at least 90 days prior to January 1, 2000 & alive on December 31, 2001. ■ **Figures hp.11-12** ESRD patients initiating therapy at least 90 days before September 1 of each year & alive on December 31; vaccinations tracked between September 1 & December 31. ■ **Figure hp.13** ESRD patients initiating therapy at least 90 days before the start of the period & alive on the period's last day; age on December 31 of the prior year. ■ **All figures** Medicare Part A & B coverage during period. For Hispanic patients we present data beginning in 1996, the first full year after the April 1995 introduction of the revised Medical Evidence form, which contains more specific questions on race & ethnicity.

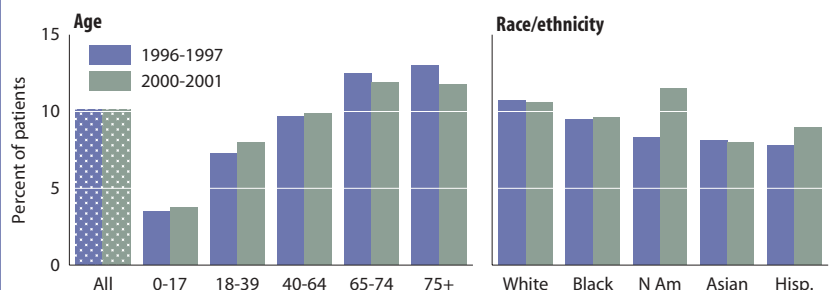
hp.11 · Prevalent ESRD patients receiving influenza vaccinations



hp.12 · Prevalent ESRD patients receiving influenza vaccinations, by age & race/ethnicity



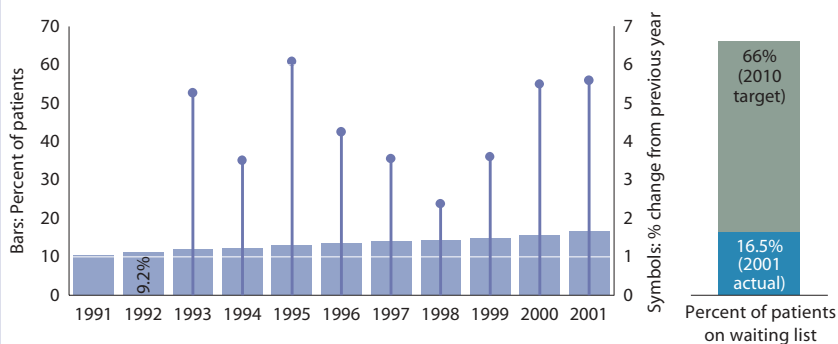
hp.13 · Prevalent ESRD patients receiving pneumococcal vaccinations, by age & race/ethnicity



hp.e · Percent of prevalent dialysis patients on the transplant waiting list

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
All	10.3	11.2	11.8	12.2	12.9	13.5	14.0	14.3	14.8	15.6	16.5
Am. Indian or Alaskan Native	10.2	10.5	10.7	10.2	11.2	11.2	11.2	11.3	11.1	11.9	13.4
Asian or Pacific Islander	15.4	15.8	16.9	18.6	19.5	20.9	22.6	22.6	23.3	25.6	27.2
Black or African American	8.6	9.4	10.3	10.7	11.3	11.9	12.2	12.6	13.2	14.0	15.0
White	11.2	12.4	12.9	13.4	14.2	14.7	15.1	15.3	15.7	16.3	16.9
Hispanic or Latino						14.7	15.3	15.0	16.0	17.0	18.1
Not Hispanic or Latino						13.3	13.8	14.2	14.6	15.4	16.2
Black or African American						11.8	12.1	12.5	13.1	14.0	15.0
White						14.6	15.0	15.3	15.6	16.1	16.6
Male	11.0	12.1	12.8	13.2	13.9	14.4	14.9	15.3	15.7	16.4	17.2
Female	9.4	10.1	10.7	11.0	11.9	12.5	12.9	13.2	13.7	14.6	15.6
0-19	20.2	21.3	22.2	19.1	18.4	19.4	21.2	21.2	21.8	21.1	22.8
20-39	18.3	19.9	20.4	20.8	21.4	22.1	22.8	23.0	23.4	24.0	25.1
40-59	11.3	12.5	13.3	13.6	14.5	15.1	15.5	15.8	16.3	17.1	17.9
60-69	2.7	3.0	3.4	4.2	4.9	5.4	6.1	6.7	7.4	8.5	9.6

