

**Midcourse  
Review**



**Chronic Kidney Disease**

**4**

**Lead Agency:**

National Institutes of Health

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# Goal: Reduce new cases of chronic kidney disease and its complications, disability, death, and economic costs.

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## Introduction\*

Chronic kidney disease (CKD) is a formidable and challenging condition. New cases and overall cases of end-stage renal disease (ESRD) continue to increase—a trend consistent with a predictive model developed as a U.S. Renal Data System project at the beginning of the decade. Although the total burden of CKD and ESRD has increased, the rate of increase in new cases has progressively decreased. After rising steadily during the 1980s and early 1990s, rates have become more stable, changing 2.5 percent or less in each year since 2000.<sup>1</sup> Type 2 diabetes remains the major driving force behind the development of CKD and ESRD and now accounts for about 45 percent of the new cases of ESRD.<sup>1</sup>

CKD and ESRD are significant public health problems in the United States that affect increasing the quality and years of healthy life and eliminating health disparities. These diseases are responsible for premature death and exact a high economic price for both the private and public sectors of the United States, with select populations bearing a disproportionate burden.

Over the past 5 years, several studies have shown that proteinuria, especially in persons with diabetes, predicts faster progression of kidney disease to end stage.<sup>2, 3, 4, 5, 6, 7, 8, 9</sup> These and other studies have further shown the effectiveness of drugs that modify the renin-angiotensin-aldosterone axis: Angiotensin-converting enzyme (ACE) inhibitors and angiotensin II receptor blockers (ARBs) reduce proteinuria and slow progression of established kidney disease. Although these drugs slow progression, they do not seem to halt it.

Using data from these studies, the National Kidney Foundation (NKF) and the American Diabetes Association (ADA) have developed guidelines for improved care and quality of life for persons with diabetes and kidney disease. The National Diabetes Education Program (NDEP) and the National Kidney Disease Education Program (NKDEP) have launched initiatives to better educate both health care providers and patients on improved care.<sup>10</sup>

The National Institute of Diabetes and Digestive and Kidney Diseases' (NIDDK's) Diabetes Prevention Program shows that moderate exercise, a healthier diet, and weight reduction can prevent development of type 2 diabetes in persons at risk.<sup>11</sup> Furthermore, all racial and ethnic groups have benefited equally from these lifestyle modification programs.<sup>11</sup> Based on these results, voluntary organizations and many communities around the country also have launched programs aimed at healthier lifestyles to prevent diabetes.<sup>12</sup> These initiatives, community programs, and guidelines hold the potential to reduce kidney disease burden, lengthen lives, improve quality of life, and eliminate disparities among patients with kidney disease.

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\* Unless otherwise noted, data referenced in this focus area come from Healthy People 2010 and can be located at <http://wonder.cdc.gov/data2010>. See the section on DATA2010 in the Technical Appendix for more information.

## Modifications to Objectives and Subobjectives

The following discussion highlights the modifications, including changes, additions, and deletions, to this focus area's objectives and subobjectives as a result of the midcourse review.

Only one of the eight original objectives was changed during the midcourse review—medical evaluation and treatment for persons with type 1 or type 2 diabetes and chronic kidney disease (4-8). Issues concerning the availability of data for this developmental objective led to rewording and the addition of two subobjectives: “increase the proportion of persons with type 1 or type 2 diabetes and chronic kidney disease who receive recommended medical evaluation” (4-8a) and “increase the proportion of persons with type 1 or type 2 diabetes and chronic kidney disease who receive recommended treatment to reduce progression to chronic renal insufficiency” (4-8b). After these changes were made, the objective became measurable. The modifications were made to track appropriate medical evaluation and management to prevent progression of diabetic kidney disease to chronic renal insufficiency and ESRD.

## Progress Toward Healthy People 2010 Targets

The following discussion highlights objectives that met or exceeded their 2010 targets; moved toward the targets, demonstrated no change, or moved away from the targets; and those that lacked data to assess progress. Progress is illustrated in the Progress Quotient bar chart (see Figure 4-1), which displays the percent of targeted change achieved for objectives and subobjectives with sufficient data to assess progress.

**Objectives that met or exceeded their targets.** No objective in this focus area attained its target at midcourse.

**Objectives that moved toward their targets.** Progress was observed in the use of arteriovenous fistulas in hemodialysis patients aged 20 years and older (4-4). Both the NKF's Dialysis Outcomes Quality Initiative and the Centers for Medicare and Medicaid Services' Fistula First program promote the arteriovenous fistula as the preferred access for hemodialysis patients. Fistula use results in lower complication rates, better flow, and lower associated illness.<sup>13, 14, 15</sup> However, some segments of the health care community lag behind in integrating the concept into practice. More education of both health care providers and patients is thus required for improvement.

**Objectives that moved away from their targets.** Five objectives moved away from their targets: new cases of ESRD (4-1), cardiovascular disease deaths in persons with chronic kidney failure (4-2), registration for kidney transplantation (4-5), waiting time for kidney transplantation (4-6), and kidney failure due to diabetes (4-7).

