If thou couldst, doctor, cast
The water of my land, find her disease
And purge it to a sound and pristine health,
I would applaud thee to the very echo,
That should applaud again.

William Shakespeare, Macbeth
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’s website can be found at www.health.gov/healthypeople.

Healthy People 2010 builds on initiatives pursued over the past two decades, including those presented in the 1979 Surgeon General’s Report, Healthy People, and in Healthy People 2000: National Health Promotion and Disease Prevention Objectives, both of which established national health objectives and served as a basis for states and communities to develop their own public health plans. The program’s primary goals are to increase the quality and duration of healthy lifetimes, and to eliminate health disparities among different populations.

Several portions of Healthy People 2000 included objectives related to chronic kidney disease (CKD). The HP2010 program, however, addresses CKD as one of 28 focus areas. In order to bring attention to the HP2010 goals and objectives related to CKD, the Annual Data Report will each year include a chapter tracking CKD and ESRD as they relate to HP2010 targets.

The overall goal set by HP2010 for CKD is to “reduce new cases of chronic kidney disease and its complications, disability, death, and economic costs.” CKD is an epidemic in the U.S., where an estimated 20 million individuals have some form of the disease. Many of the people with CKD will progress to ESRD. In fact, the number of new cases of ESRD continues to increase each year. Kidney disease has a disparate effect on certain populations and ethnic groups, and annual increases in the rates of ESRD are greater in individuals of certain races and ethnicities. These disparities are also seen in terms of the waiting list for kidney transplants, on which some patients are more likely to be registered than others.

Medicare is the primary payor for ESRD patients. Although expenditures per patient have been relatively stable, program costs have increased substantially, due primarily to the greater number of patients (see Chapter Twelve).

The HP2010 objectives related to CKD are a response to these significant disparities, to the growing costs of the ESRD program, and to the relentless increase in the number of new ESRD patients. These objectives are designed to focus attention on the risk factors for CKD, to encourage the development of management programs to slow the progression of kidney disease, and to increase the rate of kidney transplantation.

Not all of the HP2010 objectives related to CKD can be evaluated using data routinely collected by CMS or the USRDS. Objective 4.3, which addresses patient counseling on nutrition, treatment choices, and cardiovascular care prior the start of ESRD therapy, is not included in this ADR. In addition, the USRDS database does not contain information on patient income level; these fields in the data tables have therefore been left blank. We have, however, addressed part of the HP2010 section on Immunization and Infectious Diseases, adapting Objective 14.29 to look at influenza and pneumococcal vaccinations in ESRD patients.

Figure hp.1 shows the HP2010 targets for the objectives we are able to address, along with the levels currently being achieved. There is not a single objective for which the data approach the suggested targets, and for several objectives we have in fact moved away from the targets since the inception of the HP2010 program.

The number of new cases of ESRD continues to rise (Figure hp.2 and Table hp.a), and the rate of 334 per million population in 2000 is far above the HP2010 target of 217. One problem is that the prevalence of diabetes as a primary diagnosis of ESRD continues to rise more rapidly than that of any other diagnosis (Figures hp.4 and hp.18), fueled by an increase in diabetes in the general population. The incident rate of new ESRD cases is unlikely to decline significantly, therefore, until the rate of diabetes in the general population decreases. Prevention programs should target blacks, Hispanics, and Native Americans in particular, as these populations have rates of ESRD due to diabetes that are much higher than those found among white patients (Table hp.g and Figure hp.20).

Overall, cardiovascular death rates decreased from 1996 to 2000 (Table hp.b). Rates for Native Americans, Hispanics, and children, however, increased slightly between 1998 and 2000. Cardiovascular disease rates appear to be de-
Arteriovenous fistula placement is disappointingly low in new dialysis patients (Figure hp.8 and Table hp.c), though it is encouraging to note that rates are increasing in prevalent patients, accompanied by less frequent use of grafts and catheters (Figures hp.9–10). Targeted rates of AV fistula placement in new hemodialysis patients will most likely be accomplished only through earlier referral to nephrology practitioners.