hp.14 · Percent of prevalent dialysis patients on the transplant waiting list



HP2010 Objective 4.5: Increase the proportion of dialysis patients registered on the waiting list for transplant

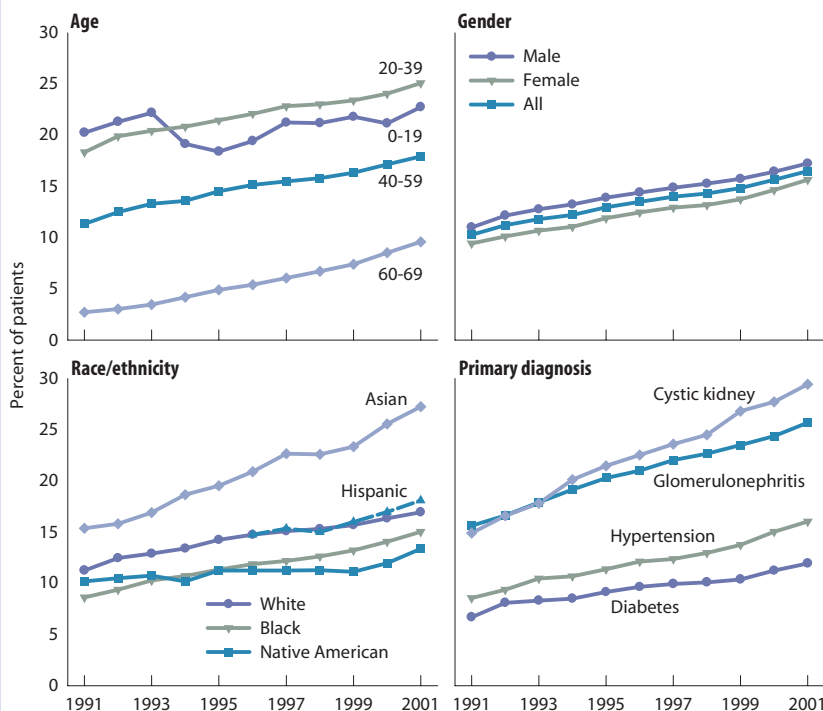
Renal transplantation is the most desirable treatment for ESRD. Patients with a functioning transplant generally experience a better quality of life and longer survival than those on dialysis.

The likelihood of being placed on the transplant waiting list is greatest for Asian patients (Table hp.e and Figure hp.15), while Native Americans are least likely to be listed, most likely due in part to their high rate of diabetes. In 2001, patients with diabetes as their primary cause of ESRD had only a 12 percent chance of being placed on the waiting list, compared to those with a primary diagnosis of hypertension, glomerulonephritis, or cystic kidney disease, in whom rates were 16, 26, and 29 percent, respectively.

Because the waiting list includes only those patients awaiting a transplant from a deceased donor, success of the overall transplantation program should not be based solely on the proportion of patients on the transplant waiting list.