After rising steadily during the 1980s and early 1990s, the rate of new ESRD cases became more stable, averaging less than a 1 percent increase per year since 2000.<sup>16, 17</sup> Between 1997 and 2002, deaths of ESRD patients due to cardiovascular disease (4-2) increased slightly, moving away from the target of 62.1 deaths per 1,000 patient years.

ESRD due to diabetes was the primary factor in the increased death rate, rising 50 percent between 1993 and 2003 but beginning to plateau in the past several years. This persistent rise may be attributable to the increasing overall cases of diagnosed diabetes (5-3) in the United States.

The rate for ESRD due to high blood pressure rose 19 percent in the same period. For patients with glomerulonephritis, the rate of new cases fell nearly 10 percent. NKF, ADA, NDEP, NKDEP, and NIDDK have developed guidelines and initiatives to better educate health care providers and patients.

The proportion of dialysis patients who either are wait-listed for a transplant or receive a deceased-donor transplant within a year of starting ESRD therapy (4-5) fell between 1998 and 2001 from 21.9 percent to 14.9 percent. In 2002, the proportion increased to 15.9 percent. However, the proportion of wait-listed patients remained far from the target of 30 percent of the dialysis patients.<sup>18</sup>

The major reason for the low rate of registration on the wait list is the severe shortage of available organs for transplantation. The National Institutes of Health (NIH) and the Health Resources and Services Administration (HRSA) are developing initiatives to educate prospective donors, especially in select racial and ethnic populations, about the need to participate in organ donation programs.<sup>19, 20</sup>

The proportion of patients with treated chronic kidney failure who receive a transplant within 3 years of ESRD (4-6) moved away from the 2010 target of 30.5 percent, falling to 19.2 percent in 1999. The major obstacle is a lack of organs for transplantation. Organ donation from select racial and ethnic populations increased, but greater efforts are required to reduce disparities.

Although the rate for diabetic ESRD (4-7) rose between 1997 and 2000, it has since slowed. In 2002, the rate was 147 diabetic ESRD persons per million, a rate almost two-thirds higher than the target of 90. The driving force is the persistent increasing rate for type 2 diabetes in the U.S. population. The slight decrease in the diabetic ESRD rate, particularly in the American Indian or Alaska Native population, may be due to the aggressive campaign to use ACE inhibitors and ARBs over the past 10 to 15 years. Further attention to blood pressure control and diabetic monitoring in the general population may help lower the rates.<sup>21</sup>

**Objectives that could not be assessed.** Sufficient data did not exist to draw conclusions on progress for counseling of chronic kidney failure patients (4-3) on nutrition, treatment choices, and cardiovascular care 12 months before the start of renal replacement therapy. Investigators of the Special Studies Centers of the U.S. Renal Data System are collecting data that are anticipated by the end of the decade to assess objective 4-3.

Baselines have been established for medical evaluation and treatment of persons with type 1 or type 2 diabetes and chronic kidney disease (4-8a and b), and this objective became measurable. Progress in this area will be assessed as trend data become available.

## **Progress Toward Elimination of Health Disparities**

The following discussion highlights progress toward the elimination of health disparities. The disparities are illustrated in the Disparities Table (see Figure 4-2), which displays information about disparities among select populations for which data were available for assessment.

Populations with the best rates were identified for each objective. Among select populations, the white non-Hispanic population had the lowest rate of new cases of ESRD (4-1) and kidney failure due to diabetes (4-7). The white non-Hispanic population also had the highest proportion receiving a kidney transplant within 3 years of the date of renal failure (4-6). The white non-Hispanic population with CKD due to diabetes had the greatest proportion receiving the recommended treatment to reduce

progression (4-8b). The Asian or Pacific Islander population had the highest rate for registration on the kidney transplant wait list (4-5). Similarly, in persons with diabetes and chronic kidney disease, the proportion of patients who receive medical evaluation (4-8a), such as eye exams, lipids, and hemoglobin A1c, was highest in the Asian population. For persons with ESRD, the Asian or Pacific Islander population also had the lowest (best) rate for cardiovascular deaths (4-2) and the best rate for the use of arteriovenous fistulas for hemodialysis (4-4). The American Indian or Alaska Native population with CKD and ESRD had the best rate of counseling for chronic kidney failure care (4-3).

Compared with men, women had a lower rate of new cases of ESRD (4-1) and a lower rate of diabetic ESRD (4-7). No gender difference was noted in counseling for chronic kidney disease care (4-3) or in medical evaluation of persons with CKD and type 1 or 2 diabetes (4-8a). Compared with women, men had a higher rate for the use of arteriovenous fistulas for hemodialysis (4-4), were more likely to be registered on the kidney transplant wait list (4-5), and had a shorter wait time after renal failure before kidney transplantation (4-6). Men with ESRD had a lower cardiovascular death rate (4-2) than women with ESRD had.

