

November 1995

MEDICARE

Enrollment Growth and Payment Practices for Kidney Dialysis Services





United States
General Accounting Office
Washington, D.C. 20548

**Health, Education, and
Human Services Division**

B-256781

November 22, 1995

The Honorable William V. Roth Jr.
Chairman, Committee on Finance
United States Senate

The Honorable Daniel Patrick Moynihan
Ranking Minority Member
Committee on Finance
United States Senate

The Honorable William M. Thomas
Chairman, Subcommittee on Health
Committee on Ways and Means
House of Representatives

The Honorable Fortney H. (Pete) Stark
Ranking Minority Member
Subcommittee on Health
Committee on Ways and Means
House of Representatives

Medicare is the predominant health care payer for people who have end stage renal disease (ESRD)—permanent and irreversible loss of kidney function. Since it started, both the number of people covered by ESRD and the costs to Medicare of the ESRD program itself have risen rapidly. From 1974, the first full year of the program, to 1991, the most recent year for which the Health Care Financing Administration (HCFA) has published final enrollment and cost data, the number of persons enrolled in the ESRD program has increased from about 16,000 to nearly 218,000, while program costs have grown from about \$229 million to more than \$6 billion.

Under Medicare, facilities that furnish dialysis treatments for ESRD patients receive a fixed payment for each dialysis session. This payment, known as the composite rate, includes reimbursement for certain supplies, drugs, laboratory tests, and other services that are routinely provided during dialysis. Other dialysis-related items, such as electrocardiograms and blood transfusions, are separately billable; that is, a facility or another provider can receive payment for them in addition to the composite rate.

You asked us to provide an update on ESRD statistics, including information on ESRD enrollment patterns and the reasons for program

enrollment and costs increases. You also asked us to determine whether any services that are currently separately billable should be included in a future composite rate.

To identify the reasons for the growth in ESRD program enrollment and costs, we reviewed data from HCFA and others. To determine if any separately billable services should be considered for inclusion in a future composite rate, we analyzed HCFA's database that identifies all medical services provided to all ESRD patients in 1991, which corresponds to the latest year for which HCFA has published final ESRD enrollment and cost data. Appendix I contains a more complete description of our scope and methodology.

Results in Brief

Medicare's costs for the ESRD program have increased, primarily because the number of new beneficiaries being enrolled in the program increased substantially. The annual rate of increase averaged 11.6 percent between 1978 and 1991. In addition to the increase in enrollment, the mortality rate for new ESRD patients decreased. For example, mortality of beneficiaries during their first year in the program decreased from 28 percent to 24 percent between 1982 and 1991.

Since the program began in 1973, technological improvements and a greater availability of dialysis machines have meant that persons who were not considered good candidates for dialysis in 1973—primarily those 65 years old or older and those whose kidney failure was caused by diabetes and hypertension—are now routinely placed on dialysis.

Our review of medical services and supplies provided to all Medicare ESRD patients in 1991 indicates that no separately billable service or supply was provided frequently enough to make it a good candidate to be considered part of the standard dialysis treatment and thus included in a future composite rate.

Background

The Medicare program covers dialysis services for patients suffering from ESRD, the stage of kidney impairment that is considered irreversible and requires either regular dialysis treatments or a kidney transplant to maintain life. Kidney dialysis is the process of cleansing excess fluid and toxins from the blood of patients whose kidneys do not function. Renal failure can result not only directly from a particular kidney disease, such as glomerulonephritis, but also indirectly from other diseases, such as

diabetes and hypertension. Virtually all persons with ESRD are eligible for the Medicare program and they are eligible for all Medicare covered services, not just dialysis sessions.¹

There are two general modes of dialysis treatment: hemodialysis and peritoneal dialysis, both of which can be performed at a renal facility or at home. In hemodialysis, blood is sent from the patient's body and through a dialysis machine that filters out body waste before returning the blood to the patient. In peritoneal dialysis, the blood is filtered within the patient's abdominal cavity without leaving the patient's body. The vast majority of ESRD patients receive hemodialysis treatments and they receive these treatments at renal facilities. Generally, an ESRD patient has three dialysis sessions per week.