Only 43.2 percent of ESRD patients received an influenza vaccination in 2000, less than half of the HP2010 target of 90 percent (Figure hp.11). Non-white patients are least likely to receive this preventive care (Table hp.d and Figure hp.12). While there was an increase in pneumococcal vaccinations from 1995–1996 to 1999–2000, the rate is still less than 50 percent of the target, even among older patients, who are most likely to be vaccinated (Figure hp.13). Dialysis programs need to institute quality improvement programs to increase the vaccination rate in all ESRD patients.

The percent of patients registered on the renal transplant waiting list has not increased since 1998, while the percent of patients transplanted within three years of initiation has actually decreased since 1992–1994 (Figures hp.14 and hp.16). The HP2010 targets related to renal transplants will not be met unless more donor kidneys become available.

Individuals, dialysis providers, health care professionals, and organizations such as the National Kidney Foundation, the American Society of Nephrology, and the ESRD networks are encouraged to integrate Healthy People 2010 objectives into current programs, special events, publications, and meetings. Dialysis providers can use the framework, for example, to guide health promotion activities as well as community-based initiatives. Healthcare providers can encourage their CKD patients to pursue healthier lifestyles and to participate in provider and community-based programs. HP2010 objectives can also be used in performance measurement activities. The ESRD networks, for example, could incorporate many HP2010 targets into their continuous quality improvement programs.
Healthy People 2010 Objective 4.1: reduce the rate of new cases of end-stage renal disease (ESRD)

The number of new cases of ESRD continues to rise, from approximately 220 per million in 1992 to 334 per million in 2000 (Figure hp.2). While incident rates per million population have been increasing steadily since 1980, the rate of increase slowed to approximately three percent in 1999 and 2000. These rates show no indication, however, of decreasing to the target level of 217 per million population set by HP2010.

Kidney disease has a disproportionate effect on certain racial and ethnic groups, particularly blacks, Native Americans, and Hispanics. Incident rates in blacks are four times higher than those in whites, and blacks have the highest overall risk of chronic kidney disease (Table hp.a and Figure hp.3). Incident rates for Hispanics and Native Americans are two to three times higher than those of whites. From 1997 to 2000, the greatest growth in incident rates was seen in whites (14.4 percent) and Native Americans (14.4 percent).

Incident rates tend to be driven by the oldest patients. From 1997 to 2000, the incident rate among patients age 75 and older increased 22.3 percent.

Figure hp.4 shows that rates of ESRD due to diabetes continue to rise, and far more rapidly than rates due to any other primary diagnosis. It is unclear, therefore, how the U.S. will meet HP2010 Objective 4.1 unless more preventive care efforts are instituted.

**Figure hp.2** Incident ESRD patients, adjusted for age, gender, race. **Table hp.a** rate per million population, 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 white & black non-Hispanics are unadjusted. **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. General population data adjusted for age, & represent a three-year moving average. Data on the prevalence of diabetes in the general population obtained from the CDC’s Behavioral Risk Factor Surveillance System.

Before the 1995 introduction of the revised Medical Evidence form, which contains more specific questions on race & ethnicity, data collected on Hispanic ethnicity were unreliable & are therefore not presented here.
Cardiovascular disease is the major cause of death among patients with chronic kidney disease. Targeting a reduction in deaths due to cardiovascular causes will, therefore, lead to a significant reduction in the overall mortality of the entire population.

After a slight increase between 1996 and 1998, overall cardiovascular death rates in ESRD patients have decreased (Figure hp.5). Rates for Hispanics and children, however, have increased since 1996 (Table hp.b and Figure hp.6).

Mortality rates of congestive heart failure, atherosclerotic heart disease, myocardial infarction, and other cardiovascular diseases have been stable or decreasing slightly since 1996, while the rate of non-cardiovascular mortality is rising (Figure hp.7). The overall rate of cardiovascular disease is falling slightly in both males and females and in all racial and ethnic groups, with the exception of Hispanics.

The HP2010 target is a rate of 52 cardiovascular deaths per one thousand patient years at risk. Improvements in point of access and in pre-ESRD care, along with particular attention to Hispanic and female patients with chronic kidney disease, will contribute to efforts to achieve this target.

