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Treatment of Chronic Kidney Failure: Dialysis, Transplant Costs, and the Need for More Vigorous Efforts. HRD-78-17; B-164031(2). November 3, 1977. 6 pp.

Report to Sen. Robert Dole; by Gregory J. Ahart, Director, Human Resources Div.

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Congressional Relevance: Sen. Robert Dole.

Authority: Social Security Act, title II, title XVIII. H.R. 8423 (95th Cong.). H. Rept. 95-549.

A 1975 report on the treatment of chronic kidney failure was updated concerning mortality rates and costs for home versus institutional dialysis. Findings/Conclusions: For the period 1972 to 1974, the National Institutes of Health data bank, the National Dialysis Registry, showed that mortality rates for home dialysis patients were slightly lower than for patients receiving treatment in dialysis centers. The 3-year mortality rates of home patients were 21.4% compared to 28.6% for patients treated in a facility. Based on current charges, the first year costs of home dialysis appear to be about the same as the costs for facility-based dialysis; whereas, the following year costs of home dialysis are about one-half the costs of facility-based dialysis. The first year cost of home dialysis is estimated to be \$21,360; the following year costs for home dialysis based on 156 treatments a year are estimated to be \$11,837. These costs are considered reasonable charges covered by Medicare and include equipment, training for 24 treatments, physician fees, backup dialysis for 16 treatments, and supplies and other for 116 treatments. Assuming 156 treatments a year, the annual cost for facility dialysis would be \$23,400, which may be low because facilities (hospitals) have received exceptions for higher amounts. A rough estimate of none alterations required for home dialysis was \$1,000. Under a current House bill, supplies and services not now covered by Medicare would be covered as an incentive to home dialysis. (SW)



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November 3, 1977

The Honorable Robert Dole
United States Senate

Dear Senator Dole:

This is in response to your office's request of October 21, 1977, to update certain information in our June 24, 1975, report entitled, "Treatment of Chronic Kidney Failure: Dialysis, Transplant Costs, and the Need for More Vigorous Efforts" (MWD-75-53). We understand the information is desired in connection with the Senate Finance Committee's consideration of H.R. 8423, a bill to amend titles II and XVIII of the Social Security Act to make improvements in the end stage renal disease program presently authorized under section 226 of that act and for other purposes.

Specifically we were asked to provide data on

1. Mortality rates for home versus institutional dialysis.
2. Comparative cost data on home versus institutional dialysis with emphasis on first year costs and following year costs.
3. Estimates of additional costs of supplies and services of home dialysis which are not now covered by Medicare, but would be under the bill.

Our comments on each of these points follows.

MORTALITY RATES - HOME VERSUS
CENTER TREATMENT PATIENTS

In connection with our 1975 report we did not collect data on mortality rates for dialysis patients over a period of time. We, therefore, have no GAO generated data to show mortality rates of home versus center treated dialysis patients.

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However, for the period 1972 to 1974 data collected by the National Dialysis Registry, a data bank maintained by the National Institutes of Health (NIH), showed mortality rates for home dialysis patients were slightly lower than for patients receiving treatment in dialysis centers. The 3-year mortality rates of home patients were 21.4 percent compared to 28.6 percent for patients treated in a facility. These data were obtained from a nationwide sample representing approximately 85 to 90 percent of the total people receiving dialysis at that time.

Also cumulative data on the registry, as of April 1, 1976, shows that home dialysis patients have an average annual death rate of 6.7 percent as compared to death rates of 7.5 percent for patients treated in dialysis centers and 10 percent for patients receiving hospital based dialysis. We did not attempt to analyze the characteristics or state of health of the patients in these different treatment modes which may have had a bearing on the foregoing mortality rates.

