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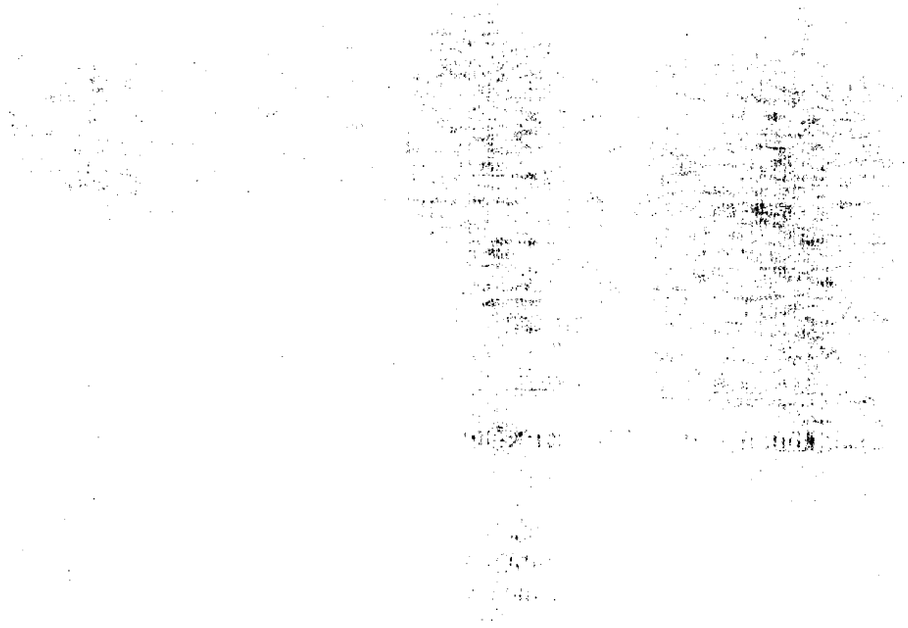

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

HUMAN RESOURCES
DIVISION

PREFACE

This study is based on a request from Congressman Claude Pepper to assist him in drafting a legislative proposal providing for a prospective payment system for home health care services under the Medicare program. Before drafting such a proposal, however, the Congressman's office wanted to know what the payment rates might be under the system; thus, the request was modified to ask us to simulate the probable rates resulting from a prospective payment system similar to the system used by the state of Texas to pay for nursing home care under the Medicaid program.

Essentially, under the Texas system, the average daily costs for each of the about 1,000 Medicaid nursing homes are arrayed in ascending order. The nursing home's cost at the 60th percentile, after adjustment for inflation, becomes the prospective payment rate for a specific future period for all the nursing homes in the state providing the same level of care (i.e., skilled or intermediate care). Based on agreements with the Congressman's office, the system GAO modeled featured the following specifications (referred to in this study as the "basic methodology"):

1. Rates should be nationwide, and no distinction should be made between the rates for freestanding and facility-based providers (i.e., a hospital-based home health agency).

2. The rates should be set at the 75th percentile instead of the 60th.

3. In developing cost arrays, costs should be weighted by visits so that the cost of an agency with 1,000 visits a year would carry 10 times the weight of the cost of an agency with 100 visits.

4. There should be four per visit rates: (1) skilled nursing, (2) physical therapy, (3) speech therapy, occupational therapy, and medical social services combined, and (4) home health aides.

5. Rates should be based on total per visit costs--thus, there would be no separate rating mechanism for administration or management costs.

6. The system should provide for separate sets of rates for urban and rural providers.

7. Although the base rates would apply to all providers, the rates applicable to individual agencies would be adjusted to take into account the differences in wage rates paid by agencies in different geographical areas.

For the purposes of our simulations, it was agreed with the requestor that historical unaudited cost data could be used. However, if implemented, the prospective payment system should be based on current audited costs. Also, it was agreed that GAO should model and simulate various modifications to the basic methodology to determine whether any had a significant impact on the rates.

In addition to simulating the probable results of the basic methodology and various modifications to it, this study also addresses several other issues, such as controlling potential overutilization and the adequacy of existing cost data.

Overall, our simulations showed that implementing the basic methodology would probably result in increased total Medicare costs for home health services because the prospective rates would exceed costs for 60 to 70 percent of the home health agencies. For expenditures to be maintained at current levels--that is, to achieve budget neutrality--the basic methodology would have to be modified to set rates at the 45th percentile. Of the modifications simulated, two would have a significant effect on the rates that would be developed:

--If costs are not weighted by visits, total program costs could increase by about 9 percent.

--If separate rates were established for each of the nation's nine census regions, total program costs would decrease by about 2 percent.

The study is organized as follows:

--Chapter 1 discusses the Medicare home health care program, its administration, and its historical problems.

--Chapter 2 describes the specifications for the basic prospective payment methodology GAO simulated and the reasons they were selected.

--Chapter 3 discusses the results of simulating the prospective payment system methodology, various modifications to it, and three alternative ways to help assure utilization of services are controlled under a prospective payment system.

Richard L. Fogel
Director

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ILLUSTRATIONS

Table

ABBREVIATIONS

GAO	General Accounting Office
HCFA	Health Care Financing Administration
HHA	home health agency
HHS	Department of Health and Human Services
MSA	Metropolitan Statistical Area

GLOSSARY

Case payment	A payment rate per person per episode (total period services are needed).
Capitation payment	A per person payment rate covering home health services needed by all nonusers as well as users of the service.
Cost reimbursement	Payment for the reasonable allowable costs of providing covered services to eligible beneficiaries.
Hospital-based home health agency	A home health agency is a hospital-based provider when it is an integral part of the hospital and is operated under common licensure, governing, and professional supervision with other hospital departments.
Home health market basket index	A Health Care Financing Administration-developed measure of the change in the cost of the most common goods and services purchased by a home health agency. The cost categories are weighted, according to the estimated proportion of home health cost attributable to each category.
Metropolitan Statistical Area	A classification system developed by the Office of Management and Budget based on census data and used to classify providers by location (e.g., urban, rural). (Before June 30, 1983, these areas were called Standard Metropolitan Statistical Areas.)
New Home Health Agency (New provider)	Home health agencies that have provided services for a period less than 3 full years.

Reasonable cost	Is defined by Medicare as all costs claimed by the HHA that are proper, reasonable, and related to patient care that are not substantially out of line with comparable agencies.
Visit payment	Payment rate for a defined service (e.g., skilled nursing visit).
Wage-index	A measure developed by HCFA using the Department of Labor, Bureau of Labor Statistics, data to measure differences in wages paid by employers in different geographic areas.
Weighted-by-visit	A measure by which the average costs per visit for each HHA have a weight attached. For example, if one HHA provided 1 visit and another 10 visits, the agency that provided 10 visits would have its costs considered 10 times more than the agency that provided 1 visit.

CHAPTER 1

INTRODUCTION

Congressman Claude Pepper asked us to assist him in developing a legislative proposal for a prospective payment system for home health services provided under Medicare. He suggested that the proposal be based on the system used by the state of Texas to establish payment rates for nursing home services provided under Medicaid, but he also provided us with leeway to modify the Texas methodology as appropriate to adapt it to the home health field. This staff study presents the results of our analysis of how the available cost data could be used to develop prospective payment rates and the rates that would probably result by applying to these data (1) the basic methodology and (2) certain modifications to this methodology.

HOME HEALTH CARE AND MEDICARE

Title XVIII of the Social Security Act provides for a health insurance program--known as Medicare--for most Americans age 65 and over and certain individuals under 65 who are disabled or have chronic kidney disease. Medicare consists of two parts--hospital insurance, which principally covers inpatient hospital care (part A), and supplemental medical insurance (part B), which principally covers physician services and outpatient hospital care. Hospital insurance is primarily financed by social security taxes from employers, employees, and the self-employed. Medical insurance is a voluntary program financed by general tax funds and monthly premiums collected from enrolled beneficiaries. Both insurance programs cover health services provided to beneficiaries in their homes. The Health Care Financing Administration (HCFA), within the Department of Health and Human Services (HHS), administers Medicare.