Disparities continued to exist in the evaluation and treatment of persons affected by CKD. The black population had the highest rate for ESRD overall (4-1), nearly four times that of the white population (the best group). The ESRD rate (4-1) for the American Indian or Alaska Native population was more than twice the best rate. Despite these high levels of disparity, both groups showed improvement. The disparity in the rate for the American Indian or Alaska Native population and the white population decreased by about 80 percentage points between 1997 and 2002. The comparable decrease for the black population in comparison to the best rate was 39 percentage points. For diabetic kidney disease (4-7), the American Indian or Alaska Native population had the highest rate until 2000. The diabetic ESRD rate of this population declined since 1998; in 2001, it fell below the rate experienced by the black population.

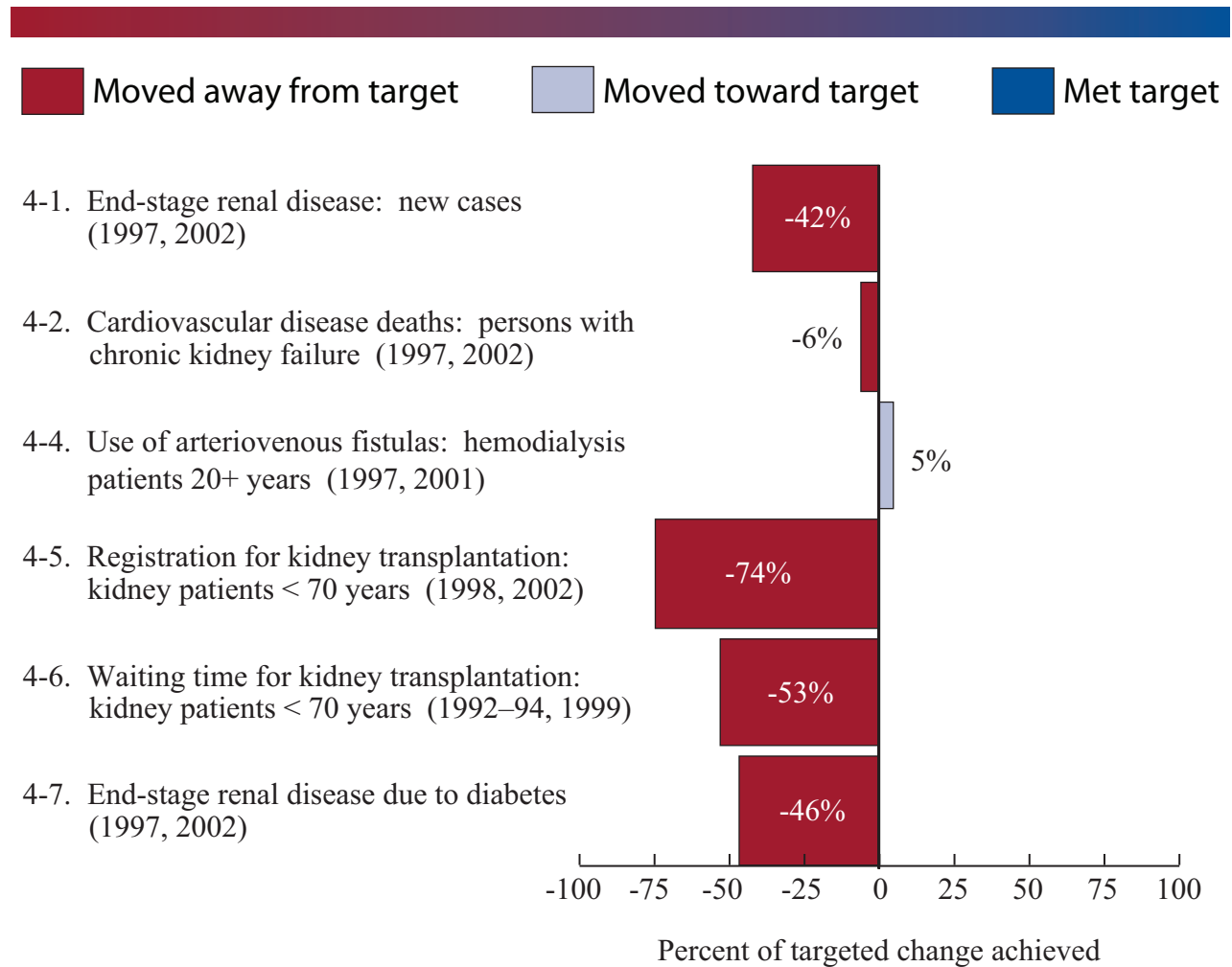
Between 1992–94 and in 1999, the wait time to receive a kidney transplant (4-6) showed increasing disparity for the American Indian or Alaska Native population in comparison with the best group. The proportion of Asian or Pacific Islander CKD and ESRD patients who received counseling for appropriate care (4-3) was 50 percent to 99 percent lower than that of the best (American Indian or Alaska Native population) group. For cardiovascular death rates of all ESRD cases (4-2), the rate for the white non-Hispanic population was 32 percent higher than the best rate.