**Healthy People 2010 Objective 4.2:** reduce deaths from cardiovascular disease in persons with chronic kidney failure

**Cardiovascular Disease** is the major cause of death among patients with chronic kidney disease. Targeting a reduction in deaths due to cardiovascular causes will, therefore, lead to a significant reduction in the overall mortality of the entire population.

After a slight increase between 1996 and 1998, overall cardiovascular death rates in ESRD patients have decreased (Figure hp.5). Rates for Hispanics and children, however, have increased since 1996 (Table hp.b and Figure hp.6).

Mortality rates of congestive heart failure, atherosclerotic heart disease, myocardial infarction, and other cardiovascular diseases have been stable or decreasing slightly since 1996, while the rate of non-cardiovascular mortality is rising (Figure hp.7). The overall rate of cardiovascular disease is falling slightly in both males and females and in all racial and ethnic groups, with the exception of Hispanics.

The HP2010 target is a rate of 52 cardiovascular deaths per one thousand patient years at risk. Improvements in point of access and in pre-ESRD care, along with particular attention to Hispanic and female patients with chronic kidney disease, will contribute to efforts to achieve this target.

**Table hp.b** deaths per 1,000 patient years at risk, period prevalent ESRD patients.
Healthy People 2010 Objective 4.4: increase the proportion of new hemodialysis patients who use arteriovenous fistulas as the primary mode of vascular access

The National Kidney Foundation’s Kidney Disease Outcomes Quality Initiative (K/DOQI) recently produced updated guidelines on vascular access, concluding that overall outcomes for hemodialysis patients could be improved by increasing the use of native arteriovenous (AV) fistulas. HP2010 Objective 4.4 addresses this issue by striving for an ambitious goal of 50 percent of new patients using AV fistulas by 2010. In 1999, however, only 27 percent of new hemodialysis patients began treatment with this type of access (Figure hp.8). The first DOQI guidelines on vascular access were published at the end of 1997, and since then there has been a slight trend downwards in fistula placement rates.

Overall, arteriovenous fistula use in new patients remained relatively stable between 1996 and 2000. While rates of use have increased in Asians these gains have been offset by lower rates in the black population (Table hp.c). Although AV fistula rates in new hemodialysis patients are disappointing, use of the access in prevalent patients is rising, particularly among the youngest patients (Figures hp.9–10). It is encouraging to note that rates have been rising consistently across all patient groups, while graft placement rates have been declining and catheter use has remained relatively stable.

A significant increase in AV fistula placement in new hemodialysis patients will most likely be accomplished only by earlier referral to nephrology practitioners.

Figure hp.8 incident hemodialysis patients, 1999–2000 combined, from CPM survey data; includes only patients for whom an access type is known.

Table hp.c percent of patients. DMMS 1 cohort: incident patients alive on December 31, 1993; DMMS 2 cohort: incident hemodialysis patients initiating dialysis in 1996 & 1997; CPM cohort: dialysis patients, data collected in October–December of each year. Figures hp.9–10 period prevalent hemodialysis patients; includes patients with or without simple fistulas. Some patients may have more than one access at a given point in time.
Since renal transplant patients and patients with chronic kidney disease are at increased risk for lower respiratory tract infections and morbidity from pneumococcal disease, it is important to increase both influenza and pneumococcal vaccination rates in these populations. The Advisory Committee on Immunization Practices suggests that adults and children over six months old and with chronic kidney disease receive a yearly influenza vaccination, an initial pneumococcal vaccination, and a pneumococcal revaccination every six years.

The HP2010 target for annual influenza vaccinations in adult patients is 90 percent. Between September 1 and December 31, 2000, however, only 43.2 percent of ESRD patients received a vaccination (Figure hp.11), and this rate was slightly lower than that of the previous year.

The percent of patients receiving influenza vaccinations is greatest in whites, and lowest in Native Americans. The likelihood of receiving a vaccination increases consistently with increasing age. (Table hp.d and Figure hp.12).