As of March 31, 1985, 5,517 home health agencies (HHAs)--1,223 government, 527 visiting nurse associations (VNAs), 1,010 hospital-based, 1,730 proprietary, 766 private nonprofit, and 261 others--were certified by Medicare to provide home health services. Nationally, Medicare home health care outlays have increased from $287 million in fiscal year 1976 to an estimated $1.7 billion for fiscal year 1984. Although these outlays are a relatively small proportion of total Medicare payments, home health care is one of the fastest growing services in the program. According to a HCFA analysis of the growth in benefit payments for home health services between 1974 and 1980, the following factors account for the increase:

--The increase in total Medicare beneficiaries (9.9 percent).

--The increase in the number of beneficiaries receiving home health care (47.5 percent).

--Increased visits per beneficiary (7.7 percent).

--Increased average cost per visit (34.9 percent).

The average cost per visit increase of 34.9 percent was due to general inflation (80.9 percent) and increases in HHAs' cost per visit in excess of general inflation (19.1 percent).

Program administration

HCFA administers Medicare with the assistance of contractors, such as Blue Cross and commercial insurance companies like Aetna Life and Casualty and Mutual of Omaha. Contractors who help administer part A of Medicare are called intermediaries. The intermediaries also administer the part B home health benefit, although other contractors called carriers pay most of the part B claims involving such noninstitutional providers as physicians.

As of September 1985, there were 47 designated regional intermediaries for Medicare home health services, which among other things, are responsible for (1) making payments on the basis of reasonable costs for services provided by HHAs, (2) serving as a communication channel between HHAs and HCFA, and (3) assisting in establishing and applying safeguards against overuse of program services.

In response to provisions in the Deficit Reduction Act of 1984 (Public Law 98-369), the number of regional intermediaries for Medicare home health care will be reduced to 10 before July 1, 1987. These 10 regional intermediaries will handle freestanding HHAs, while the hospital-based HHAs will continue to be served by the hospitals' intermediaries.

Coverage and eligibility requirements

To qualify for Medicare coverage, home health services must be prescribed by a physician and provided to persons in their homes. These services include

--part-time or intermittent nursing care provided by or under the supervision of a registered professional nurse;

--physical, occupational, or speech therapy;

--medical social services, which include services necessary for assisting patients to adjust to social and emotional conditions related to their health problems; and

--part-time or intermittent services from a home health aide, which include helping the patient to meet personal needs, such as bathing, take self-administered medications ordered by a physician, and exercise.

The program also authorizes medical supplies (other than drugs and biologicals) and durable medical equipment, such as hospital beds, wheelchairs, and oxygen equipment.

To be eligible for home health coverage under Medicare, a person must essentially be confined to his/her residence (homebound), be under a physician's care, and need part-time or intermittent skilled nursing care, physical therapy, and/or speech therapy. If these conditions are met, the patient may also receive occupational therapy, medical social services, and home health aide services. Home health care must be prescribed by a physician, and services must be furnished by a participating HHA (either directly or through arrangements with others) in accordance with a physician's plan of treatment. Home health services are available under Medicare at no cost to the beneficiary, except for durable medical equipment provided by a HHA, which is subject to a 20-percent coinsurance charge to the beneficiary.

CURRENT MEDICARE REIMBURSEMENT SYSTEM

The Social Security Act provides that Medicare payments to HHAs be the lesser of reasonable costs or customary charges. HHAs are paid during the year based on estimated costs, but final settlements are limited to those costs found by intermediaries to be allowable costs.[1] HHAs submit an annual cost report to the intermediaries which is the basis for determining allowable costs. The HHA cost report is subject to desk review and field audit by the intermediaries.

Under Medicare's retrospective cost reimbursement system, payment is based on the actual allowable costs incurred. A general concern about cost reimbursement systems is that planning and management to control cost growth is not very important, because little consideration is given to whether the

[1]Allowable costs are defined by Medicare as all costs claimed by the HHA that are proper, reasonable, and related to patient care that are not substantially out of line with comparable agencies.

costs were incurred economically or efficiently when intermediaries determine the amount to be paid. However, Medicare's present system does provide some incentives to control cost growth, primarily the limits on reimbursable costs established under section 223 of the Social Security Amendments of 1972. This provision authorizes HHS to prospectively establish limits:

> ". . . on the direct or indirect overall incurred costs or incurred costs of specific items or services or groups of items or services to be recognized as reasonable based on estimates of the costs necessary in the efficient delivery of needed health services to individuals covered by the insurance programs established under this title."

Using this authority, HHS has established prospective maximum amounts Medicare will pay for home health care. Accordingly, HHAs know in advance the maximum amount they will receive for providing services.

The law requires that a schedule of HHA limits based on the per visit experience of freestanding agencies be used. Adjustments are made to the base freestanding HHA limits to account for differences in the costs of hospital-based HHAs. This add-on is provided for hospital-based HHAs to account for the higher general and administrative cost that results from Medicare's cost allocation process for hospital overhead to the HHA.

The base limits shown in table 1.1 have been established by regulation for the cost reporting periods beginning between July 1, 1984, and June 30, 1985.

Table 1.1

Base Section 223 Medicare Payment Limits for HHAs

Type of service	Per visit limits for urban areas			Per visit limits for rural areas		
	Total	Labor portion	Nonlabor portion	Total	Labor portion	Nonlabor portion
Skilled nursing	$53.54	$41.99	$11.55	$62.15	$50.99	$11.16
Physical therapy	50.91	39.91	11.00	61.26	50.17	11.09
Speech therapy	56.88	44.42	12.46	71.47	58.33	13.14
Occupational therapy	54.76	42.82	11.94	73.23	59.71	13.52
Medical social service	85.01	66.17	18.84	89.18	73.14	16.04
Home health aide	35.97	28.18	7.79	39.87	32.64	7.23

In the past these limits were applied on an aggregate basis. The following hypothetical examples of how the limits were applied demonstrate the process for freestanding HHAs located in an urban area.

Table 1.2

Limits Applied to Medicare Payments to Freestanding Urban HHAs

Type of visit	Number of visits	Per visit limits[a]	Reimbursement limit	Actual allowable cost	Medicare payment
			Agency A		
Skilled nursing	5,000	$53.54	$267,700	$270,700	
Physical therapy	1,000	50.91	50,910	50,000	
Home health aide	1,000	35.97	35,970	31,940	
Total	7,000		$354,580	$352,640	$352,640
			Agency B		
Skilled nursing	5,000	$53.54	$267,700	$270,700	
Physical therapy	1,000	50.91	50,910	48,270	
Home health aide	1,000	35.97	35,970	40,000	
Total	7,000		$354,580	$358,970	$354,580

The examples assume the wage index is 1.0. Therefore, no adjustment to the limits is needed to account for differences in wages.

For cost report periods beginning July 1, 1985, however, HCFA will apply the limits by type of visit so that the Medicare payment for Agency A would be $349,640 ($267,700 + $50,000 + $31,940) and for Agency B, $351,940 ($267,700 + $48,270 + $35,970).

Advantages and disadvantages of the existing reimbursement system

When home health services are paid on a cost basis, the HHA has little incentive to control costs. This payment method, however, can help assure quality care in terms of number of visits and length of time for each visit, because the HHA

usually will be paid all its allowable costs. Also, this method does not provide much disincentive to caring for patients who require a substantial amount of care, because the additional time and effort devoted to such cases are included in the allowable costs.

A payment system based on cost up to a maximum limit may offer some incentives to the HHA to control cost in order to stay within the limit. For HHAs below the limit, however, it may not discourage them from incurring costs that are not necessary and do not contribute to the quality of care. HHAs above the limit can have an incentive to increase the number of visits provided in order to decrease the cost per visit to stay within the limits. This type of reimbursement system, however, should not provide a large incentive for HHAs to decrease quality care, nor should it result to any great extent in limiting patient access to home health care. This results again because most HHAs will be paid all their allowable costs.

THE PROSPECTIVE PAYMENT CONCEPT FOR HHAs

A general concern about reasonable cost reimbursement is that it does not give health care providers sufficient incentives to control cost growth and to operate in an efficient and economical manner. The use of prospective payment systems to increase providers' cost containment incentives have been widely discussed, and in fact, the Congress adopted such a system for hospital payments under Medicare. Under a prospective payment system, the amount that will be paid for services is established before the services are provided. Because the provider knows in advance what it will be paid and will profit or incur a loss depending on whether its costs are lower or more than the payment rates, providers have incentives to control their costs.