While the burden of new cases of ESRD (4-1) continued to increase, the total increase in the rate between 1999 and 2002 was less than 4 percent. The American Indian or Alaska Native population showed a 28 percent decrease in new cases of ESRD (4-1), from 716 cases in 2000 to 514 in 2002. Much of the decrease may be attributable to the increase in the population since the 2000 census in which all multirace designations with the American Indian or Alaska Native group now contribute to the denominator.<sup>1</sup> More years of data are needed to determine if the post-2000 census trend continues. The rate for new cases of ESRD among the Asian or Pacific Islander population also slightly decreased. The rates appeared to be stable between 2000 and 2002 in the Hispanic, white non-Hispanic, and black non-Hispanic populations.

## Emerging Issues

The proportion of ESRD patients receiving a transplant within 3 years of ESRD (4-6) declined, reaching approximately 19 percent in 1999. This proportion is lower than the approximately 25 percent transplanted in 1990. This downward trend, observed in all racial and ethnic groups and in both men and women, is due to the insufficient number of organs suitable for transplantation. The number of deceased donor kidneys transplanted has been stable. However, the number of living (unrelated) kidneys transplanted has increased.<sup>20</sup> The critical shortage of organs for transplantation is the most important issue in transplantation and has prompted the U.S. Department of Health and Human Services to form an advisory group to explore all available means to address the issue.

**Figure 4-1. Progress Quotient Chart for Focus Area 4: Chronic Kidney Disease**



**Notes:** Tracking data for objectives 4-3 and 4-8a and b are unavailable.

Years in parentheses represent the baseline data year and the most recent data year used to compute the percent of the Healthy People 2010 target achieved.

$$\text{Percent of targeted change achieved} = \left( \frac{\text{Most recent value} - \text{baseline value}}{\text{Year 2010 target} - \text{baseline value}} \right) \times 100$$



**Figure 4-2. Disparities Table for Focus Area 4: Chronic Kidney Disease**

Disparities from the best group rate for each characteristic at the most recent data point and changes in disparity from the baseline to the most recent data point.

Population-based objectives		Characteristics													
		Race and ethnicity							Gender		Income				
		American Indian or Alaska Native	Asian	Native Hawaiian or other Pacific Islander	Two or more races	Hispanic or Latino	Black non-Hispanic	White non-Hispanic	Summary index	Female	Male	Poor	Near poor	Middle/high income	Summary index
4-1.	End-stage renal disease: new cases (1997, 2002) *	↓↓	↓ <sup>1</sup>			↓ <sup>2</sup>	B <sup>2</sup>		B						
4-2.	Cardiovascular disease deaths: persons with chronic kidney failure (1997, 2002) *		B <sup>1</sup>							B					
4-3.	Counseling: chronic kidney failure care patients (1996) †	B	1						B	B					
4-4.	Use of arteriovenous fistulas: hemodialysis patients 20+ years (1997, 2001) *	b	B <sup>1</sup>							B					
4-5.	Registration for kidney transplantation: kidney patients 20+ years (1998, 2002) *		B <sup>1</sup>							B					
4-6.	Waiting time for kidney transplantation: kidney patients < 70 years (1992-94, 1999) †	↑	1				B			B					
4-7.	End-stage renal disease due to diabetes (1997, 2002) *	↓↓	↓ <sup>1</sup>			↓ <sup>2</sup>	B <sup>2</sup>		B	↑					
4-8a.	Medical evaluation of persons with type 1 or 2 diabetes and chronic kidney disease (2000) †		B			2	2		B	B					
4-8b.	Medical treatment of persons with type 1 or 2 diabetes and chronic kidney disease (2000) †						B								

**Notes:** Years in parentheses represent the baseline data year and the most recent data year (if available).

Disparity from the best group rate is defined as the percent difference between the best group rate and each of the other group rates for a characteristic (for example, race and ethnicity). The summary index is the average of these percent differences for a characteristic. Change in disparity is estimated by subtracting the disparity at baseline from the disparity at the most recent data point. Change in the summary index is estimated by subtracting the summary index at baseline from the summary index at the most recent data point. See Technical Appendix for more information.

The <b>best group rate</b> at the most recent data point.	<input type="checkbox"/> B	The group with the best rate for specified characteristic.	<input type="checkbox"/> b	Most favorable group rate for specified characteristic, but reliability criterion not met.	<input type="checkbox"/>	Best group rate reliability criterion not met.
<b>Percent difference from the best group rate</b>						
Disparity from the best group rate at the most recent data point.	<input type="checkbox"/>	Less than 10 percent or not statistically significant	<input type="checkbox"/>	10-49 percent	<input type="checkbox"/>	50-99 percent
	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	100 percent or more
<b>Changes in disparity over time are shown when the change is greater than or equal to 10 percentage points and statistically significant, or when the change is greater than or equal to 10 percentage points and estimates of variability were not available.</b>						
			<b>Increase in disparity (percentage points)</b>			
			↑	10-49	↑↑	50-99
					↑↑	100 or more
			<b>Decrease in disparity (percentage points)</b>			
			↓	10-49	↓↓	50-99
					↓↓	100 or more
<b>Availability of data.</b>						
<input type="checkbox"/>			Data not available.		<input type="checkbox"/>	
			Characteristic not selected for this objective.			