Presently, independent renal facilities receive an average of \$126 per dialysis session, while hospital-based facilities receive an average of \$130. These rates are actually lower than those paid in 1973. HCFA's database included information on 16,159,051 outpatient dialysis treatments in 1991.

Substantial Increases in ESRD Program Enrollment and Costs

Although eligibility criteria for the ESRD program have not substantially changed or relaxed since the program's inception, the number of patients either on dialysis or with a kidney transplant increased from about 16,000 in 1974 to nearly 218,000 by 1991. Driven by increased enrollment, total expenditures for ESRD patients also increased significantly—from \$229 million in 1974 to more than \$6 billion by 1991.²

The growth in enrollment and expenditures in the 8-year period from 1984 through 1991 (the most recent year for which HCFA has published final enrollment and cost data) is shown in table 1. Enrollment figures represent all patients who were on the ESRD rolls at some time during the year. The total enrollment column includes all ESRD patients and the program costs column shows Medicare's costs for all services provided to ESRD patients during the year. The last 2 columns show enrollment and expenditures for dialysis patients.

¹A person must be (1) entitled to a monthly insurance benefit under Title II of the Social Security Act (or an annuity under the Railroad Retirement Act), (2) fully or currently insured under Social Security, or (3) the spouse or dependent child of a person who meets at least one of the first two requirements.

²Of the \$6 billion, \$2.68 billion was for inpatient hospital services, \$2.10 billion was for outpatient services, \$1.30 billion was for physician and supplier services, and \$76 million was for other expenditures including those for skilled nursing facility and home health services.

Table 1: Medicare's ESRD Enrollment and Expenditures (1984-91)

Dollars in billions				
	Total enrollment (at any time during the year)	ESRD program costs	Dialysis patients	Costs of dialysis patients
1984	113,542	\$2.381	93,695	\$1.988
1985	125,378	2.680	101,951	2.205
1986	136,957	3.109	109,060	2.514
1987	148,771	3.442	116,858	2.797
1988	165,894	3.851	130,888	3.200
1989	181,189	4.528	143,478	3.803
1990	198,273	5.261	156,898	4.424
1991	217,771	6.070	172,426	5.186

Source: Department of Health and Human Services, Health Care Financing Administration, Bureau of Data Management and Strategy, Office of Research and Demonstrations, Health Care Financing Research Report—End Stage Renal Disease, 1990, HCFA Pub. No. 03228, p. 56; 1991, HCFA Pub. No. 03338, p. 58; 1992, HCFA Pub. No. 03359, p. 60. (Baltimore: 1992, 1993, 1994).

HCFA data show that the number of ESRD dialysis patients (both Medicare and other) at the end of the calendar year has increased from 78,483 on December 31, 1984, to 186,822 on December 31, 1994. Patient growth was about 9 percent per year during this period.

Improvements in Dialysis Procedures Lead to More Enrollment by Elderly and Diabetic and Hypertensive Patients

The major reason for the growth in ESRD enrollment has been the increase in the number of people 65 years old and older and people who are on dialysis and whose primary diagnosis is diabetes or hypertension. Physicians' clinical judgment of who is an appropriate candidate for dialysis has changed over time. According to the Prospective Payment Assessment Commission (ProPAC),³ few elderly patients were treated for chronic kidney disease before 1973 due to the experimental nature of the treatment at that time and because advanced age was a contraindication to dialysis treatment.