■ **Table hp.e & Figures hp.14-15** prevalent dialysis patients younger than 70 & registered on the transplant wait list on December 31 of the given year. ■ For Hispanic patients we present data beginning in 1996, the first full year after the April 1995 introduction of the revised Medical Evidence form, which contains more specific questions on race & ethnicity.

hp.15 · Dialysis patients on the transplant waiting list, by age, gender, race/ethnicity, & primary diagnosis



hp.f • Percent of incident dialysis patients receiving a transplant within three years of registration

	1991	1992	1993	1994	1995	1996	1997	1998
All	25.8	25.3	24.5	21.4	21.7	20.3	19.8	19.4
Am. Indian or Alaskan Native	24.5	18.4	16.7	18.9	11.4	11.5	11.9	13.1
Asian or Pacific Islander	31.8	30.2	28.5	25.6	22.3	22.4	20.8	18.5
Black or African American	14.3	15.1	14.0	13.7	13.3	12.4	10.0	9.8
White	32.4	31.8	31.8	27.7	28.0	26.3	26.5	26.1
Hispanic or Latino						16.3	16.7	16.5
Not Hispanic or Latino						21.0	20.3	19.8
Black or African American						12.2	9.9	9.7
White						28.4	28.8	28.2
Male	29.1	28.3	27.7	24.1	24.2	22.9	21.8	21.3
Female	21.9	21.9	20.7	18.4	18.7	17.3	17.5	17.1
0-19	75.4	73.3	73.7	68.5	68.8	66.4	68.3	64.8
20-39	50.1	47.6	47.1	39.4	39.5	38.1	36.8	35.6
40-59	26.2	26.3	24.9	21.8	22.0	20.7	20.2	19.5
60-69	6.0	6.4	6.7	6.2	7.1	6.5	7.0	7.8

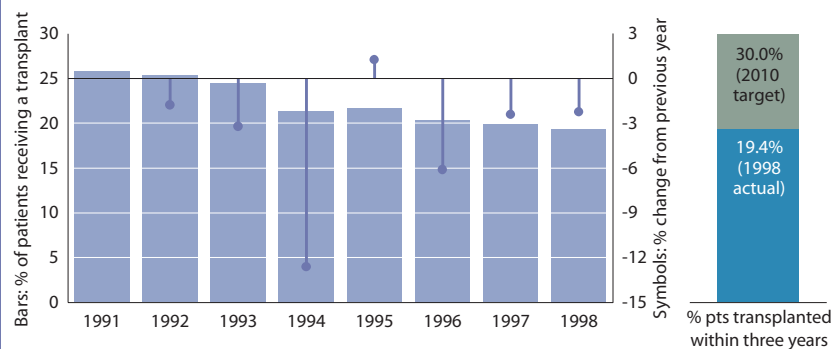
HP2010 Objective 4.6:
Increase the proportion of patients with treated chronic kidney failure who receive a transplant within three years of registration on the waiting list

The National Organ and Tissue Initiative was launched in 1997 in an effort to make more organs available for transplantation and to limit racial disparities among patient groups. Renal transplant patients experience more favorable clinical outcomes than patients on renal dialysis, underscoring the need for accelerated transplant efforts.

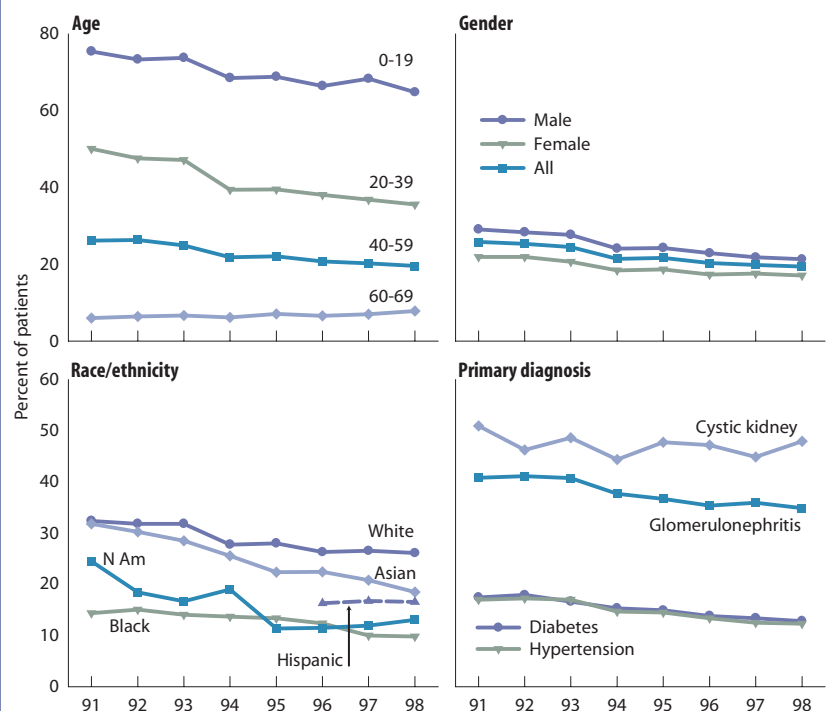
The proportion of patients transplanted within three years of registration on the transplant waiting list has decreased 25 percent since 1991 (Table hp.f and Figure hp. 17). Younger patients are the most likely to receive a transplant, and men tend to be transplanted at a slightly higher rate than women. Among racial groups, the likelihood of transplantation is more than twice as high in whites as in blacks—reflecting continued racial disparities.