An ideal payment methodology should result in payment rates and related controls that

- --are adequate to provide beneficiaries with reasonable quality services,
- --discourage overuse of services,
- --promote efficient and economical use of resources and the control of cost growth,
- --do not discourage treatment of patients with extensive needs for services, and
- --are easy to administer.

Balancing the cost control and access to quality care goals listed above is perceived to be the major problem in developing a sound prospective payment methodology.

OBJECTIVES, SCOPE, AND METHODOLOGY

As requested by Congressman Pepper, we worked with his office to establish the specifications for a basic methodology for developing prospective payment rates and then used the cost data available at HCFA to simulate the probable results of the basic methodology and modifications to it. Details about the specifications and reasons for their selection are included in chapter 2. In summary, the specifications called for a prospective payment methodology that would pay all HHAs the same rate, adjusted for differences in wages and to reflect differences in the costs incurred by rural and urban HHAs. The units of service for the payment rates would be the different types of home health visits, such as skilled nursing or home health aides.

We developed computer programs based upon the methodology described above and modifications to it. Appendix I contains a discussion of our computer models. We used full-year cost report data submitted by HHAs to HCFA or its intermediaries for the cost reporting periods beginning October 1980 through September 1982. We also assessed the accuracy of the HCFA data base. The results of this assessment are presented in appendix II.

Our work was done at the HCFA's central office in Baltimore, Maryland. We interviewed HCFA headquarters and regional office officials, and fiscal intermediary officials. To determine how potential overutilization of home health services are controlled by the states, we interviewed state Medicaid officials in New Jersey, Colorado, Illinois, Texas, Georgia, Connecticut, California, Maryland, and New Mexico. We also looked at proposed legislation which described ways of controlling overutilization of home health services, which has been a continuing problem.

Our work was performed in accordance with generally accepted government auditing standards.

CHAPTER 2

SELECTION OF THE SPECIFICATIONS FOR A PROSPECTIVE PAYMENT METHODOLOGY

This chapter describes the specifications for the prospective payment methodology we simulated and the reasons they were selected. These specifications were provided by Congressman Pepper's office after consultation with our staff. Generally, the prospective payment basic methodology selected features (1) like types of home health visits as the unit of service, (2) the total cost per visit at the 75th percentile of freestanding home health agency costs weighted by the number of visits provided by each HHA, and (3) separate rates to recognize differences in costs between urban and rural agencies.

SELECTION OF THE TYPE OF RATE-SETTING METHODOLOGY

Prospective payment methodologies can be classified broadly as follows:

--Formula-based rates are derived by applying a formula or formulas to cost data. This method can be used to establish rates for each HHA or for classes of HHAs.

--Rates based on budget reviews, which involve a rate-setting agency reviewing the budgets of each HHA and approving or modifying the rates based on whatever criteria have been established for the reviews.

--Negotiated rates, which represent rates agreed upon by the rate-setting agency and the HHAs. Normally, the basis for negotiation is established by a formula or a budget review method.

After considering these three methods, we agreed with the Congressman's office that a formula-based method should be modeled. Budget review and negotiation methods were not selected primarily because of the large administrative workload involved in reviewing budgets and negotiating rates. Because more than 5,000 HHAs participate in Medicare, use of either method would require extensive personnel to administer it. Another reason for not selecting the budget review or negotiation methods was the difficulty in establishing and then simulating budget review and negotiation criteria.

It was also agreed that, if a formula-based system was actually implemented, the data to which the formulas are applied

should be audited costs from uniform cost reports. However, for purposes of our simulations, it was agreed we would use the cost data readily available at HCFA which were predominately unaudited data.

SELECTION OF THE UNIT OF SERVICE

An important part of any prospective payment system is the unit of service for which payment is made. For home health care a number of units of service could be used. These include

--per visit by type of visit (i.e., skilled nursing, physical therapy, etc.),

--per visit for all types of visits combined,

--per hour of service provided,

--per patient for all care provided for a particular condition or illness (per case unit of service), and

--per capita payments covering all services to all beneficiaries enrolled with an HHA over a specific period of time, such as a month or year.

It was decided to use a per visit unit of service for the three most frequently provided types of service (skilled nursing, physical therapy, and home health aides) and a combined per visit unit of service for the three least frequently provided types of service (occupational and speech therapy and medical social services). The rationale for this decision was that per visit cost data was available, whereas reliable data necessary to simulate payment rates for the other units of service, such as per hour of service or per case or per capita, were not available. Also, it was decided to combine the three least frequently provided types of service because of concerns that there might not be enough HHAs providing each type of service (particularly in rural areas) to develop representative rates for a future period.

CLASSIFICATION OF HHAs

Another issue for a "class-based prospective" payment system is how the HHAs should be grouped or classified in developing the payment rates. Historically, under the section 223 cost limits, HHAs have been classified by

--location (urban and rural) and

--type of provider (freestanding or facility based).

Cost report data show that generally rural HHAs have higher costs per visit than urban HHAs and that hospital-based HHAs generally have higher costs per visit than freestanding HHAs. We agreed with the requestor that separate national payment rates would be developed for urban and rural HHAs to recognize the additional travel time and related costs associated with serving patients in rural areas.

We also agreed that, for rate simulation purposes only, the costs of freestanding HHAs would be used. The rationale for this was that because freestanding HHAs made up over 80 percent of the HHAs participating in Medicare, there would be more comparable cost data for comparable providers with which to develop rates. If the higher costs of the hospital-based providers were deemed justified, this could be recognized by a separate add-on to the base rates.

HHAs could also be grouped by geographical areas as was done for a transitional period under Medicare's prospective payment system for inpatient hospital services enacted in the Social Security Amendments of 1983 (Public Law 98-21). For example, cost report data show the average cost per visit for HHAs located in California are $5 to $34 higher than the costs for HHAs located in the New England states. We agreed with the requestor to develop national rates because the Congress had decided that ultimately this was the appropriate approach for paying hospitals under Medicare. On the other hand, because the variations in costs by area were so large, it was also agreed that, as a possible alternative to the basic methodology, we would simulate rates for urban and rural providers using the nine census regions of the United States.

COMPUTATION OF PAYMENT RATES

After determining how HHAs should be grouped or classified, another matter to be considered in developing a class-based prospective payment system is how the data are to be arranged and how the rates will be computed.

The total cost per visit for HHA services consists of such items as nurses' and aides' salaries and such nonwage administrative costs as management fees. These costs vary among HHAs. The overall payment rates could be computed to take these variations into account. For example, a separate rate computation could be made to include only administrative costs, which would be added to the rate computation covering the other costs more related to direct patient care. In addition, the per visit costs of each HHA in the data array could be given the total number of visits provided by each HHA. Also, rate computations could be adjusted to reflect differences in wages paid by HHAs in different geographical areas.

We agreed with the requestor to develop a single rate computation covering total HHA costs adjusted to a common point in time (January 1984) based on the 75th percentile of costs weighted by visit. The simulation would develop base rates adjusted to equalize wage costs among geographical areas, which then can be adjusted for each HHA to account for differences in wages.

The reason for using total costs was for simplicity in administration. The use of the 75th percentile in the data arrays was specified by the requestor. The rationale for weighting costs by the number of visits instead of giving the cost of each HHA in the data arrays an equal weight was to avoid the possibility of a relatively few small, but high-cost HHAs unduly influencing the resulting rate computations. The reason for adjusting the costs to equalize for wage differences was that the section 223 cost limits have historically provided for such adjustments in computing the limits.

SELECTION OF DATA BASE TO BE USED FOR SIMULATION

We decided to use HCFA's computerized HHA cost report data file as the source of information for our simulations. HCFA has used this file, the only HHA cost data file available at the time we started our review, to develop the HHA section 223 cost limits. The file includes such items of information as total costs, number of visits, and number of Medicare beneficiaries served for each HHA. The file included cost reports representing full-year cost-reporting periods beginning between October 1980 and September 1982.

As noted in chapter 1, we made an assessment of the completeness and accuracy of the file to determine if the file was sufficiently accurate to be used in our simulation efforts. We randomly selected a sample of HHA cost reports to verify that the appropriate cost reports were included in the file and that the data had been accurately entered from the cost reports to the file. Generally, the data file accurately reflected the data that should have been included in the file. Details of the assessment are included in appendix II.