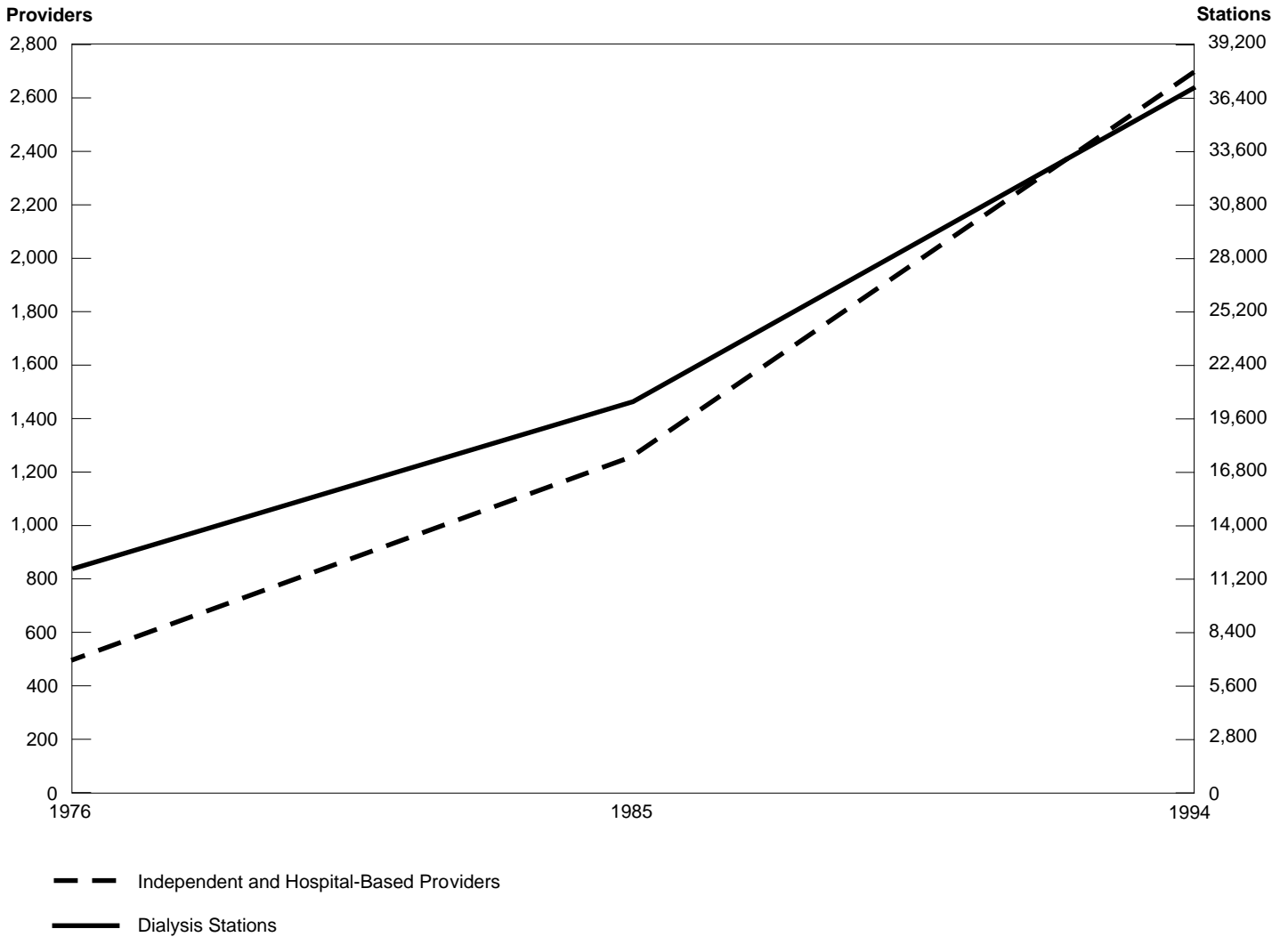
The enrollment pattern has changed—and enrollment has increased—because modern dialysis techniques have become viable options for treatment of kidney failure in the elderly. Since 1973, when the program began, improvements in medical technology—such as erythropoietin for treating anemia in dialysis patients and the introduction of faster, more efficient dialysis machines—have made successful

³End-Stage Renal Disease Payment Policy, ProPAC, Congressional Report C-92-04 (Washington, D.C.: 1992), p. 53.

treatment available to a greater number of people suffering from kidney failure.

In addition, as shown in figure 1, a continuous increase in the number of dialysis providers and stations (machines) has made dialysis available to more patients. In 1976, for example, there were 840 independent and hospital-based providers of outpatient dialysis services with 7,093 stations. By 1985, the number had increased to 1,463 providers with 17,845 stations; by 1994, it had grown to 2,640 providers with 37,771 stations.