■ **Table hp.f & Figures hp.16–17** patients certified as having ESRD in the given year; patients older than 69 or with prior transplants are excluded. Percents are estimated using the Kaplan-Meier methodology. Followup is censored at removal from the list, death, or the end of the three-year period. ■ **Figure hp.16** target level estimated as 30 percent by the USRDS. ■ For Hispanic patients we present data beginning in 1996, the first full year after the April 1995 introduction of the revised Medical Evidence form, which contains more specific questions on race & ethnicity.

hp.16 • Percent of incident dialysis patients receiving a transplant within three years of registration



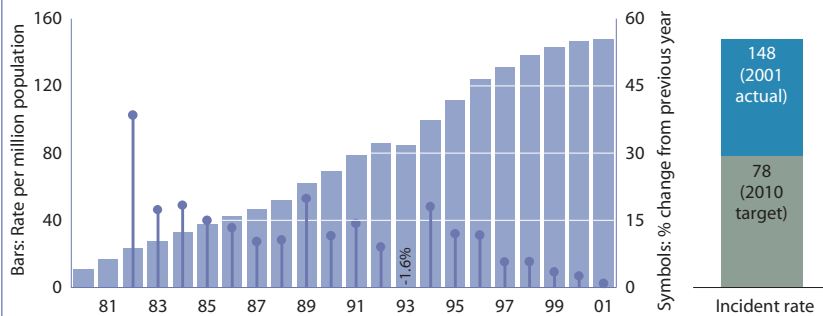
hp.17 • Dialysis patients transplanted within three years, by age, gender, race/ethnicity, & primary diagnosis