Data base limitations

Except for the use of unaudited costs, the existing data base is sufficient to develop a per visit prospective payment system. Additional refinement of the data would be needed, however, to simulate the probable results of other types of prospective payment systems. For example, to compute payment

rates based on the time spent to provide services, information on hours per visit would be needed to determine the average cost per hour.

Presently, HCFA's cost reimbursement system uses HHA overall cost data and the number of visits provided to Medicare and non-Medicare patients to determine the cost limits under section 223. Except for the data used to set these limits, other information contained in the cost reports and on HHA claim forms that could be used to set prospective payment rates have been found to be incomplete or unreliable, according to the staff of HCFA's Health Services Cost Containment Branch. Such incomplete or unreliable data include (1) the number of people employed at each HHA by type of service, (2) average hours per visit, (3) number of patients served, and (4) diagnostic information. Examples of these shortcomings in the data follow.

Number of employees

Our analysis of HCFA's data base showed that employee data for urban HHAs were missing in about 90 percent of the reports for occupational and speech therapy services, about 85 percent of the reports for medical social services, and about 75 percent of the reports for physical therapy services. The percent of HHA cost reports missing adequate employee data was even higher for rural providers.

Average hours per visit

Using a standard of 2,080 hours per full-time employee multiplied by the number of employees divided by the number of visits, we found that in analyzing HCFA's data base, in some instances the derived hours per visit figure was obviously incorrect. For example, for skilled nursing visits, HCFA's computer files indicated that the average hours per visit for four HHAs were 132, 124, 120, and 115, respectively.

Number of patients served

One analysis performed by HCFA of its data base showed that 752 HHA cost reports submitted for annual periods between October 1980 and September 1982 did not contain usable information on the number of patients served, which would be needed to develop a per case payment system. In addition, data on the average number of visits per case were unreliable because the statistics were incomplete and historically have not been audited.

Diagnostic information

As Medicare has started to pay hospitals based on the type of illness or treatment furnished based on diagnosis related groups, HCFA has done some preliminary analysis to determine if HHAs could be reimbursed in the same way. Using a 40-percent sample of fiscal year 1979 beneficiary bills which listed only the primary diagnosis, HCFA identified 853 different diagnoses. HCFA collapsed these into 61 categories based upon disease type and its body location. HCFA compared the 61 categories to the number of visits, type of HHA (proprietary or nonproprietary) and urban or rural providers. HCFA officials stated that none of these comparisons showed any consistent significant relationship. According to them, a major problem in basing a prospective payment system on diagnosis is that generally the primary diagnosis is all that is reported on the bills. Generally, however, it is not the primary diagnosis that keeps a patient homebound, but rather it is a secondary problem or situation at home that creates the need for home health care. For example, if a patient was recovering from a heart attack (primary diagnosis) and had emphysema and was unable to care for himself, this patient may need home health care for the emphysema condition rather than for the heart attack.

Audited data exclude unallowable costs

The data base we obtained from HCFA contained full-year cost reports from 2,386 HHAs. Of these, 2,001 (84 percent) had not been settled by the intermediaries. The settlement process includes desk reviews and/or on-site field audits of the cost reports. One purpose of this process is to identify any reported costs that are unallowable for Medicare reimbursement purposes and eliminate them from the reported amounts. Medicare cost report audit statistics for fiscal years 1981 and 1982 showed that after settlement HHAs' reported costs were reduced on the average by 2.4 percent.

No adjustments were made by us to the unsettled cost reports when simulating the base payment rate. We did not determine the precise degree of distortion, but this situation demonstrates the need to use audited costs in developing any prospective rates under which payments are to be made.

SUMMARY

The selection of the specifications for the methodology of the prospective payment system we simulated was limited by the availability of data to a formula-based rate per visit system using HCFA's computerized cost report data file. The selection of other features of the methodology used, such as the

classification of HHAs and the computation of the rates, was not necessarily limited by the availability of data but was based on other considerations. As discussed in the next chapter, however, we did simulate modifications to the basic methodology to see whether they significantly affected the payment rates.

CHAPTER 3

RESULTS OF SIMULATING A PROSPECTIVE PAYMENT SYSTEM FOR HHAs

This chapter discusses the results of our simulation of the requestor's proposal and certain modifications to it. Three ways to help control overutilization are also discussed.

Our simulation produced payment rates similar to the section 223 cost limits used under the cost reimbursement system. However, because about 75 percent of HHAs actually receive reimbursement below the limits, implementing the simulated prospective payment methodology would increase total Medicare payments for home health care. Our analysis indicates that rates would have to be set at the 45th percentile of per visit costs in order to not increase total Medicare payments.

Two of the modifications simulated--(1) computing separate rates for occupational and speech therapy and medical social service visits and (2) separate rate calculations for salary and administrative costs--had essentially no effect on total computed costs.[1] However, if HHA per visit costs are not weighted by number of visits, total computed costs would increase by about 9 percent. Also, if rates are established for each of the nine census regions, total computed costs would be reduced by about 2 percent.

Overuse of home health services has been and continues to be a problem--HCFA's Bureau of Quality Control in a recent study concluded that 33 percent of the home health visits provided nationally were not covered. Because a prospective payment system based on rates per visit gives HHAs an incentive to overprovide services, controls over utilization of services would be an important consideration in designing such a prospective payment system.

SIMULATIONS OF THE REQUESTOR'S PROPOSAL

As discussed in the previous chapter, based on agreements with Congressman Pepper's office, the proposed system features the following methodology (referred to in this study as the "basic methodology"):

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[1]This computed amount should not be compared with actual or estimated Medicare expenditures for home health care because it is based on the number of HHAs in our data base, not the number of HHAs participating in the program.

1. Nationwide rates based on costs per visit for freestanding providers.

2. Per visit rates set at the 75th percentile of the cost array after equalizing the cost for geographical differences in wages.

3. In developing the cost arrays, the per visit costs are weighted[2] by number of visits. For example, if one HHA provided 1 visit and another 10 visits, the agency that provided 10 visits would have its costs included 10 times more than the agency that provided 1 visit.

4. Four per visit rates: one each for (1) skilled nursing, (2) physical therapy, (3) a combined rate for speech and occupational therapy and medical social services, and (4) home health aides.

5. Rates based on total costs per visit (thus, no separate rate determination mechanism for administrative costs.)

6. A separate set of rates for providers in Metropolitan Statistical Areas (urban) and Non-Metropolitan Statistical Areas (rural).

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[2]How weighting was accomplished is explained by the following example for five HHAs provided skilled nursing visits.

Agency	Visits provided	Cost per visit
A	840	$38.75
B	390	40.00
C	210	47.10
D	108	48.90
E	15	53.00
	1,563	

In this example, the payment rate is set at the 80th percentile. By basing the payment rate on the number of providers, the rate would be $48.90--the cost at which 80 percent of the number of agencies could provide the service without losing money (agency D's cost). But if the computation is weighted by the number of visits, the payment rate would be at the 80th percentile of the 1,563 total visits or the cost associated with the 1,250th visit (agency C's cost), which in this example results in a rate of $47.10.

7. Rates applicable to individual HHAs should be adjusted for differences in wage rates paid by HHAs in different geographical areas.

The rates we developed using the basic methodology are shown in table 3.1. These base rates do not represent the actual Medicare payments for individual HHAs because these rates would have to be adjusted for differences in wages among geographic areas. We included not only the 75th percentile, but also the 70th and 65th percentiles for comparison purposes. The table also shows the section 223 cost limits for cost report periods beginning January 1984--the time to which our cost data were adjusted for inflation--so that the rates can be compared to the limits. The limits for 1985 are also shown.

Table 3.1

Comparison of Medicare Section 223 Cost Limits to Base Payment Rates of the Proposed Prospective Payment System

Type of visit	Section 223 cost limits		Base rates under the specific percentiles		
	1985	1984	75th	70th	65th
Urban providers					
Skilled nursing	$53.54	$51.18	$48.72	$47.16	$45.94
Physical therapy	50.91	49.43	47.41	45.75	44.18
Home health aide[a]	35.97	39.27	34.53	33.30	32.24
Combined	b	b	59.55	56.44	54.73
Rural providers					
Skilled nursing	$62.15	$57.77	$53.25	$50.45	$48.97
Physical therapy	61.26	57.88	54.71	52.48	50.80
Home health aide[a]	39.87	42.31	32.44	31.97	30.31
Combined	b	b	68.73	65.10	65.10

[a]According to a HCFA official, the decline in the home health aide cost limit resulted from using standardized cost reporting by type of visit rather than the average cost per visit or other summary cost per visit methods previously used.