\* The variability of best group rates was assessed, and disparities of ≥ 10% are statistically significant at the 0.05 level. Changes in disparity over time, noted with arrows, are statistically significant at the 0.05 level. See Technical Appendix.

† Measures of variability were not available. Thus, the variability of best group rates was not assessed, and the statistical significance of disparities and changes in disparity over time could not be tested. See Technical Appendix.

<sup>1</sup> Data are for Asians or Pacific Islanders.

<sup>2</sup> Data include persons of Hispanic origin.

## Objectives and Subobjectives for Focus Area 4: Chronic Kidney Disease

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**Goal:** Reduce new cases of chronic kidney disease and its complications, disability, death, and economic costs.

As a result of the Healthy People 2010 Midcourse Review, changes were made to the Healthy People 2010 objectives and subobjectives. These changes are specific to the following situations:

- Changes in the wording of an objective to more accurately describe what is being measured.
- Changes to reflect a different data source or new science.
- Changes resulting from the establishment of a baseline and a target (that is, when a formerly developmental objective or subobjective became measurable).
- Deletion of an objective or subobjective that lacked a data source.
- Correction of errors and omissions in *Healthy People 2010*.

Revised baselines and targets for measurable objectives and subobjectives do not fall into any of the above categories and, thus, are not considered a midcourse review change.<sup>1</sup>

When changes were made to an objective, three sections are displayed:

1. In the Original Objective section, the objective as published in *Healthy People 2010* in 2000 is shown.
2. In the Objective With Revisions section, strikethrough indicates text deleted, and underlining is used to show new text.
3. In the Revised Objective section, the objective appears as revised as a result of the midcourse review.

Details of the objectives and subobjectives in this focus area, including any changes made at the midcourse, appear on the following pages.

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<sup>1</sup> See Technical Appendix for more information on baseline and target revisions.

**NO CHANGE IN OBJECTIVE  
(Data updated and footnoted)**

**4-1. Reduce the rate of new cases of end-stage renal disease (ESRD).**

**Target:** 221<sup>1</sup> new cases per million population.

**Baseline:** 300<sup>2</sup> new cases of end-stage renal disease per million population were reported in 1997 (age adjusted to 2000 standard population).

**Target setting method:** Better than the best.

**Data source:** U.S. Renal Data System (USRDS), NIH, NIDDK.

<sup>1</sup> Target revised from 217 because of baseline revision after November 2000 publication.

<sup>2</sup> Baseline revised from 289 after November 2000 publication.

**NO CHANGE IN OBJECTIVE  
(Data updated and footnoted)**

**4-2. Reduce deaths from cardiovascular disease in persons with chronic kidney failure.**

**Target:** 62.1<sup>1</sup> deaths per 1,000 patient years at risk.

**Baseline:** 86.4<sup>2</sup> deaths from cardiovascular disease per 1,000 patient years at risk (in persons with ESRD) occurred in 1997.

**Target setting method:** Better than the best.

**Data source:** U.S. Renal Data System (USRDS), NIH, NIDDK.

<sup>1</sup> Target revised from 52 because of baseline revision after November 2000 publication.

<sup>2</sup> Baseline revised from 70 after November 2000 publication.

**NO CHANGE IN OBJECTIVE**

**4-3. Increase the proportion of treated chronic kidney failure patients who have received counseling on nutrition, treatment choices, and cardiovascular care 12 months before the start of renal replacement therapy.**

**Target:** 60 percent.

**Baseline:** 45 percent of newly diagnosed patients with treated chronic kidney failure received counseling on nutrition, treatment choices, and cardiovascular care in 1996.

**Target setting method:** 33 percent improvement. (Better than the best will be used when data are available.)

**Data source:** U.S. Renal Data System (USRDS), NIH, NIDDK.

### NO CHANGE IN OBJECTIVE

**4-4. Increase the proportion of new hemodialysis patients who use arteriovenous fistulas as the primary mode of vascular access.**

**Target:** 50 percent.

**Baseline:** 29 percent of newly diagnosed patients 20 years and older with treated chronic kidney failure on hemodialysis used arteriovenous fistulas as the primary mode of vascular access in 1997.

**Target setting method:** 72 percent improvement (consistent with Dialysis Outcomes Quality Initiative [DOQI] guidelines). (Better than the best will be used when data are available.)

**Data source:** Centers for Medicare & Medicaid Services Clinical Performance Measures (CPM) Project, CMS.

### NO CHANGE IN OBJECTIVE (Data updated and footnoted)

**4-5. Increase the proportion of dialysis patients registered on the waiting list for transplantation.**

**Target:** 30.0<sup>1</sup> percent of dialysis patients.

**Baseline:** 21.9<sup>2</sup> percent of newly diagnosed treated chronic kidney failure patients under age 70 years were registered on the waiting list in 1998.<sup>2</sup>

**Target setting method:** Better than the best.

**Data source:** U.S. Renal Data System (USRDS), NIH, NIDDK.

<sup>1</sup> Target revised from 66 because of baseline revision after November 2000 publication.