hp.g · Adjusted incident rates of ESRD due to diabetes (rates per million population)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
All	10.6	17.0	23.5	27.6	32.6	37.5	42.4	46.7	51.6	61.8	68.9	78.6	85.6	84.3	99.4	111.2	124.1	131.0	138.4	143.0	146.6	147.8	
Am. Indian/Al. Native	39.9	56.7	92.9	136.8	140.3	164.3	189.6	220.8	270.6	317.3	327.8	355.8	412.5	403.3	434.4	538.7	576.3	486.4	646.1	541.8	543.3	502.6	
Asian/Pacific Islander	6.0	13.6	26.8	40.8	56.5	70.8	81.1	87.7	79.7	67.5	87.4	89.6	107.1	110.3	140.1	168.7	183.7	171.8	189.6	202.6	192.8	192.8	
Black/Af. American	33.9	53.6	67.9	78.6	94.0	109.5	123.1	139.1	152.0	188.1	212.7	245.1	264.0	258.5	304.8	350.0	403.0	408.9	435.5	430.2	428.4	436.8	
White	7.7	12.5	17.7	20.3	23.7	26.9	30.6	33.2	37.4	45.3	50.0	57.4	62.3	61.4	72.4	79.2	87.5	96.1	100.1	106.2	111.0	111.7	
Hispanic or Latino																	263.4	265.1	287.0	293.8	297.5	294.3	
Not Hispanic or Latino																	114.0	121.5	127.8	132.3	135.8	137.2	
Black or African American*																							
White*																							
Male	11.9	18.1	24.7	28.8	34.6	40.0	44.4	48.2	54.0	64.0	71.7	81.0	88.1	88.5	103.2	115.3	130.8	140.2	148.1	155.3	160.5	163.9	
Female	9.4	15.9	22.3	26.2	30.5	34.9	40.2	44.9	49.1	59.4	65.9	76.1	83.0	80.2	95.6	107.4	118.1	122.9	130.0	132.9	135.1	134.5	
0-19	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3
20-44	9.8	14.5	18.0	19.5	22.6	24.0	25.6	25.7	25.9	29.8	29.6	31.3	33.0	30.8	32.8	35.5	36.1	36.1	36.3	36.0	37.1	35.7	
45-64	25.6	42.2	60.5	71.1	83.6	95.2	105.1	118.7	131.5	154.4	173.6	196.0	210.3	209.5	246.1	279.7	307.7	317.1	336.2	337.8	336.7	340.5	
65-74	24.9	48.3	64.7	86.0	103.6	128.2	158.6	180.6	210.2	253.1	297.8	355.2	398.4	395.7	471.7	521.5	601.7	635.1	667.6	695.2	708.3	719.6	
75+	6.2	8.3	20.7	25.2	36.1	47.0	56.3	65.4	76.8	105.1	128.7	154.3	172.7	173.1	225.5	269.6	331.5	372.8	421.0	455.9	493.0	505.4	

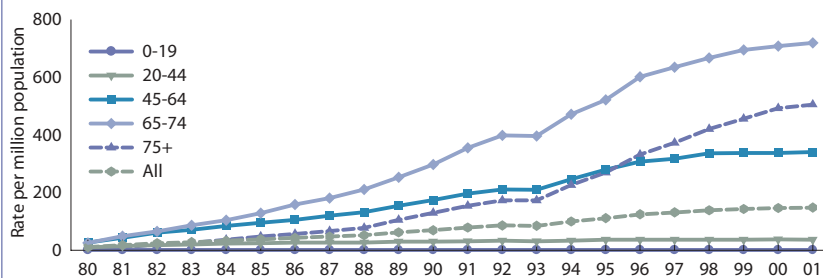
hp.18 · Adjusted incident rates of ESRD due to diabetes



HP2010 Objective 4.7: Reduce kidney failure due to diabetes

The annual increase in the rate of ESRD due to diabetes has slowed considerably since the mid-1990s, from 12 percent in 1995 to less than one percent in 2001 (Table hp. g and Figure hp.18). This may reflect more aggressive blood pressure treatment, and increased diabetic monitoring and treatment, in the general population. The rate per million population, however, is still 148, almost double that of the HP2010 target.

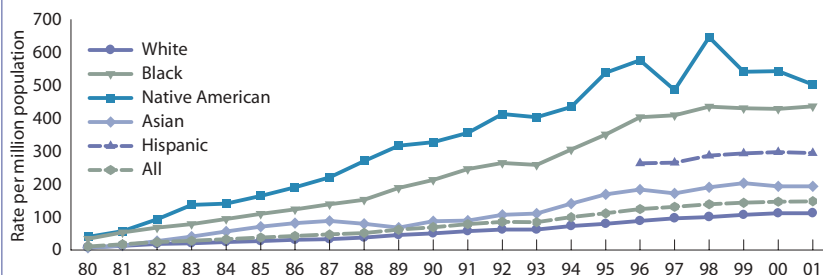
hp.19 · Adjusted incident rates of ESRD due to diabetes, by age



Like the overall incident rates, rates of new cases of ESRD caused by diabetes show dramatic racial disparities. In 2001 the rate per million population for whites was 112—compared to 193 in Asians, 294 in Hispanics, 437 in blacks, and 503 in Native Americans (Figure hp.20).