Figure 1: Growth in the Number of Dialysis Providers and Stations (1976-94)



Source: U.S. Department of Health and Human Services, Health Care Financing Administration, Bureau of Data Management and Strategy, National Listing of Medicare Providers Furnishing Kidney Dialysis and Transplant Services, January 1995, HCFA Pub. No. 03367 (Baltimore: 1995), p. 5.

HCFA's data indicate that the percentage of ESRD patients 65 years old and older is rapidly increasing. In 1972, persons 65 years old and older accounted for 5 percent of the ESRD patient population; by 1982, they

represented 23.9 percent; and by 1991, 33.6 percent. The elderly also represent an increasing percentage of newly enrolled patients, accounting for nearly 45 percent of new ESRD patients in 1991 (see table 2).

Table 2: New ESRD Patients and Percentage 65 Years Old or Older (1984-91)

	New patients	New patients 65 years old or older	Percentage of new patients 65 years old or older
1984	26,668	9,244	34.7
1985	29,718	10,796	36.3
1986	32,061	12,135	37.8
1987	35,081	13,785	39.3
1988	38,151	15,207	39.9
1989	42,885	18,036	42.1
1990	46,658	20,306	43.5
1991	50,831	22,809	44.9

Source: Department of Health and Human Services, Health Care Financing Administration, Bureau of Data Management and Strategy, Office of Research and Demonstrations, Health Care Financing Research Report—End Stage Renal Disease, 1990, HCFA Pub. No. 03228; 1991, HCFA Pub. No. 03338; 1992, HCFA Pub. No. 03359 (Baltimore: 1992, 1993, 1994), p. 5.

The percentage of ESRD patients with a primary diagnosis of diabetes or hypertension has also increased. In 1986, these patients accounted for 29.4 percent and 25.1 percent, respectively, of new ESRD patients. By 1991, these percentages had increased to 35.9 percent and 28.8 percent (see table 3).

Table 3: New ESRD Program Enrollees by Age and Primary Diagnosis (1986-91)

	1986	1987	1988	1989	1990	1991	Percent change (1990-91)
Age							
Under 15 years old	420	430	403	405	461	454	-1.5
15-24 years old	1,188	1,247	1,268	1,315	1,271	1,242	-2.3
25-34 years old	2,992	2,852	3,087	3,413	3,438	3,485	1.4
35-44 years old	3,659	3,989	4,340	4,704	5,133	5,501	7.2
45-54 years old	4,450	4,893	5,390	5,904	6,230	6,753	8.4
55-64 years old	7,217	7,885	8,456	9,108	9,819	10,587	7.8
65-74 years old	7,937	8,972	9,669	11,302	12,682	14,097	11.2
75 years old or older	4,198	4,813	5,538	6,734	7,624	8,712	14.3
Total	32,061	35,081	38,151	42,885	46,658	50,831	8.9
Primary diagnosis							
Diabetes	9,434	10,488	11,717	14,214	15,939	18,249	14.5
Glomerulonephritis	4,717	4,958	5,228	5,643	5,779	5,810	0.5
Hypertension	8,049	9,221	10,325	12,161	13,278	14,633	10.2
Polycystic kidney disease	1,225	1,248	1,250	1,275	1,402	1,474	5.1
Interstitial nephritis	1,355	1,240	1,233	1,378	1,371	1,497	9.2
Obstructive nephropathy	846	839	872	954	916	985	7.5
Other	1,879	2,016	2,182	2,596	2,788	3,456	24.0
Unknown	2,349	2,804	2,657	2,443	2,408	2,693	11.8
Missing	2,207	2,267	2,687	2,221	2,777	2,034	-26.8

Source: Department of Health and Human Services, Health Care Financing Administration, Bureau of Data Management and Strategy, Office of Research and Demonstrations, Health Care Financing Research Report—End Stage Renal Disease, 1992, HCFA Pub. No. 03359 (Baltimore: 1994), p. 5.