<sup>2</sup> Baseline and baseline year revised from 20 and 1994–96 after November 2000 publication.

### ORIGINAL OBJECTIVE

**4-6. Increase the proportion of patients with treated chronic kidney failure who receive a transplant within 3 years of registration on the waiting list.**

**Target:** 51 registrants per 1,000 patient years at risk.

**Baseline:** 41 registrants per 1,000 patient years at risk (since placed on dialysis) received a transplant within 3 years in 1995–97.

**Target setting method:** Better than the best.

## ORIGINAL OBJECTIVE *(continued)*

**Data source:** U.S. Renal Data System (USRDS), NIH, NIDDK.

## OBJECTIVE WITH REVISIONS

**4-6. Increase the proportion of patients with treated chronic kidney failure who receive a transplant within 3 years of registration on the waiting list end-stage renal disease (ESRD).**

**Target:** 30.5<sup>1</sup> percent ~~51 registrants per 1,000 patient years at risk.~~

**Baseline:** ~~41 registrants per 1,000 patient years at risk (since placed on dialysis) received a transplant within 3 years in 1995–97~~ 23.1<sup>2</sup> percent of persons under 70 years of age received a transplant within 3 years of renal failure in 1992–94.<sup>2</sup>

**Target setting method:** Better than the best.

**Data source:** U.S. Renal Data System (USRDS), NIH, NIDDK.

<sup>1</sup> Target revised from 51 because of baseline revision after November 2000 publication.

<sup>2</sup> Baseline and baseline year corrected and revised from 41 and 1995–97 after November 2000 publication.

## REVISED OBJECTIVE

**4-6. Increase the proportion of patients with treated chronic kidney failure who receive a transplant within 3 years of end-stage renal disease (ESRD).**

**Target:** 30.5<sup>1</sup> percent.

**Baseline:** 23.1<sup>2</sup> percent of persons under 70 years of age received a transplant within 3 years of renal failure in 1992–94.<sup>2</sup>

**Target setting method:** Better than the best.

**Data source:** U.S. Renal Data System (USRDS), NIH, NIDDK.

<sup>1</sup> Target revised from 51 because of baseline revision after November 2000 publication.

<sup>2</sup> Baseline and baseline year corrected and revised from 41 and 1995–97 after November 2000 publication.

## NO CHANGE IN OBJECTIVE (Data updated and footnoted)

**4-7. Reduce kidney failure due to diabetes.**

**Target:** 90<sup>1</sup> diabetic persons with new cases of ESRD per million population.

**NO CHANGE IN OBJECTIVE (continued)  
(Data updated and footnoted)**

**Baseline:** 129<sup>2</sup> diabetic persons with new cases of ESRD per million population were reported in 1997 (age adjusted to 1999 standard population).<sup>2</sup>

**Target setting method:** Better than the best.

**Data source:** U.S. Renal Data System (USRDS), NIH, NIDDK.

<sup>1</sup> Target revised from 78 because of baseline revision after November 2000 publication.

<sup>2</sup> Baseline and baseline year revised from 113 and 1996 after November 2000 publication.

**ORIGINAL OBJECTIVE**

**4-8. (Developmental) Increase the proportion of persons with type 1 or type 2 diabetes and proteinuria who receive recommended medical therapy to reduce progression to chronic renal insufficiency.**

**Potential data source:** National Ambulatory Medical Care Survey (NAMCS), CDC, NCHS.

**OBJECTIVE WITH REVISIONS**

**4-8. (Developmental) Increase the proportion of persons with type 1 or type 2 diabetes and proteinuria chronic kidney disease who receive recommended medical therapy evaluation and treatment to reduce progression to chronic renal insufficiency.**

**Target and baseline:**

		<i>Percent</i>	
<u>Objective</u>		<u>2000 Baseline</u>	<u>2010 Target</u>
	Increase the Proportion of Persons With Type 1 or Type 2 Diabetes and Chronic Kidney Disease Who Receive Recommended Medical Evaluation and Treatment To Reduce Progression to Chronic Renal Insufficiency		
		<i>Percent</i>	
<u>4-8a.</u>	<u>Medical evaluation</u>	<u>29</u>	<u>36</u>
<u>4-8b.</u>	<u>Treatment</u>	<u>32</u>	<u>38</u>

**Target setting method:** Better than the best.

**Potential dData sources:** National Ambulatory Medical Care Survey (NAMCS), CDC, NCHS; Centers for Medicare & Medicaid Services Standard Analytical Files (SAF), CMS, and U.S. Renal Data System (USRDS), NIH, NIDDK.