COST COMPARISONS

The cost or charge information for home dialysis in our 1975 report was based on 1972-1973 cost or charge information obtained from 10 dialysis treatment facilities, also operating home dialysis programs. The facilities were located in six States as follows: Georgia (2), South Carolina (1), Washington (2), Minnesota (2), Missouri (1), and Arizona (2), and included six hospitals and four treatment centers. The average first year cost per home dialysis patient for the 10 facilities was about \$14,900 and ranged from \$9,300 in Seattle, Washington to \$22,200 in Phoenix, Arizona.

The first year costs included the purchase or reconditioning of the basic equipment (dialysis machine, blood pump, etc. which ranged by facility from \$2,900 to about \$6,000), training (which ranged from 3 to 8 weeks with charges ranging from \$150 to \$250 per treatment), supplies (ranging from \$13 to \$30 per treatment), back-up facility dialysis (which averaged about 16 treatments for the first year with charges ranging from \$135 to \$250 per treatment), and other (which consisted of charges for clinic visits, lab work, and X-rays when not included in the dialysis charge).

The following year costs or charges for home dialysis for the 10 facilities averaged about \$7,000 and ranged by facility from \$3,900 to \$10,300. These amounts generally included supplies and about 19 back-up treatments in a facility.

The charge data for facility dialysis in our 1975 report was based on 1972 charges for 81 hospital dialysis centers and 15 non-hospital centers in 13 States. The average charges for hospital centers were \$206 per treatment or about \$30,500 a year with charges ranging from \$111 to \$315 per treatment. The average charges for non-hospital centers were \$186 per treatment or about \$27,600 a year with charges ranging from \$120 to \$300 per treatment.

In December 1974 NIH issued a study entitled, "Hemodialysis Costs in the United States," based on prevailing costs as of July through November 1973. The study involved five renal disease centers of which four had home dialysis program including two covered in our 1975 report. The study showed average annual costs of \$6,729 for home dialysis, \$16,520 for out-of-hospital center dialysis, and \$24,738 for in-hospital dialysis. The costs did not include physician fees. By adjusting NIH's dialysis costs to provide for first-year costs of equipment, training and back-up, we noted that the first-year costs averaged about \$15,000 and following year costs were about \$6,500.

Currently, Medicare applies a screen of \$150 a treatment for center dialysis which includes physicians' fees. Assuming 156 treatments a year the annual cost for facility dialysis would be \$23,400 which we believe is low because facilities (hospitals) have received exceptions for higher amounts. For the first 9 months of 1977, about 130 exceptions were granted or pending averaging about \$175 a treatment.

Following the methodology in our 1975 report and applying more current charge data produces the following estimate of first year cost of home dialysis.

Equipment	\$ 6,800 (a)
Training 24 treatments @ \$158	3,792
Physician Fees (Training)	500
Physician Fees - 12 months @ \$140	1,680
Back up Dialysis - 16 treatments @ \$138	2,208
Supplies and other - 116 treatments @ \$55	<u>6,380</u>
Reasonable charges covered by Medicare	<u>\$21,360</u>

(a) This represents catalog prices from a major equipment supplier for a proportioning dialysis delivery system.

The following year costs for home dialysis based on 156 treatments a year are currently estimated as follows:

Back up dialysis - 19 treatments @ \$138	\$ 2,622
Physicians' fee - 12 months @ \$140	1,680
Supplies and other - 137 treatments @ \$55	<u>7,535</u>
Reasonable charges covered by Medicare	<u>\$11,837</u>

A principal reason for the difference between 1972 costs or charges for following year home dialysis and the current estimate is that the 1972 data obtained from at least 5 of the facilities showed that the blood tubing and the dialyzers (artificial kidneys) were re-used (3 times) whereas our current estimate does not assume re-use because available literature on the subject including manufacturers, instructions indicate that they should not be re-used. This difference amounts to about \$2,700 a year.

In summary, we believe that based on current charges, the first year costs of home dialysis are about the same as the costs for facility-based dialysis, whereas, the following year costs of home dialysis are about one-half the costs of facility-based dialysis.