The number of diabetics, overall and with ESRD, is expected to increase sharply by 2030 (see Figures 2.19 and 2.22).

hp.20 · Adjusted incident rates of ESRD due to diabetes, by race/ethnicity



■ **Table hp.g** incident ESRD patients; rates by age adjusted for gender & race, rates by gender adjusted for age & race, rates by race & ethnicity adjusted for age & gender, rates by primary diagnosis adjusted for age, gender, & race. Rates for non-Hispanics are unadjusted. *Census data are not available for non-Hispanic blacks & whites, so rates cannot be calculated. ■ **Figure hp.18** incident ESRD patients; adjusted for age, gender, & race. ■ **Figure hp.19** incident ESRD patients; adjusted for gender & race. ■ **Figure hp.20** incident ESRD patients; adjusted for age & gender. ■ For Hispanic patients we present data beginning in 1996, the first full year after the April 1995 introduction of the revised Medical Evidence form, which contains more specific questions on race & ethnicity.

hp.h • Percent of diabetic patients receiving preventive health tests, by test type: general Medicare (GM) & pre-ESRD patients

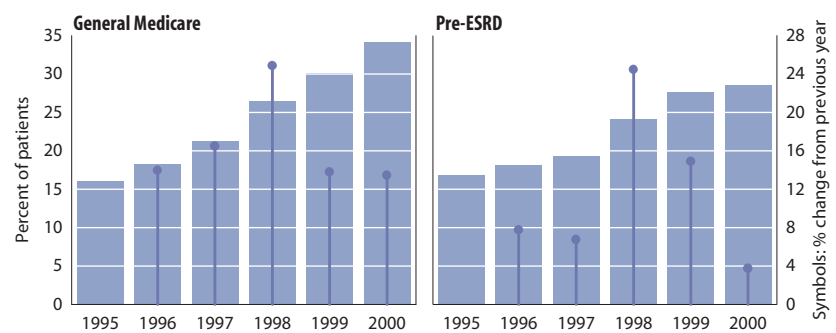
	1995				2000				1995				2000			
	Eye exams		Lipid testing		HbA1c		All three tests		Eye exams		Lipid testing		HbA1c		All three tests	
	GM	Pre-ESRD	GM	Pre-ESRD	GM	Pre-ESRD	GM	Pre-ESRD	GM	Pre-ESRD	GM	Pre-ESRD	GM	Pre-ESRD	GM	Pre-ESRD
All	59.2	65.3	44.5	47.8	43.8	39.4	16.0	16.8	62.0	59.1	61.9	56.5	72.7	66.1	34.1	28.6
Am.Indian/Al.Native	44.8	57.3	22.2	20.3	27.6	24.5	8.6	8.4	41.4	42.5	28.9	33.7	36.5	40.4	15.6	12.4
Asian/Pacific Islander	56.0	66.3	54.0	55.1	46.3	43.7	18.1	24.0	57.2	54.6	70.6	68.0	71.9	67.4	34.5	32.4
Black/Af.American	52.4	59.1	37.4	42.0	35.9	32.8	10.9	11.3	56.3	53.8	52.2	47.3	65.8	59.9	26.4	21.1
White	60.4	68.2	45.4	49.7	45.3	42.7	16.8	18.9	63.1	61.6	62.9	58.3	74.2	69.7	35.3	31.2
Hispanic or Latino*	55.2	65.3	49.8	52.8	35.7	37.0	13.7	17.2	59.9	59.8	69.4	64.6	60.3	60.3	30.8	30.1
Not Hispanic or Latino																
Black or African American																
White																
Male	57.1	63.0	46.6	48.1	45.6	39.1	16.5	16.5	60.1	58.5	64.7	58.1	73.5	65.3	34.6	28.6
Female	60.5	67.0	43.1	47.5	42.6	39.6	15.6	17.0	63.3	59.6	60.0	55.2	72.1	66.7	33.7	28.6
0-19	data not collected															
20-44	data not collected															
45-64	data not collected															
65-74	57.6	65.9	49.5	48.3	47.8	40.9	18.2	17.7	60.7	59.3	69.5	58.7	76.0	67.7	37.8	30.4
75+	60.6	64.4	39.9	47.1	40.2	37.2	13.9	15.5	63.0	59.0	56.1	54.2	70.0	64.4	31.2	26.8