## REVISED OBJECTIVE

**4-8. Increase the proportion of persons with type 1 or type 2 diabetes and chronic kidney disease who receive recommended medical evaluation and treatment to reduce progression to chronic renal insufficiency.**

**Target and baseline:**

Objective	Increase the Proportion of Persons With Type 1 or Type 2 Diabetes and Chronic Kidney Disease Who Receive Recommended Medical Evaluation and Treatment To Reduce Progression to Chronic Renal Insufficiency	2000 Baseline	2010 Target
		<i>Percent</i>	
<b>4-8a.</b>	Medical evaluation	29	36
<b>4-8b.</b>	Treatment	32	38

**Target setting method:** Better than the best.

**Data sources:** Centers for Medicare & Medicaid Services Standard Analytical Files (SAF), CMS, and U.S. Renal Data System (USRDS), NIH, NIDDK.

## References

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- <sup>1</sup> U.S. Renal Data System. *USRDS 2005 Annual Data Report: Atlas of End Stage Renal Disease in the United States*. Bethesda, MD: National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, 2005.
- <sup>2</sup> Peralta, C.A., et al. The metabolic syndrome and chronic kidney disease. *Current Opinion in Nephrology and Hypertension* 15(4):361–365, 2006.
- <sup>3</sup> Coppo, R., et al. Predictors of outcome in Henoch-Schonlein nephritis in children and adults. *American Journal of Kidney Disease* 47(6):993–1003, 2006.
- <sup>4</sup> Osawa, H., et al. Losartan, an angiotensin-II receptor antagonist, retards the progression of advanced renal insufficiency. *Tohoku Journal of Experimental Medicine* 209(1):7–13, 2006.
- <sup>5</sup> Weinberg, A.J., et al. Long-term safety of high-dose angiotensin receptor blocker therapy in hypertensive patients with chronic kidney disease. *Journal of Hypertension* 24(Suppl 1):S95–S99, 2006.
- <sup>6</sup> Ravera, M., et al. Importance of blood pressure control in chronic kidney disease. *Journal of the American Society of Nephrology* 17(4 Suppl 2):S98–S103, 2006.
- <sup>7</sup> Barnett, A. Prevention of loss of renal function over time in patients with diabetic nephropathy. Review. *American Journal of Medicine* 119(5 Suppl 1):S40–S47, 2006.
- <sup>8</sup> Ishimitsu, T., et al. Effects of valsartan on the progression of chronic renal insufficiency in patients with nondiabetic renal diseases. *Hypertension Research* 28(11):865–870, 2005.
- <sup>9</sup> Nakayama, Y., et al. Long-term renoprotective effect of combination therapy with prostaglandin E1 and angiotensin-converting enzyme inhibitor in patients with chronic renal failure. *Hypertension Research* 28(9):733–739, 2005.
- <sup>10</sup> More information available at [www.kidney.org/Professionals/kdoqi/](http://www.kidney.org/Professionals/kdoqi/), [www.diabetes.org/for-health-professionals-and-scientists/cpr.jsp](http://www.diabetes.org/for-health-professionals-and-scientists/cpr.jsp), [www.ndep.nih.gov/diabetes/prev/prevention.htm](http://www.ndep.nih.gov/diabetes/prev/prevention.htm), and [www.nkdep.nih.gov/](http://www.nkdep.nih.gov/); accessed October 31, 2006.
- <sup>11</sup> Diabetes Prevention Program Research Group. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *New England Journal of Medicine* 346(6):393–403, 2002.
- <sup>12</sup> More information available at <http://ndep.nih.gov/campaigns/campaigns.htm>; accessed October 31, 2006.
- <sup>13</sup> Venkataraman, R., et al. Outcomes in patients with chronic kidney disease undergoing cardiac rehabilitation. *American Heart Journal* 150(6):1140–1146, 2005.



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- <sup>14</sup> Painter, P. Physical functioning in end-stage renal disease patients: Update 2005. Review. *Hemodialysis International* 9(3):218–235, 2005.
- <sup>15</sup> Stack, A.G., et al. Association of physical activity with mortality in the U.S. dialysis population. *American Journal of Kidney Disease* 45(4):690–701, 2005.
- <sup>16</sup> Gibson, K.D., et al. Vascular access survival and incidence of revisions: A comparison of prosthetic grafts, simple autogenous fistulas, and venous transposition fistulas from the U.S. Renal Data System Dialysis Morbidity and Mortality Study. *Journal of Vascular Surgery* 34(4):694–700, 2001.
- <sup>17</sup> Hemphill, H., et al. How can the use of arteriovenous fistulas be increased?—A series of opinion papers. *Seminars in Dialysis* 16(3):214–223, May–June 2003.
- <sup>18</sup> More information available at [www.usrds.org/atlas.htm](http://www.usrds.org/atlas.htm), [www.kidney.org/Professionals/kdoqi/](http://www.kidney.org/Professionals/kdoqi/), [www.diabetes.org/for-health-professionals-and-scientists/cpr.jsp](http://www.diabetes.org/for-health-professionals-and-scientists/cpr.jsp), [www.ndep.nih.gov/diabetes/prev/prevention.htm](http://www.ndep.nih.gov/diabetes/prev/prevention.htm), and [www.nkdep.nih.gov/](http://www.nkdep.nih.gov/); accessed October 31, 2006.
- <sup>19</sup> Cecka, J.M., et al. Could more effective use of kidneys recovered from older deceased donors result in more kidney transplants for older patients? *Transplantation* 81(7):966–970, 2006.
- <sup>20</sup> Friedman, E.A., and Friedman, A.L. Payment for donor kidneys: Pros and cons. Review. *Kidney International* 69(6):960–962, 2006.
- <sup>21</sup> Mokdad, A.H., et al. Prevalence of obesity, diabetes, and obesity-related health risk factors, 2001. *Journal of the American Medical Association* 289(1):76–79, 2003.