[b]Not applicable on a combined basis.

Table 3.1 shows that the prospective payment rates at the 75th percentile are from 4 to 23 percent lower than the section 223 limits in effect for the two periods ended in June 1984 and June 1985. However, because actual reimbursement for about 75 percent of the HHAs is lower than the limits, Medicare payments under the proposed prospective system would have probably

exceeded those under the existing cost reimbursement system (see pp. 21 and 22). Thus, at least over the short term, it is likely that the proposed prospective payment system would result in higher Medicare program costs than under the present retrospective reimbursement system. We use the term "short term" because over a period of years as HHAs reduce their costs to maximize their profits, the payment rates in future years should tend to stabilize or possibly go down. However, using the 65th percentile of HHA costs instead of the 75th reduces the total estimated expenditures by about an additional $100 million, or about 7 percent, as shown in table 3.2.

Table 3.2

Estimated Medicare Expenditures for Home Health Services Under the Proposed Prospective Payment System at Various Payment Levels

Type of visit	Number of Medicare visits	Total estimated expenditures[a] under the following percentiles		
		75th	70th	65th
		(millions)		
Urban providers				
Skilled nursing	14,114,321	$ 688	$ 666	$ 648
Physical therapy	2,859,812	136	131	126
Home health aide	9,169,226	317	305	296
Combined	1,234,980	74	70	68
Total[b]	27,378,339	$1,215	$1,172	$1,138
Rural providers				
Skilled nursing	3,889,678	$207	$196	$190
Physical therapy	425,263	23	22	22
Home health aide	2,450,403	79	78	74
Combined	139,269	10	9	9
Total[b]	6,904,613	$319	$305	$295
Total	34,282,952	$1,534	$1,477	$1,433

[a]Total estimated expenditures equal the base rates times the number of visits reported by the 2,386 HHAs.

[b]Total visits represent total Medicare visits reported by those providers in the unadjusted data base and therefore do not represent all visits provided by all Medicare providers.

The impact on individual HHAs under the payment rates at the 75th percentile compared to HHAs' reported costs is shown in table 3.3.

Table 3.3

Impact of Prospective Payment Rates at the 75th Percentile

Type of visit	Total HHA	Winners: Rate more than cost HHAs	Winners: Rate more than cost Percent	Winners: Rate at least 10 percent more than cost HHAs	Winners: Rate at least 10 percent more than cost Percent	Losers: Rate less than cost HHAs	Losers: Rate less than cost Percent
			Urban providers				
Skilled nursing	1,051	696	66	426	41	355	34
Physical therapy	990	693	70	426	43	297	30
Home health aide	1,023	738	72	398	39	285	28
Combined	887	623	70	356	40	264	30
			Rural providers				
Skilled nursing	840	510	61	325	39	330	39
Physical therapy	566	364	64	264	47	202	36
Home health aide	782	468	60	400	51	314	40
Combined	392	275	70	163	42	117	30

In determining the number of winners and losers throughout this staff study, the total number of urban and rural HHAs for each type of visits will not add to the total number of cost reports (1,926) used to compute the rates because (1) some HHAs did not provide physical therapy or any of the combined services and (2) in eliminating aberrant costs per visit, we did not eliminate the entire cost report but only the costs related to the types of visits that were aberrant. For comparison purposes the number of HHAs in each data array represent the number of HHAs we used to develop the cost arrays for the rate-setting computations after adjustments to eliminate hospital-based HHAs and aberrant costs per visit, which result in a total of 1,926 cost reports used to compute the rates. (See app. I.)

This indicates to us that there would be many more "winners" than "losers" under the system and that for about 40 percent of the HHAs, the rates would be 10 percent or more in excess of their costs. Our analysis shows that for about 60 to 70 percent of the HHAs where comparisons were made, the simulated rates were more than their adjusted costs, which indicates that for the HHA provider community, there would be

more "winners" than "losers" under the proposed system. Accordingly, we believe that the simulated prospective payment methodology would result in higher overall Medicare home health program costs than the existing system.

PROBABLE "BUDGET NEUTRALITY"

When the Congress enacted the Medicare prospective payment system for inpatient hospital services, it included provisions calling for "budget neutrality." This meant that any rate of increase during the program's first 2 years would be adjusted to assure that total payments for inpatient hospital service would not be more or less than would have been paid under the prior law. Applying a similar concept of budget neutrality to the proposed prospective payment system for HHAs, we computed the rates that would result in no increased total payment over those payable under the present cost reimbursement system and the related percentiles on the cost data arrays where the rates appeared.

This was accomplished by using the same data base that was used to compute the base rates. We computed average costs per visit for each type of visit by multiplying the cost per visit for each HHA by the number of visits provided by it and dividing the sum for all HHAs by the total number of visits.[3] Each resulting weighted average cost per visit was compared to the base rate for that type of visit computed at the 75th percentile (see p. 18) to determine how much the simulated rates exceeded the average costs. The average costs were then located on the data arrays, and the accumulated number of visits provided at or below these costs represented the percentiles on the cost array based on weighting by visits. The results of our computation appear in table 3.4; they indicate that rates set at the 75th percentile were about 15 percent higher than the average cost and they would have to be set at about the 45th percentile to achieve budget neutrality.

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[3]This computation somewhat overstates average costs because it does not take into account amounts that payments were reduced due to the section 223 limits.

Table 3.4

Impact of Achieving Budget Neutrality on the Prospective Payment Rate

Type of visit	Average cost per visit	Percentile at which prospective rate would achieve budget neutrality	Rates at 75th percentile	Rates in excess of average costs	Percent excess
		Urban providers			
Skilled nursing	$42.28	45	$48.72	$6.44	15.2
Physical therapy	41.26	44	47.41	6.15	14.9
Home health aide	29.59	46	34.53	4.94	16.7
Combined	53.88	38	59.55	5.67	10.5
		Rural providers			
Skilled nursing	$44.84	45	$53.25	$8.41	18.8
Physical therapy	47.65	46	54.71	7.06	14.8
Home health aide	28.38	44	32.44	4.06	14.3
Combined	60.98	44	68.73	7.75	12.7

This low 45 percentile results when base payment rates are weighted by visit because many HHAs that provide a large number of visits do so at substantially less than the average cost. For example, the data arrays show that 167 urban HHAs provided skilled nursing visits at $30 or less per visit. Twelve of these HHAs provided 315,839 of the 8.4 million visits provided. One HHA provided 40,092 visits at a cost of $25.00; another provided 38,162 at a cost of $25.71 per visit. The data arrays also show that 167 urban HHAs provided home health aide visits at $20 or less per visit. Five of these HHAs provided 126,911 of the 5.6 million visits provided. One HHA provided 33,142 visits at a cost of $13.15, and another 23,578 visits at a cost of $17.21 per visit.

MODIFICATIONS TO THE BASIC METHODOLOGY

We simulated a number of modifications to the basic methodology to determine the effects of (1) giving the costs of each HHA equal weight in the data arrays--that is, not weighting by visits--which is the methodology used to compute the section 223 cost limits, (2) developing rates on a regional rather than national basis (see app. VII for census region classification), (3) developing separate rates for occupational and speech

therapy and medical social services instead of combining them, and (4) making separate rate calculations for labor and nonlabor costs.

A brief description of these modifications or combinations thereof, their impact on total estimated expenditures at the 75th percentile, and the appendixes where each is more fully described are summarized in table 3.5.

Table 3.5

Effect of Various Modifications to the Basic Prospective Payment Methodology

	Total estimated expenditures				
	Urban	Rural	Total	Increase (decrease)	Appendix reference
	(millions)				
Basic methodology	$1,215	$319	$1,534	a	a
Modifications:					
Unweighted by number of visits[b]	$1,293	$373	$1,667	$133	III
Regionalization of rates	1,192	316	1,508	(26)	IV
Separate rates for occupational and speech therapy and medical social service	1,212	319	1,531	(3)	V
Separate rate calculations for labor and nonlabor costs	1,216	320	1,536	2	VI

[a]Not applicable.

[b]Total does not add due to rounding.