HP2010 Objective 4.8: Increase the proportion of persons with Type 1 or Type 2 diabetes & proteinuria who receive recommended medical therapy to reduce progression to chronic renal insufficiency

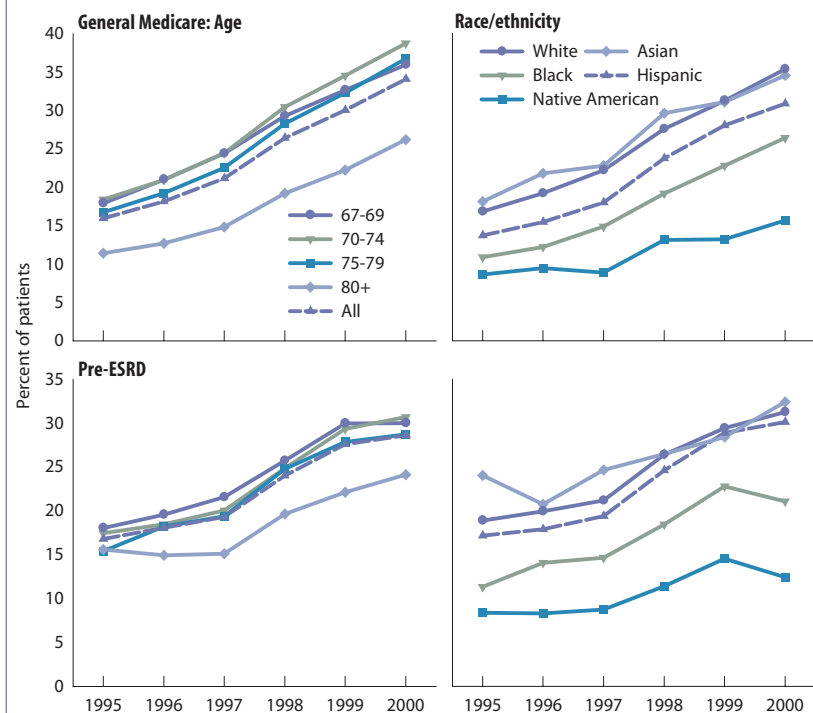
The American Diabetes Association recommends 2–4 glycosylated hemoglobin (HbA1C) tests per year, and annual lipid and eye exams. Testing rates have improved since 1995, but only 34 percent of general Medicare patients, and 29 percent of the pre-ESRD population, received all three tests in 2000 (Table hp.h and Figure hp.21). In both the general Medicare and pre-ESRD populations, patients age 80 and older are least likely to receive all three preventive tests (Figure hp.22). By race and ethnicity, blacks and Native Americans receive the least amount of testing, and whites and Asians the greatest.

■ **Table hp.h & Figures hp.21–22** general Medicare: patients diagnosed with diabetes in each year, age 67 & older on December 31 of the diagnosis year & continuously enrolled in Medicare during the diagnosis year & previous year. Patients enrolled in a managed care program or diagnosed with ESRD are excluded. Claims from diagnosis year & previous year searched for eye exam codes; claims from diagnosis year searched for lipid & HbA1c testing codes. Pre-ESRD: incident patients age 67 & older at initiation, & with diabetes one year prior to start of ESRD. Patients enrolled in a managed care program or with Medicare as secondary payor are excluded. Eye exams tracked two years prior to start of ESRD; lipid & HbA1c testing tracked one year prior to start of ESRD. *Data for Hispanics in 1995 may be incomplete. ■ **Table hp.h & Figure hp.22** because of categorizations in the general Medicare database, racial & ethnic categories are mutually exclusive.