## Related Objectives From Other Focus Areas

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### 1. Access to Quality Health Services

- 1-3. Counseling about health behaviors
- 1-7. Core competencies in health profession training

### 5. Diabetes

- 5-2. New cases of diabetes
- 5-3. Overall cases of diagnosed diabetes
- 5-4. Diagnosis of diabetes
- 5-7. Cardiovascular disease deaths in persons with diabetes
- 5-11. Annual urinary microalbumin measurement
- 5-12. Annual glycosylated hemoglobin measurement

### 6. Disability and Secondary Conditions

- 6-1. Standard definition of people with disabilities in data sets
- 6-2. Feelings and depression among children with disabilities
- 6-3. Feelings and depression interfering with activities among adults with disabilities
- 6-5. Sufficient emotional support among adults with disabilities
- 6-6. Satisfaction with life among adults with disabilities
- 6-8. Employment parity

### 7. Educational and Community-Based Programs

- 7-10. Community health promotion programs
- 7-11. Culturally appropriate and linguistically competent community health promotion programs

### 8. Environmental Health

- 8-11. Elevated blood lead levels in children
- 8-14. Toxic pollutants
- 8-20. School policies to protect against environmental hazards
- 8-22. Lead-based paint testing
- 8-25. Exposure to heavy metals and selected environmental chemicals
- 8-26. Information systems used for environmental health
- 8-27. Monitoring environmentally related diseases
- 8-29. Global burden of disease

### 10. Food Safety

- 10-1. Foodborne infections
- 10-2. Outbreaks of foodborne infections
- 10-5. Consumer food safety practices
- 10-6. Safe food preparation practices in retail establishments

### 11. Health Communication

- 11-2. Health literacy
- 11-4. Quality of Internet health information sources
- 11-6. Satisfaction with health care providers' communication skills

## **12. Heart Disease and Stroke**

- 12-1. Coronary heart disease (CHD) deaths
- 12-2. Knowledge of symptoms of heart attack and importance of calling 911
- 12-6. Heart failure hospitalizations
- 12-8. Knowledge of early warning symptoms of stroke
- 12-9. High blood pressure
- 12-10. High blood pressure control
- 12-11. Action to help control blood pressure
- 12-12. Blood pressure monitoring
- 12-16. LDL-cholesterol level in CHD patients

## **13. HIV**

- 13-1. New AIDS cases
- 13-3. AIDS among persons who inject drugs
- 13-5. New HIV/AIDS cases
- 13-8. HIV counseling and education for persons in substance abuse treatment
- 13-12. Screening for STDs and immunization for hepatitis B
- 13-17. Perinatally acquired HIV/AIDS and AIDS
- 13-18. Heterosexually transmitted HIV/AIDS in women

## **14. Immunization and Infectious Diseases**

- 14-1. Vaccine-preventable diseases
- 14-2. Hepatitis B in infants and young children
- 14-3. Hepatitis B in adults and high-risk groups
- 14-9. Hepatitis C
- 14-10. Identification of persons with chronic hepatitis C
- 14-16. Invasive early onset group B streptococcal disease
- 14-28. Hepatitis B vaccination among high-risk groups

## **16. Maternal, Infant, and Child Health**

- 16-10. Low birth weight and very low birth weight

## **17. Medical Product Safety**

- 17-1. Monitoring and analyzing adverse events
- 17-2. Use of information technology
- 17-6. Blood donations

## **19. Nutrition and Overweight**

- 19-1. Healthy weight in adults
- 19-2. Obesity in adults
- 19-8. Saturated fat intake
- 19-17. Nutrition counseling for medical conditions

## **20. Occupational Safety and Health**

- 20-7. Elevated blood lead levels

## **22. Physical Activity and Fitness**

- 22-2. Moderate physical activity
- 22-3. Vigorous physical activity
- 22-13. Worksite physical activity and fitness

## **23. Public Health Infrastructure**

- 23-2. Public access to information and surveillance data
- 23-3. Use of geocoding in health data systems
- 23-4. Data for all population groups
- 23-6. National tracking of Healthy People 2010 objectives
- 23-7. Timely release of data on objectives
- 23-17. Population-based prevention research

## **25. Sexually Transmitted Diseases**

- 25-3. Primary and secondary syphilis
- 25-13. Hepatitis B vaccine services in STD clinics

## **27. Tobacco Use**

- 27-1. Adult tobacco use
- 27-2. Adolescent tobacco use
- 27-5. Smoking cessation by adults
- 27-7. Smoking cessation by adolescents
- 27-10. Exposure to environmental tobacco smoke