The HP2010 target for pneumococcal vaccinations in the chronic kidney disease population is 90 percent of patients every six years. We evaluated two years of data, with an applicable target of 30 percent. While the vaccination rate has increased in all patient groups since the 1995–1996 period, even the highest rates are still markedly below the desired target.
Successful renal transplantation is the optimal treatment for ESRD. In general, patients experience a better quality of life and longer survival times, while growth rates in children improve as well. Transplantation in the first year (pre-emptive or after initiation), as well as registration on the waiting list, are influenced by a number of factors including patient age, gender, race/ethnicity, primary diagnosis, and geographic location. In the past there have been noticeable disparities in the distribution of patients on the waiting list; women, blacks, and Native Americans, for example, have been less likely than other candidates to be placed on the list.

Asian patients are most likely to be placed on the waiting list (Figure hp.15); these patients also have some of the lowest rates of comorbidity (see Figure 1.16). Native American patients, in contrast, are least likely to be wait-listed; this may be related, at least in part, to the high rate of diabetes in this population.

Figure hp.15 shows, not surprisingly, that patients with diabetes as the primary diagnosis of ESRD are less likely to be placed on the waiting list than those with polycystic kidney disease or glomerulonephritis.

While lessening the disparities among patients placed on the transplant waiting list is an important objective, the HP2010 overall target is vulnerable to the availability of donor organs. Since the wait list represents only cadaveric transplants, and excludes patients transplanted pre-emptively, assessing only those patients who go on the wait list may under-represent the overall success of the transplantation effort.

Figures hp.14–15 & Table hp.e dialysis patients younger than 70 registered on the transplant wait list on December 31 of the given year; non-Medicare patients excluded.

### hp.14 - Trends in the percent of dialysis patients on the transplant waiting list

<table>
<thead>
<tr>
<th>Year</th>
<th>All</th>
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<th>19.5</th>
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</thead>
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</tr>
<tr>
<td>1999</td>
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<td>2000</td>
<td></td>
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</tr>
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</table>

![Graph showing trends in the percent of dialysis patients on the transplant waiting list](image)

### hp.e - Percent of patients on the transplant waiting list, by year

<table>
<thead>
<tr>
<th>Race/ethnicity</th>
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<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Am. Indian or Alaskan Native</td>
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<td>17.0</td>
<td>17.1</td>
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<tr>
<td>Asian or Pacific Islander</td>
<td>29.3</td>
<td>29.8</td>
<td>30.8</td>
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<tr>
<td>Black or African American</td>
<td>17.9</td>
<td>18.3</td>
<td>18.7</td>
</tr>
<tr>
<td>White</td>
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<td>19.4</td>
<td>19.4</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
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<td>21.6</td>
<td>22.6</td>
</tr>
<tr>
<td>Not Hispanic or Latino</td>
<td>18.9</td>
<td>19.3</td>
<td>19.5</td>
</tr>
<tr>
<td>Black or African American</td>
<td>17.9</td>
<td>18.3</td>
<td>18.7</td>
</tr>
<tr>
<td>White</td>
<td>19.1</td>
<td>19.4</td>
<td>19.4</td>
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<tr>
<td>Male</td>
<td>20.2</td>
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<tr>
<td>Female</td>
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</table>

<table>
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<th>Income Level</th>
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<tr>
<td>Middle/high income</td>
<td>data not collected</td>
<td>data not collected</td>
<td>data not collected</td>
</tr>
</tbody>
</table>

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

- **Age**
  - 0-19: 30.8
  - 20-39: 33.0
  - 40-59: 21.5
  - 60-69: 9.1

- **Gender**
  - Male: 20.2
  - Female: 17.8

- **Race/ethnicity**
  - Asian: 29.3
  - Hispanic: 18.9
  - White: 19.1

- **Primary diagnosis**
  - Glomerulonephritis: 17.9
  - Cystic kidney: 20.4
  - Hypertension: 18.9
  - Diabetes: 20.4

Figures hp.14–15 & Table hp.e dialysis patients younger than 70 registered on the transplant wait list on December 31 of the given year; non-Medicare patients excluded.
Healthy People 2010 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 U.S. Department of Health and Human Services (DHHS) is working toward a goal of equal opportunity for renal transplantation regardless of gender, race, and geographic location. In the past, blacks and women have received kidney transplants at a lower rate than whites and men. DHHS has launched the National Organ and Tissue Donation Initiative to increase the rates of transplantation and to limit disparities among different patient groups.