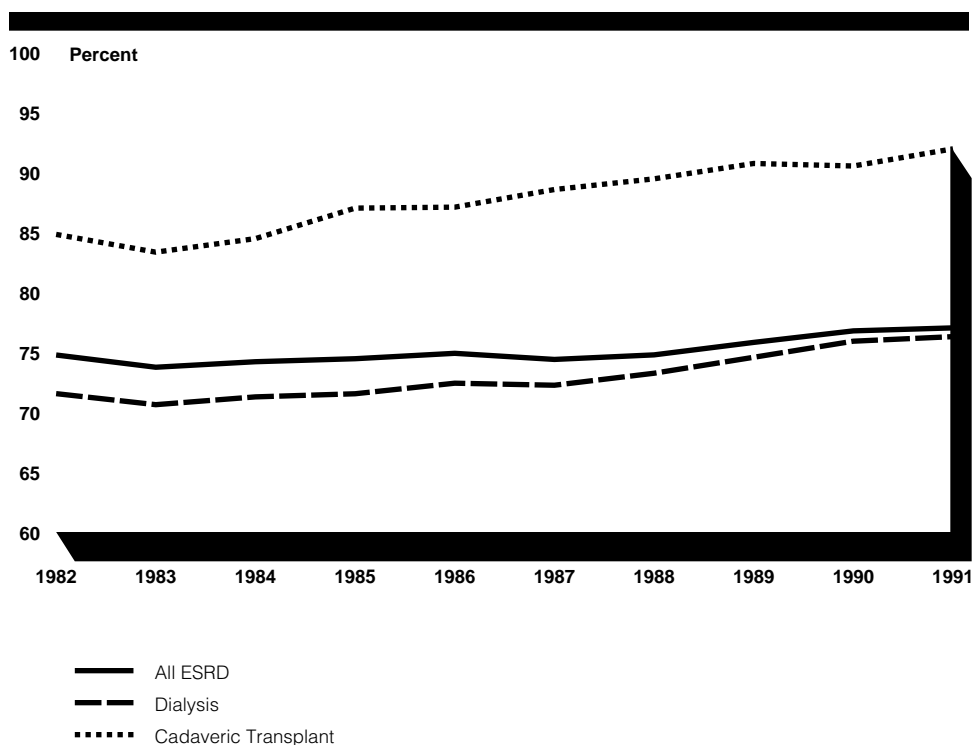
Mortality Rates for ESRD Patients Have Decreased

In addition to increased enrollment of the elderly, a second, less significant factor contributing to increased enrollment in the ESRD program is the decrease in aggregate mortality rates. The percentage of patients alive at 1 and 2 years after ESRD onset increased slightly between 1982 and 1991. Mortality rates for both transplant and dialysis patients have improved, with the rate for transplants decreasing the most.

As shown in figure 2, in 1982, roughly 72 percent of new dialysis patients were alive after 1 year of dialysis. By 1991, that number had increased to more than 76 percent. Although not shown in this figure, the 2-year

survival rate had increased from 55 percent in 1982 to about 60 percent by 1990. The 1-year survival rate for transplant patients increased from roughly 85 percent to almost 92 percent, while the 2-year rate increased from nearly 80 percent to nearly 87 percent.⁴

Figure 2: Adjusted 1-Year Patient Survival, by Treatment Modality and Year of Incidence (1982-91)