hp.21 • Percent of diabetic patients receiving all three preventive health tests: general Medicare & pre-ESRD



hp.22 • Diabetics receiving all three preventive health tests, by patient population, age, & race/ethnicity



chapter summary

INTRODUCTION ■ **Figure hp.1** Incident rates of ESRD per million population of ESRD due to diabetes are nearly two-fold higher than the desired HP2010 target level. **OBJECTIVE 4.1** ■ **Table hp.a** The annual rate of new ESRD cases increased less than one percent between 2000 and 2001. This rate, however, is 54 percent higher than the HP2010 target. ■ **Figure hp.3** Rates of kidney disease are disproportionate among races; the rate for blacks is nearly four times higher than that of whites. ■ **Figure hp.4** The prevalence of diabetes in the general population continues to rise; nearly eight percent of the general population is affected with the disease. **OBJECTIVE 4.2** ■ **Table hp.b** The cardiovascular mortality rate in prevalent ESRD patients was 89.3 per 1,000

patient years at risk in 2001, 72 percent above the HP2010 target. ■ **Figure hp.6** Cardiovascular mortality rates have risen more quickly since 1991 than rates for all-cause mortality, with the largest increases occurring in blacks and Asians. ■ **Figure hp.7** Overall cardiovascular mortality rates are higher in females, and rates for whites are the highest among all racial and ethnic groups. **OBJECTIVE 4.4** ■ **Table hp.c** The percentage of new patients using arteriovenous fistulas was 28.4 percent in 2000, well below the HP2010 target of 50 percent. ■ **Figure hp.9** Arteriovenous fistula use is most common in younger patients, and in whites and Native Americans. ■ **Figure hp.10** AV fistulas are more common in males, and there is little difference in insertion rates between diabetics and non-diabetics. **OBJECTIVE 14.29** ■ **Table hp.d** There have been only minimal increases in the annual percentages of patients who receive influenza vaccinations; in 2001, 46.2 percent—barely half of the HP2010 target of 90 percent—were vaccinated. ■ **Figure hp.12** Influenza vaccination rates in younger patients are alarmingly low, and minority populations are least likely to receive this preventive care. ■ **Figure hp.13** In patients age 65 and older, pneumococcal vaccination rates decreased between the 1996–1997 and 2000–2001 periods. **OBJECTIVE 4.5** ■ **Table hp.e** The proportion of patients on the transplant waiting list was 16.5 percent in 2001, well below the HP2010 target of 66 percent. ■ **Figure hp.15** Patients younger than 40 and Asians are the most likely to be placed on the transplant waiting list. **OBJECTIVE 4.6** ■ **Table hp.f** The percent of incident patients receiving a transplant within three years of registration on the transplant waiting list was 19.4 in 1998, ten percent under the HP2010 target. ■ **Figure hp.17** Younger patients are more likely to receive a transplant, and males tend to be transplanted at a slightly higher rate than females. **OBJECTIVE 4.7** ■ **Table hp.g** The annual increase in the rate of ESRD due to diabetes has slowed significantly since the mid-1990s, from 12 percent in 1995 to less than one percent in 2001. ■ **Figure hp.19** Annual incident rates of ESRD due to diabetes are increasing, and are highest for patients age 65 or older. ■ **Figure hp.20** The rate of new cases of ESRD caused by diabetes is highest for Native Americans. **OBJECTIVE 4.8** ■ **Table hp.h** Although preventive health testing rates have improved, only 34 percent of the general Medicare population and 29 percent of pre-ESRD patients received all three diabetic preventive health tests (eye exam, lipids, HbA1c) in 2000. ■ **Figure hp.22** Patients age 80 or older are the least likely to receive diabetic preventive health tests.