The actual and target percentages here are different from those in the original HP2010 objective, which measures the number of transplants per 1,000 years at risk after placement on the wait list. This approach does not include preemptive or early transplantation. In order to more completely characterize the transplant process, we assessed the cumulative percent of patients receiving a kidney transplant within three years of the first ESRD service date (incident patients, first transplant). This method was chosen to ensure that we included all patients who would receive either a living or cadaveric graft, both of which represent a successful outcome.

The percent of patients transplanted within three years of ESRD initiation declined between 1995 and 1997. Children are two to three times more likely than adults to receive a transplant.

There are continued racial disparities in the percent of patients transplanted, with whites receiving transplants most frequently (Figure hp.17). Females continue to be transplanted less often than males.

The target of this objective is highly influenced by organ availability. Since living donor transplants have increased significantly in the past five years (see Chapter Eight), assessment of the success of transplantation needs to include this reality.

**Figure hp.16**: Target level estimated as 25 percent higher than the baseline levels in 1992–1994.

**Figures hp.16–17 & Table hp.e**: Medicare dialysis patients initiating therapy in the given year; patients older than 69 or with prior transplants are excluded, as are patients who eventually receive a kidney from a living donor. Cumulative percent are estimated using the Kaplan-Meier methodology. Followup is censored at death or the end of the three-year period.
Healthy People 2010 Objective 4.7: reduce kidney failure due to diabetes

Because diabetes continues to be the primary cause of ESRD, the number of new ESRD cases will continue to rise if the prevalence of diabetes in the general population remains unchecked, and if diabetic treatment is not optimized.

The rate of new cases of ESRD due to diabetes continues to increase (Figure hp.18). The percentage change from year to year has been declining since 1994, which is encouraging, but now appears to be stabilizing. With these growing rates, we are each year moving farther away from the 2010 target.

While the rate of ESRD due to diabetes has risen in patients of every racial and ethnic group, the increase has been particularly rapid in Hispanics, blacks, and Native Americans (Figure hp.20). The rate also continues to increase in older patients. Most alarming, however, is that the rate has quadrupled in the youngest patients (Table hp.g; this change cannot be appreciated in Figure hp.19 due to the small number of pediatric patients.)

The increase in obesity in the general population is leading to a rise in the prevalence of diabetes, which will in turn lead to continued growth in ESRD rates. A decline in these rates will be accomplished only through a massive, multi-pronged educational effort aimed at both the general population (children, parents, teachers) and health care providers.

**Figure hp.18** Trends in incident rates of ESRD due to diabetes, by year

**Table hp.g** Incident rates of ESRD due to diabetes, by year

**Figure hp.19** Trends in incident rates of ESRD due to diabetes, by age

**Figure hp.20** Trends in incident rates of ESRD due to diabetes, by race/ethnicity

Before the 1995 introduction of the revised Medical Evidence form, which contains more specific questions on race & ethnicity, data collected on Hispanic ethnicity were unreliable & are therefore not presented here.
Healthy People 2010 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

This objective focuses on improving the care given to diabetic patients in order to reduce progression to chronic kidney disease. According to the 2002 standards of the American Diabetes Association, glycated hemoglobin (HbA1C) should be measured at least two to four times per year, while lipid testing and eye examinations should be conducted annually. The percent of patients who receive all three preventive health tests at least once a year is increasing (Figure hp.21). In 1999, however, fewer than 31 percent of general Medicare patients, and 27 percent of the pre-ESRD population, received all three tests during the year.

Testing rates differ by patient age and race (Table hp.h and Figure hp.22). Native Americans are least likely to receive care, followed by blacks. And the oldest patients are also less likely to receive diabetic testing, perhaps reflecting a general opinion that these patients do not need particularly aggressive treatment.

There are obvious opportunities for improvement in diabetic testing across all racial/ethnic and age groups. A widespread educational effort is needed to empower diabetic patients with the knowledge of what constitutes optimal evaluation and management of diabetes.

Figure hp.21 & Table hp.h because of categorizations in the general Medicare database, racial & ethnic categories are mutually exclusive.