In summary, table 3.5 shows that developing a prospective payment rate weighted by visit will decrease total estimated expenditures. An additional decrease would result from the use of a regional rate. A prospective payment methodology based on separate rates for salaries and administrative costs had little impact. The results for the various modifications can be found in appendixes III to VI.

ALTERNATIVES TO IMPROVE CONTROLS OVER UTILIZATION

Provision of unnecessary and noncovered services has been a problem under the cost reimbursement system. In our report Medicare Home Health Services: A Difficult Program To Control (HRD-81-155, Sept. 25, 1981), a review of a sample of beneficiaries served by 37 HHAs showed that 27 percent of the visits sampled were not covered under the Medicare program or their coverage status was questionable. Because one of the incentives that a per visit prospective payment system has is to encourage HHAs to provide more services, provision of unnecessary services could become even more of a problem under a per visit prospective payment system.

Under Section 2152 of the Omnibus Budget Reconciliation Act of 1981 (Public Law 97-35), the Secretary of HHS was required to establish guidelines for on-site medical audits of home health claims by the intermediaries. To implement this provision HCFA requires the intermediaries to audit 10 percent of their HHAs each year. The HHAs to be audited are selected based on the following criteria: (1) those that failed to meet waiver of liability criteria,[4] (2) those with higher than average costs per visit, (3) those that failed previous on-site medical audits, or (4) those that have completed their first year of business as a certified HHA under Medicare.

Medical audits of a sample of 20 beneficiaries' records are reviewed to see that the services provided are medically necessary. During the period of September 1982 through June 1983, the intermediaries made 563 on-site medical audits. The audits showed that 26,264 of the 225,230 visits reviewed (12 percent) should have been denied. Also, a study completed during 1985 by HCFA's Bureau of Quality Control concluded that 33 percent of the home health visits provided nationally were not covered.

Due to the concerns about the ongoing overutilization of home health services, the requestor's office asked us to identify alternatives that could be used to assure that the program pays only for medically necessary services. Three possible alternatives for dealing with this problem follow. We did not attempt to estimate the cost of implementing the alternatives because of a lack of data for doing so.

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[4]Under the criteria, HHAs with less than 2.5 percent in noncovered visits are eligible to have the recovery of related overpayments waived.

Expansion of medical audits

Medical on-site audits currently being done by intermediaries could be expanded. Currently audits are done only at selected HHAs that met HCFA's selection criteria. Both the number of audits and the review intensity (i.e., number of claims reviewed) could be expanded, thereby providing a basis to refuse to pay HHAs for medically unnecessary services.

Prior-authorization program

Require prior authorization of home health services. For example, the Colorado Medicaid program uses a prior-authorization system that requires the HHA to submit a plan of treatment and a functional assessment of the beneficiary. The data are reviewed by a nurse to determine medical need and justification for services. The plan of treatment is approved for 60 days and must then be resubmitted and reapproved based on the beneficiary's current condition. This method differs from the current Medicare approval process in two aspects. First, the visits are approved in advance, and second, data on the functional capability of the beneficiary are considered in determining the need for services.

Preadmission assessments

S.861, which was introduced during the 97th Congress on April 2, 1981, but never enacted, would have provided for a 6-year demonstration program of comprehensive, community-based, noninstitutional, acute and long-term care services for the elderly and disabled. To qualify for such services, the potential recipients would have to undergo a preadmission assessment and screening by a team. The team would thoroughly evaluate their individuals' health status, functional capabilities, and where appropriate, home and family environment to determine the types and frequency of services required to assure the achievement of the maximum level of independence. This system was designed to assure the appropriate type of noninstitutional services, including home health care and day care services.

The above alternatives or a combination of them could be used to better assure the appropriate use of Medicare home health services.

SUMMARY

Our simulation of the basic methodology produces payment rates which were similar to the section 223 cost limits that were in effect for the periods beginning between July 1, 1983, and June 30, 1985. Further, we found that, for about 60 to 70 percent of the HHAs where comparisons were made, the simulation rates were more than their adjusted costs, which indicates that for the HHA provider community there would be more "winners" than "losers" under the proposed system. Therefore, there is no assurance that the proposed prospective payment system would result in lower Medicare program costs than the present retrospective reimbursement system. Our simulations also indicated that to reasonably assure that the prospective payments would not be more than payments under the present system, the rates would have to be set at about the 45th percentile instead of the 75th.

Of the various features in the requestor's proposal, the one having the greatest impact in reducing rates as related to total estimated expenditures is the weighting of costs by the number of visits to avoid low volume but high-cost providers from unduly influencing the rates. This weighting of visits is not done in computing the section 223 cost limits.

Finally, of the modifications to the basic methodology that we simulated, the regionalization of rates was the only one which showed significant potential promise for reducing total program costs.

COMPUTER PROGRAM DESIGN

Using a data base of all full-year freestanding home health agency cost reports submitted by HHAs for fiscal years beginning on or after October 1980 through September 1982, we developed computer programs which (1) inflated the reported cost per visit to a common point in time (Jan. 1, 1984), (2) equalized differences in wages among the HHAs, and (3) created separate files for freestanding urban and rural HHAs. Basic steps we took were as follows:

1. Reported costs per visits were inflated to a common point in time to adjust for inflation for different cost reporting periods. Using rates of inflation developed by HCFA from the HHA market basket, we multiplied the per visit costs by the inflation factor to bring all costs per visit to a common January 1, 1984, date.

2. We then split the inflated costs per visit into a wage (77.81 percent) and nonwage (22.19 percent) portion. The division was based on HCFA's HHA market basket, which showed wages, fringe benefits, and the wage portion of the contract services amounted to 77.81 percent of the total costs. We divided the wage portion of the cost per visit by the wage index (a measure developed by HCFA using the Department of Labor, Bureau of Labor Statistics, data to measure the difference of wage payments by geographical area). The adjustment allowed us to develop a base rate (i.e., the same rate for all providers), which could be later adjusted for each HHA by applying the wage index to account for the differences in wages paid in various geographical areas.

The labor and nonlabor cost per visit were added together for each type of visit. For skilled nursing, physical therapy and home health aide visits, the costs per visit were arrayed from high to low. For occupational and speech therapy and medical social services, the costs per visit were averaged and arrayed from high to low.

For each of the various modifications to the "basic methodology," we wrote separate programs. A specific description of each computer program follows.

--The labor and nonlabor costs per visit were each arrayed from highest to lowest cost.

--Separate rates were developed for the six types of services provided by HHA. The costs per visit were arrayed from high to low.

These two modifications represent the basic alternatives. Other variations of these models were done. For example, a national rate (single rate) and census region rates were developed. The percentile was computed based on percentile of providers as well as by the number of visits. Base payment rates were computed at the 75th, 70th, and 65th percentiles.

Data base description

To develop this model, we obtained HCFA's most current HHA cost report data file, which contained the cost reports of 2,382[1] HHAs. In an effort to recognize that new HHAs often have several years of high cost and low utilization, we eliminated the reports of 80 new HHAs,[2] leaving an adjusted data base of 2,302 cost reports. Some of the costs included in the file were aberrant; for example, one HHA's cost report showed a $209.29 cost for a physical therapy visit. To address this problem, we reviewed each cost per visit by discipline. Where a cost per visit was found to be more or less than two standard deviations from the mean, that individual cost per

[1]The original data tape provided by HCFA contained 2,386 HHAs. A subsequent tape contained 2,382 HHA cost reports. Four HHAs were deleted because of invalid data. We used the latter tape to develop proposed base payment rates, while overall visit numbers are based on the original tape.

[2]A new HHA is defined as one that has been certified to participate in the Medicare program for less than 3 years. This same adjustment is made by HCFA in establishing its home health cost limits under section 223.

visit was eliminated from our data base.[3] Another 376 cost reports for hospital-based providers were removed from the original data base, leaving a universe of 1,926 cost reports to be used in computing the base payment rates.

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[3]This adjustment is made by HCFA in developing its home health cost limits. For example, a home health provider could furnish three different types of services. In eliminating a particular cost per visit, only one of the three may have exceeded the test parameters. Accordingly, the exact number of cost reports eliminated is not known.

RESULTS OF DATA BASE VERIFICATION

Our verification of the data included tests to determine (1) that only certified HHAs were included in the data, (2) HHAs were not incorrectly eliminated from the data base, (3) data extracted from the cost reports were correctly entered into the home health cost report data file, and (4) the effect on the data base of HHAs using the old cost report forms to report costs. The details of our data verification follow.