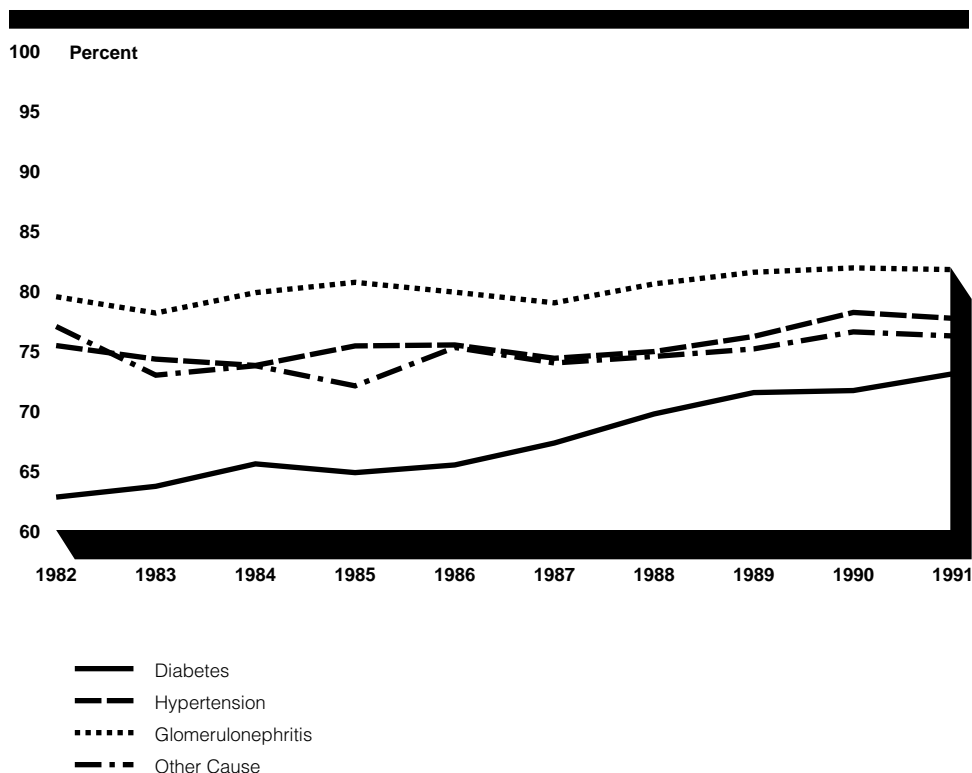


Source: The National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, U.S. Renal Data Systems, *USRDS 1994 Annual Data Report* (Bethesda, Maryland: 1994). (1991 data are preliminary.)

Survival rates also differ sharply by diagnosis (see fig. 3). Dialysis patients with a primary diagnosis of glomerulonephritis (a form of kidney disease) have the highest survival rate, while diabetic patients have the lowest. However, diabetic patients have had the most dramatic and consistent increase in survival rates—from 62.7 percent in 1982 to 73 percent in 1991.

⁴The aggregate pattern plays out quite differently for different age groups. For patients 20 through 44 years old, 77.4 percent were alive after 1 year in 1982 and by 1991 this percentage had increased to 88.5 percent. For those 65 through 74 years old, the rate increased from 70 percent to 71 percent and for those over 74 years old, it increased from 58 to 61.4 percent.

Figure 3: Adjusted 1-Year Dialysis Patient Survival, by Diagnosis and Year of Incidence (1982-91)



Source: The National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, U.S. Renal Data Systems, *USRDS 1994 Annual Data Report* (Bethesda, Maryland: 1994). (1991 data are preliminary.)

No Separately Billable Services Are Good Candidates for Inclusion in HCFA's Composite Payment Rate

HCFA has always used a prospective type of payment method for dialysis. When the ESRD program began, supplies, drugs, laboratory tests, and other services that were frequently or routinely provided to dialysis patients were included as part of the payment rate for dialysis.

Currently, the composite rate includes payment for a variety of laboratory tests that are covered at specified frequencies. For instance, for patients receiving hemodialysis in a facility, all blood clotting tests furnished during a dialysis session are included, as are one prothrombin time test per week and one total protein test per month.⁵ If a patient requires a test included under the composite rate more frequently than stated in HCFA's

⁵Reimbursement for certain separately billable laboratory tests is also restricted to specific frequencies. For example, for hemodialysis patients, reimbursement is authorized for one platelet test per month, one aluminum test every 3 months, one chest X ray every 6 months, and one bone survey per year. If a test is needed more often, it is reimbursed as long as medical necessity is established.

guidelines, Medicare will pay separately for it as long as it is medically necessary.

HCFA identifies separately billable medical services provided to ESRD patients by physicians and a variety of suppliers, including laboratories, durable medical equipment companies, ambulance companies, and others. In 1991, HCFA paid these providers \$1.3 billion for over 49 million services and supplies covering approximately 9,300 different procedures or services. Our analysis of these procedures and services found that no dialysis-related service or supply was provided frequently enough to make it a good candidate for inclusion in the composite rate for renal facilities.⁶

To determine if a service might be a candidate for inclusion in the composite rate, we compared the number of services provided in each category to the number of dialysis months in 1991.⁷ The resulting ratio indicates how often a service or supply was provided, on average, per patient month. A 13-to-1 ratio, for example, would mean that, on average, the service was provided once for each dialysis session and that—based on its frequency—it may be a candidate for inclusion in the composite rate. A lower ratio indicates that the service was provided less frequently and is, therefore, less likely to be part of the typical bundle of dialysis services. A ratio of 1-to-1 would indicate that the service was provided an average of once a month or every 13 dialysis sessions.