Figures hp.21–22 general Medicare data: individuals diagnosed with diabetes in 1997, 1998, or 1999, age 67 or older on December 31 of the diagnosis year, & continuously enrolled in Medicare during 1996–1997, 1997–1998, or 1998–1999. Patients diagnosed with ESRD during one of these three periods, enrolled in a managed care program, or with Medicare as secondary payor are excluded. Pre-ESRD data: same cohort as Figure hp.21.
Patient populations & analytical methods

♦ Figures hp.2 and hp.18–20, and Tables hp.a and hp.g, present adjusted incident rates, and include only patients from the 50 states or the District of Columbia. Patients with unknown age, gender, or race are excluded. The direct adjustment method is used, with 1999 as the standard population.

♦ Figures hp.5–7 include prevalent dialysis patients from 1996–2000. Cardiovascular death and disease are defined using CMS codes. Cardiovascular death codes include: 27 and 31 (CHF), 26 (ASHD), 02 and 23 (MI), and 01, 04, 25, 28–30, and 36–37 (other). Cardiovascular disease codes include 01, 02, 04, 23, 25, 26, 27, 28–31, and 36–37.

♦ Data used to investigate Objective 4.4 come from a variety of sources: DMMS Waves 1 and 2, the CMS Clinical Performance Measures Project (CPM), and Medicare claims. For Figure hp.8, percents are based on incident hemodialysis patients with a fistula as their first access. Patients are characterized using 1999 and 2000 combined CPM data. The patient cohort includes only those patients for whom a first access type could be determined.

♦ Figure hp.11 includes ESRD patients initiating therapy before September 1 of each year in the study period and surviving through December 31 of the same year. Patients with Medicare as a secondary payor and those enrolled in an HMO are excluded.

♦ Figures hp.14–15 and Table hp.e show the proportion of dialysis patients registered on the transplant waiting list. Only patients on dialysis and under age 70 are included; non-Medicare patients are excluded. The proportion is calculated as of December 31 of the given year.

♦ The patient populations in Figures hp.21–22 and Table hp.h are obtained from the general Medicare database for 1996–1999, and from the pre-ESRD database.

Conclusions

♦ The number of new cases of ESRD continues to rise. Although the rate of growth has slowed, the rate in 2000 (334 cases per million population) is extremely high compared with the HP2010 target of 217.

♦ The prevalence of diabetes as a primary diagnosis of ESRD continues to rise more rapidly than that of any other diagnosis, and the increase in both the incidence and prevalence of diabetes in the general population is a primary contributor to the yearly growth within the ESRD population.

♦ The incident rate of new ESRD cases is unlikely to decline significantly until the rate of diabetes in the general population decreases.

♦ Since black, Hispanic, and Native American populations have incident rates of ESRD that are much higher than those of whites, they should be targeted for diabetes prevention programs.

♦ After a slight increase between 1996 and 1998, overall cardiovascular death rates in ESRD patients have decreased. Rates for Hispanics and children, however, have increased since 1996.

♦ Arteriovenous fistula placement is disappointingly low in new dialysis patients, although it is encouraging to note that in prevalent patients the rate of AV fistula placement is increasing while graft and catheter placement rates are going down.

♦ There is a significant opportunity to increase AV fistula placement in new hemodialysis patients and, in particular, in blacks. This will most likely be accomplished only through earlier referral to nephrology practitioners.

♦ Only 43.2 percent of ESRD patients received an influenza vaccination in 2000, compared to the HP2010 target of 90 percent. Non-white patients are least likely to receive this vaccination.

♦ While there was an increase in pneumococcal vaccinations from 1995–1996 to 1999–2000, the vaccination rate is less than half of the target, even in older patients, who are most likely to be vaccinated. Dialysis programs need to institute quality improvement programs to increase the vaccination rate in all patients with ESRD.

♦ The percent of patients who are registered on the renal transplant waiting list has not increased since 1998, while the percent of patients transplanted within three years of initiation has actually decreased since the 1992–1994 period.

♦ The 2010 targets for increased numbers of patients on the waiting list and rates of renal transplantation will not be met until more donor kidneys become available.