INCLUSION OF ONLY CERTIFIED HHAs IN THE DATA BASE

In order to determine that only certified HHAs were included in our data, we obtained a HCFA computer tape listing active certified HHAs and their date of certification (i.e., date when the agency was authorized to participate in the Medicare program). We compared the certification date to the cost report date and found six HHAs with reported costs that were not presently certified. According to a HCFA official, none of these agencies were being incorrectly paid for providing services to Medicare beneficiaries. For example, in one case, according to an intermediary official, the agency submitted the cost report under a terminated provider number rather than its own number. Generally, the errors found were errors contained in the certification data and did not involve the inclusion of cost data for noncertified HHAs in the data base.

HHAs EXCLUDED FROM THE DATA BASE

Another data verification effort involved identifying providers who were certified but whose cost reports were not included in the data base. We identified 1,143 providers in that category by matching the certification data to the cost data. An analysis of a computer-generated sample of 200 of these providers is presented in table II.1.

Table II.1

Analysis of HHAs Omitted from Data Base

Reason for exclusion	Number in sample
New providers	130
No Medicare utilization	9
Incomplete cost report submitted to intermediary	14
Short or long period cost report	19
Data included under another provider number	11
Miscellaneous	3
Total appropriate exclusions	186
Errors by intermediary or HCFA	14
Total sample	200

This resulted in an error rate of 7 percent plus or minus 4 percent at a 95-percent confidence interval. Projecting our finding to the universe would indicate that from 34 to 126 providers were incorrectly excluded from the data base. Assuming a normal statistical distribution, the probable number of providers would be close to 80. Based on these statistical projections, the omitted providers were not statistically significant enough to affect the accuracy of various HHA prospective payment rates.

COST REPORT DATA ENTRY

Using a random sample of 141 out of a total universe of 2,386 cost reports (6 percent), we compared the data file with the actual cost reports for several key data elements to determine if they had been correctly entered into the data file. We verified cost report year beginning and ending dates, the cost per visit, and number of Medicare visits. These key data elements would be needed to implement a prospective payment system based on visits.

We were unable to locate 8 of the 141 cost reports in the files, leaving a sample size of 133 cost reports. The results of our verification are shown in table II.2.

Table II.2

Analysis of HHA Cost Report Data Entries

	Number of cost reports	Percent of cost reports
Correct data entry	123	92
Cost per visit incorrectly entered	2	2
Number of visits incorrectly entered	7	5
Other errors	1	1
	133	100

Our analysis showed an overall 7.5-percent error rate. For example, in 2 of the 133 cost reports the cost per visit was incorrectly entered into the data base. In both cases the costs recorded were less than actual cost by $0.10 and $1.72 per visit. The error rate in recording the costs per visits was 3 percent plus or minus 2.9 percent at a 95-percent confidence interval. These rates of error were not statistically significant.

USE OF THE OLD COST REPORT FORMS

During fiscal year 1981, HCFA changed the HHA cost reporting requirements to mandate that all HHAs use a uniform costing method. Before 1981, HHAs were able to report under five different methods, some of which were not as precise as the current method in developing a cost per visit.

For example, under the old rules an HHA could report a single combined cost for all types of services. Using this method, HCFA used the same cost per visit for all types of services provided when entering the cost per visit into the data base. This could result in distorted rates, because the costs are not the same for each type of visit. Cost reports that give cost by type of visit clearly show that costs vary significantly by type of visit.

An analysis of the 2,386 cost reports included in the data showed that 233, or 10 percent, of the HHAs used the old cost reports. Of the 233 cost reports only 181 were for freestanding HHAs. We limited our analysis to freestanding HHAs and could only locate 173 for further analysis. A review of these reports

showed that 54, or about 31 percent, of those cost reports combined a cost per visit of several services into a single cost per visit.

To ascertain what impact, if any, the inclusion of these cost reports had on the data base, we arranged them by census region and found that they ranged from a high of 15 to a low of 0 per region. The East North Central Region contained nine such cost reports. The data for these nine providers were eliminated, and the wage portion of the unweighted rates was recomputed. The results of the recomputation, grouped according to metropolitan statistical area (urban) and nonmetropolitan statistical area (rural) providers, appear in table II.3.

Table II.3

Impact on Wage Portion of Rates Eliminating Old Cost Report Data

Type of service	Base rates	Payment rate after eliminating old cost reports	Difference in payment (decrease)
		Urban providers	
Skilled nursing	$41.98	$41.73	$(.25)
Physical therapy	38.93	38.81	(.12)
Occupational therapy	44.04	44.07	.03
Speech therapy	43.70	43.61	(.09)
Medical social services	67.66	68.77	1.11
Home health aide	27.44	27.41	(.03)
		Rural providers	
Skilled nursing	$53.93	$54.02	$ .09
Physical therapy	45.13	45.30	.17
Occupational therapy	52.04	52.04	.00
Speech therapy	56.20	56.14	(.06)
Medical social services	115.23	115.23	.00
Home health aide	30.27	29.95	(.32)

Most HHA services rendered are either skilled nursing or home health aide visits and most are provided by HHAs in urban areas. Including providers who reported costs using the old cost report forms does slightly distort the payment rate, as table II.3 shows.

For example, in the urban area of the East North Central Census Region, 2,235,795 skilled nursing visits were provided. The distortion of 25 cents per visit would add about $559,000 in Medicare expenditures. Although additional costs would occur using the payment rate data developed in this case study, the added computed expenditures would be a one-time situation. Future reporting of cost by all HHAs is required to be on a per discipline basis. Due to the one-time nature of this distortion, we did not adjust the rate computations for this factor.

USE OF BASIC RATE-SETTING METHODOLOGY, NOT WEIGHTED BY VISITS: BASE RATES AND ESTIMATED EXPENDITURES

If the basic rate-setting methodology were used, but costs were not weighted by visit, we estimated that prospective payment rates and expenditures at the 75th percentile of providers would be as shown in table III.1.

Table III.1

Impact on Expenditures of Basic Methodology Rates Not Weighted by Visits

Disciplines	Visits	Base rate	Estimated expenditures[a] (millions)
	Urban providers		
Skilled nursing	14,114,321	$52.89	$ 746
Physical therapy	2,859,812	49.35	141
Home health aides	9,169,226	35.65	327
Combined	1,234,980	63.76	79
Total	27,378,339		$1,293
	Rural providers		
Skilled nursing	3,889,678	$61.95	$ 241
Physical therapy	425,263	60.94	26
Home health aides	2,450,403	39.36	96
Combined	139,269	72.74	10
Total	6,904,613		$ 373
Total			$1,667

[a]Includes Puerto Rico. Total does not add due to rounding.

The impact on HHAs of this modification to the basic methodology would be as shown in table III.2.

Table III.2

Impact on HHAs of Basic Methodology Rates Not Weighted by Visits

Disciplines	Total HHAs[a]	Winners: Rate more than cost HHAs	Winners: Rate more than cost Percent	Winners: Rate at least 10 percent more than cost HHAs	Winners: Rate at least 10 percent more than cost Percent	Losers: Rate less than cost HHAs	Losers: Rate less than cost Percent
Urban providers							
Skilled nursing	1,051	788	75	392	37	263	25
Physical therapy	990	743	75	375	38	247	25
Home health aides	1,023	767	75	363	35	256	25
Combined	887	665	75	288	32	222	25
Rural providers							
Skilled nursing	840	630	75	300	36	210	25
Physical therapy	566	425	75	202	36	141	25
Home health aides	782	587	75	261	33	195	25
Combined	392	294	75	133	34	98	25

[a]The total number of urban and rural HHAs for each type of visit will not add to the total number of cost reports (1,926) used to compute the rates because (1) some HHAs did not provide physical therapy or any of the combined services and (2) in eliminating aberrant costs per visit, we did not eliminate the entire cost report but only aberrant costs.

This rate system, if adopted, would increase Medicare reimbursement for HHAs by about $133 million, or about 9 percent. We found similar results at the 70th and 65th percentiles.

The data in this appendix show that higher payment rates result when rates are based on the costs of all the HHAs that provide the service rather than weighting the costs by the number of visits provided.