We found that the most frequently occurring service relating directly to dialysis treatment was a hepatitis test and that it was provided roughly once every 2 dialysis months or every 25 dialysis treatments. The second most frequently provided service (a test to measure blood iron levels) was provided once every 2.7 dialysis months or every 34 dialysis sessions.

In our opinion, the relatively low frequency with which separately billable ESRD services occurred in 1991 does not make them good candidates for inclusion in the composite rate.

Agency Comments

The Department of Health and Human Services (HHS) agrees that the increasing number of beneficiaries has been the main reason that

⁶We excluded any service or supply not having a direct relationship to dialysis. For example, we eliminated items such as the physician's monthly capitation payment (which is a fixed monthly fee paid to a physician for continuing medical management of an ESRD patient) and ambulance transportation.

⁷Dialysis months are the number of dialysis sessions in a year—16,159,051 in 1991—divided by 13, which is the average number of dialysis sessions a patient receives in a month.

Medicare ESRD expenditures continue to grow. HHS also points out that with the aging of the American population, the number of beneficiaries on dialysis is likely to continue to increase.

HHS said that it understands our conclusion that under our methodology we did not identify any good candidates for inclusion in the composite rate. HHS added that other methodologies exist that might identify candidates for inclusion. HHS gave as an example the reviewing of data to determine whether the overall ESRD patient population receives a particular item or service regardless of how frequently individual patients receive it. We agree that this is a plausible methodology and that others probably exist.

HHS also made several technical comments, which we considered in finalizing this report.

We are sending copies of this report to the Secretary of Health and Human Services and other congressional committees. Copies also will be made available to others upon request. If you or your staff have any questions about this report, please call me at (202) 512-7119 or Tom Dowdal at (202) 512-6588. Other contributors to this report include Jack Brennan, Dick Neuman, Anita Roth, and Vanessa Taylor.



Sarah F. Jaggar
Director, Health Financing
and Public Health Issues

Objectives, Scope, and Methodology

Our objectives were to determine (1) why costs and enrollment in Medicare's ESRD program are increasing and (2) which, if any, medical services and supplies that are presently separately billable under Medicare's ESRD program should be considered potential candidates for inclusion in a future composite rate.

To determine why ESRD enrollment and costs have increased, we reviewed relevant research reports about ESRD enrollment, including the Institute of Medicine's 1991 report *Kidney Failure and the Federal Government*, ProPAC's 1992 report *End-Stage Renal Disease Payment Policy*, the 1994 *Annual Data Report—United States Renal Data System*, *HCFA's Health Care Financing Research Reports—End Stage Renal Disease*, and *HCFA's Medicare End Stage Renal Disease Population 1982-1987*.

To determine if any separately billable services are good candidates to be included in the composite rate, we analyzed the 1991 physician/supplier ESRD database from HCFA to determine the type and volume of medical services and supplies provided to ESRD patients. This database shows, by procedure code, all services and supplies for ESRD patients paid by Medicare in 1991, the year corresponding to the latest year for which HCFA has published final ESRD enrollment and cost data. From this database, we developed a frequency distribution of each individual service and supply. Using the frequency distribution and the HCFA Common Procedure Coding System, we determined the frequency of services and supplies that are related to dialysis treatments.

We also interviewed officials from HCFA, ProPAC, the Institute of Medicine, and the RAND Corporation who are familiar with the ESRD program.

Comments From the Department of Health and Human Services



DEPARTMENT OF HEALTH & HUMAN SERVICES

Office of Inspector General

Washington, D.C. 20201

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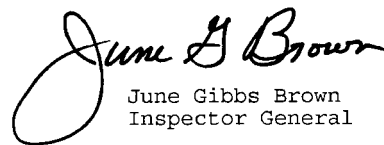
Ms. Sarah F. Jaggar
Director, Health Financing
and Public Health Issues
United States General
Accounting Office
Washington, D.C. 20548

Dear Ms. Jaggar:

Enclosed are the Department's comments on your draft report, "Medicare: Enrollment Growth and Payment Practices For Kidney Dialysis Services." The comments represent the tentative position of the Department and are subject to reevaluation when the final version of this report is received.