ESTIMATE OF ADDITIONAL HOME-DIALYSIS
COSTS NOT NOW COVERED BY MEDICARE

Under the House approved bill (H.R. 8423) supplies and services not now covered by Medicare would be covered as an incentive to home dialysis. These added benefits can be classified as (1) home alterations to facilitate the installation of dialysis equipment, (2) miscellaneous disposable supplies, and (3) in-home services of training personnel.

Because of the limited time available to respond, we were unable to obtain much information on the costs of these added benefits; however, we reviewed the data supporting our 1975 report, examined the previously discussed NIH study, reviewed testimony before and related reports of the Committee on Ways and Means, House of Representatives pertaining to Medicare's Renal Disease Program, and discussed the matter with HEW personnel, insurance companies paying Medicare bills, and a physician familiar with Medicare's renal program.

Home Alterations

Based on information obtained from treatment facilities in our prior review, in general terms, home alterations could include additional electrical circuits or outlets, additional lighting, additions to water supply and sewer connections, additional sinks, counters, shelving, or cabinets involving charges of \$1,000, which were only very rough estimates. In more specific terms, the following items could be covered-- the costs of wiring and plumbing modifications ranging from \$250 to \$400 and the cost of an additional water heater at \$200.

Miscellaneous Disposable Supplies

According to a supplier's prices for swabs, syringes, needles, and bandages, the proposed added benefit would involve covered charges of about \$600 a year for each home dialysis patient. However, most of these items were included in the supplier's standard dialysis supply kit and may already be paid for by Medicare if the reasonable charges for the individual covered items exceeds the price of the kit including the non-covered items. This was the case for the supplier's prices we analyzed.

In-Home Services of Trained Personnel

Assuming that a dialysis assistant was provided for every in-home treatment, the first year covered charge for this added benefit would be about \$3,700 and the following year charges would be about \$4,400 by applying a cost of \$32 per in-home treatment. In our view, such an assumption would be inconsistent with the intent of H.R. 8423. In discussing the proposed added benefit, the Ways and Means Committee report (H. Rept. 95-549) states as follows:

"Under present law, mechanisms do not exist to either monitor actual home dialysis performance or provide back-up professional and maintenance assistance in the home. If trained, technical personnel (functioning under physician supervision) were permitted to periodically observe the patients' management of his dialysis, assist with difficult access situations, or occasionally function as a dialysis assistant, incentives to continued use of home dialysis would result by precluding the need for unnecessary inpatient treatment or back-up institutional dialysis. Moreover, help in maintaining

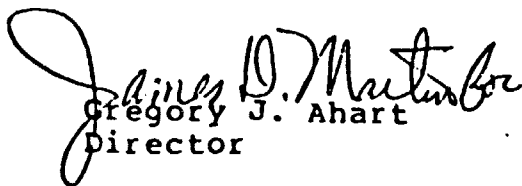
equipment is generally regarded as a vital element in the overall effort to assist those beneficiaries who might otherwise become discouraged by the problems and expense involved in servicing their own equipment to remain on home dialysis."

The data supporting our 1975 report, showed that the two kidney centers in Minnesota provided some in-home service by nurses and/or dialysis technicians. One reported a cost of \$300 per patient year and the other reported costs of about \$500 per patient year. We believe this level of effort to be more consistent with the intent of the House-passed version of H.R. 8423. Also, to the extent that in-home services could reduce back-up treatments in centers, there would be offsetting savings.

A factor which could serve to prevent a significant increase in Medicare's home dialysis costs as a result of the added benefit of in-home services is the provision in H.R. 8423 authorizing incentive reimbursement methods for services furnished by a renal dialysis facility to patients' dialyzing at home under the facility's supervision. Under this proposed amendment, target rates for facility supervised home dialysis--which include reimbursement for all previously covered, as well as newly covered supplies and services--could not exceed 70 percent of the average reimbursement for institutional maintenance dialysis in the preceding fiscal year.

We trust that you will find the above information useful.

Sincerely yours, .


Gregory J. Ahart
Director