The Department appreciates the opportunity to comment on this draft report before its publication.

Sincerely,


June Gibbs Brown
Inspector General

Enclosure

The Office of Inspector General (OIG) is transmitting the Department's response to this draft report in our capacity as the Department's designated focal point and coordinator for General Accounting Office reports. The OIG has not conducted an independent assessment of these comments and therefore expresses no opinion on them.

Comments of the Department of Health and Human Services
on the General Accounting Office (GAO) Draft Report,
"Medicare: Enrollment Growth and Payment
Practices For Kidney Dialysis Services"

We agree that the increasing number of beneficiaries is the main reason Medicare expenditures continue to increase under the end stage renal disease (ESRD) program and wish to point out that with the aging of the American population the number of Medicare beneficiaries on dialysis is likely to continue to increase. To emphasize this point, you should consider adding a table to the report showing the number of dialysis patients at the end of the calendar year and the yearly percentage increase in patients. Table 1 in the report shows all dialysis patients both living and deceased during a particular calendar year. We provided GAO with a summary of the ESRD Facility Survey Report, which reports the number of dialysis patients at the end of each calendar year, from 1984 through 1994. We believe that adding this table to their report will emphasize the increase in the number of patients with ESRD.

Regarding Table 1, we would suggest that another column be added, the average expenditures per patient (divide column four by column three). This column would highlight the increase in per patient expenditures. It would also highlight the increased costs due to Eprex (EPO) which was covered in 1989. By reporting the average increase in patient expenditures and the annual growth in patients, the report will focus on the dilemma facing the ESRD program and Medicare in general.

We have not analyzed data to decide which additional items or services should be included in the composite payment rate. Currently, the Office of Inspector General is conducting an audit to determine: (1) the type and extent of separately billable services provided to ESRD patients, and (2) Medicare's reimbursement for these services.

While we understand your conclusion, we do not agree that no separately billable item should be added to the composite payment rate at this time. By aggregating patient data, the study presumes that all patients need similar items and services and thus lowers the reported frequency. This is not true because ESRD patients have different underlying medical conditions and utilize different medical regimens to treat them. By examining patient specific data, GAO's review would have identified trends in usage of separately billable items and services. The focus of the review should have been to determine if the overall ESRD patient population is receiving the item or service. For example, we would consider EPO as a prime example of an item that may warrant inclusion in the composite

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payment rate, since it is commonly used by 95 percent of ESRD patients and we will look at the items GAO mentioned to see if they warrant inclusion in the rate. The only way to limit Medicare expenditures under the ESRD program is to bundle services into the composite payment rate. Bundling renal related laboratory tests and drugs into the composite payment rate would help to limit Medicare expenditures and eliminate the problem with overutilization of these services.

Additionally, we would note that the report includes total program costs based on information from HCFA's Health Care Financing Research Report - End Stage Renal Disease (Table 49). These total program costs include inpatient and outpatient costs. Looking at the 1991 costs, approximately 44 percent of the total program costs were for inpatient or hospitalization costs, these costs also account for why the costs for this program are increasing. (ESRD patients have many co-morbid conditions and tend to be hospitalized more frequently than the rest of the Medicare population.) We suggest that the report discuss the breakdown of the total program costs to show how much accounts for hospitalization costs, so that the intended audience for this report understands that the \$6 billion (at least for 1991) does not reflect only costs for dialysis treatments. The audience also needs to know that even though the government may try to hold down the costs for dialysis treatments with a revised composite rate payment, overall costs for the program can continue to increase because of increasing costs for hospitalizations.

Finally, we suggest that the cost for EPO also be broken out separately in the report. Medicare spends a significant amount of money on this drug, and we think it would be of interest to the readers of this report to see what proportion of the total program costs include costs for EPO and hospitalization.

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