SETTING RATES BY CENSUS REGION, WEIGHTED BY VISITS: BASE RATES AND ESTIMATED EXPENDITURES

If we developed payment rates for each of the nine census regions and Puerto Rico weighted by visits, we estimate expenditures at the 75th percentile of providers would be as shown in table IV.1. We did this simulation to determine how the census region approach, which Medicare is using to pay hospitals prospectively during a phase-in period, would affect prospective payment rates for home health care.

Table IV.1

Impact on Expenditures of Rates by Census Region, Weighted by Visits

Disciplines	Visits	Census region payment rate	Estimated expenditures[a] (millions)
Urban providers			
Skilled nursing	14,114,321	(See table IV.2	$ 671
Physical therapy	2,859,812	for base rates	129
Home health aides	9,169,226	by individual	321
Combined	1,234,980	census region)	70
Total	27,378,339		$1,192
Rural providers			
Skilled nursing	3,889,678	(See table IV.2	$ 204
Physical therapy	425,263	for base rates	23
Home health aides	2,450,403	by individual	80
Combined	139,269	census region)	9
Total	6,904,613		$ 316
Total			$1,508

[a]Includes Puerto Rico. Totals do not add due to rounding.

The individual census region payment rates are shown in table IV.2.

Table IV.2

Base Rates Set by Census Region, Weighted by Visits

Urban providers

	Skilled nursing			Physical therapy			Combined			Home health aides		
	Base rate	Visits	Total costs	Base rate	Visits	Total costs	Base rate	Visits	Total costs	Base rate	Visits	Total care
New England	$37.16	1,942,332	$ 72,177,057.12	$35.03	340,373	$ 11,923,266.19	$50.22	240,325	$12,069,121.50	$30.03	1,816,063	$ 54,536,371.89
Middle Atlantic	41.18	3,495,792	143,956,714.56	39.50	716,401	28,297,839.50	52.55	250,643	13,171,289.65	38.58	2,812,950	108,523,611.00
East North Central	51.44	2,235,795	115,009,294.80	49.60	301,655	14,962,088.00	62.78	161,124	10,115,364.72	37.06	959,448	35,557,142.88
West North Central	40.13	748,832	30,050,628.16	35.49	130,167	4,619,626.83	56.44	59,910	3,381,320.40	34.62	475,903	16,475,761.86
South Atlantic	56.92	2,043,670	116,325,696.40	48.96	557,897	27,314,637.12	59.78	173,953	10,398,910.34	35.04	1,301,233	45,595,204.32
East South Central	52.66	827,002	43,549,925.32	45.67	116,894	5,338,548.98	67.31	35,536	2,391,928.16	32.29	545,406	17,611,159.74
West South Central	48.72	1,064,774	51,875,789.28	57.87	169,888	9,831,418.56	47.67	82,729	3,943,691.43	34.01	444,142	15,105,269.42
Mountain	49.53	338,999	16,790,620.47	45.09	63,978	2,884,768.02	69.39	33,460	2,321,789.40	31.59	155,372	4,908,201.48
Pacific	56.24	1,289,632	72,528,903.68	48.29	388,330	18,752,455.70	64.14	185,601	11,904,448.14	34.51	641,695	22,144,894.45
Puerto Rico	68.85	127,493	8,777,893.05	62.81	74,229	4,662,323.49	67.62	11,699	791,086.38	55.80	17,014	949,381.20
Total		14,114,321	$671,042,522.84		2,859,812	$128,586,972.39		1,234,980	$70,488,950.12		9,169,226	$321,406,998.24

Rural providers

New England	$41.33	337,792	$ 13,960,943.36	$39.85	42,557	$ 1,695,896.45	$59.24	13,261	$ 785,581.64	$29.02	180,680	$ 5,243,333.60
Middle Atlantic	45.03	534,674	24,076,370.22	42.89	66,702	2,860,848.78	48.79	22,860	1,115,339.40	32.21	416,969	13,430,571.49
East North Central	57.98	551,777	31,992,030.46	53.94	47,675	2,571,589.50	64.53	15,027	969,692.31	36.36	268,452	9,760,914.72
West North Central	42.95	632,620	27,171,029.00	48.26	29,284	1,413,245.84	71.59	13,032	932,960.88	28.81	561,407	16,174,135.67
South Atlantic	57.97	564,271	32,710,789.87	59.51	80,068	4,764,846.68	74.12	18,647	1,382,115.64	37.78	296,755	11,211,403.90
East South Central	60.27	556,828	33,560,023.56	59.01	57,897	3,416,501.97	68.21	20,648	1,408,400.08	32.58	386,584	12,594,906.72
West South Central	52.27	270,991	14,164,699.57	56.16	20,866	1,171,834.56	97.26	4,405	428,430.30	31.48	104,982	3,304,833.36
Mountain	59.08	212,706	12,566,670.48	50.35	20,747	1,044,611.45	63.01	8,248	519,706.48	34.79	152,622	5,309,719.38
Pacific	59.97	144,019	8,636,819.43	59.34	26,973	1,600,577.82	71.79	13,897	997,665.63	36.71	72,444	2,659,419.24
Puerto Rico	62.10	84,000	5,216,400.00	61.72	32,494	2,005,529.68	74.90	9,244	692,375.60	48.66	9,508	462,659.28
Total		3,889,678	$204,055,775.95		425,263	$22,545,482.73		139,269	$9,232,267.96		2,450,403	$80,151,897.36

APPENDIX IV

If a census region system were adopted, total payments would be reduced by about $26 million in comparison to those under the basic methodology. For all HHAs this modification would decrease total payments by about 2 percent.

We found similar results at the 70th and 65th percentiles.

USE OF SEPARATE RATES FOR OCCUPATIONAL AND SPEECH THERAPY AND MEDICAL SOCIAL SERVICES: BASE RATES AND ESTIMATED EXPENDITURES

If separate rates were developed for visits for occupational and speech therapy and medical social services instead of a combined rate for these three disciplines as provided under the basic methodology, we estimate the expenditures at the 75th percentile of providers would be as shown in table V.1. The costs of medical social service visits have been from $12 to $26 more than for the two therapy-type visits. We made this simulation because we wanted to find out whether developing a separate rate for medical social service visits would moderate total expenditures and result in either an incentive or disincentive for HHAs to provide this important service.

Table V.1

Impact on Expenditures of Separate Rates for Occupational and Speech Therapy and Medical Social Services, Weighted by Visits

Disciplines	Visits	Base rate	Estimated expenditures[a] (millions)
Urban providers			
Skilled nursing	14,114,321	$48.72	$ 688
Physical therapy	2,859,812	47.41	136
Occupational therapy	386,981	53.15	21
Speech therapy	597,327	53.72	32
Medical social services	250,672	78.26	20
Home health aides	9,169,226	34.53	317
Total	27,378,339		$1,212
Rural providers			
Skilled nursing	3,889,678	$53.25	$ 207
Physical therapy	425,263	54.71	23
Occupational therapy	35,651	65.10	2
Speech therapy	73,441	65.38	5
Medical social services	30,177	75.57	2
Home health aides	2,450,403	32.44	79
Total	6,904,613		$ 319
Total			$1,531

[a]Includes Puerto Rico. Totals do not add due to rounding.

The impact on HHAs in terms of their costs were this modification used is shown in table V.2.

Table V.2

Impact on HHAs of Separate Rates for Occupational and Speech Therapy and Medical Social Services, Weighted by Visits

Disciplines	Total HHAs	Winners: Rate more than cost HHAs	Winners: Rate more than cost Percent	Winners: Rate at least 10 percent more than cost HHAs	Winners: Rate at least 10 percent more than cost Percent	Losers: Rate less than cost HHAs	Losers: Rate less than cost Percent
Urban providers							
Skilled nursing	1,051	695	66	506	48	356	34
Physical therapy	990	693	70	426	43	297	30
Occupational therapy	666	496	74	259	39	170	26
Speech therapy	789	554	70	330	42	235	30
Medical social service	538	371	69	212	39	167	31
Home health aides	1,023	738	72	398	39	285	28
Rural providers							
Skilled nursing	840	510	61	427	51	330	39
Physical therapy	566	363	64	264	47	203	36
Occupational therapy	164	119	73	62	38	45	27
Speech therapy	314	214	68	135	43	100	32
Medical social services	122	76	62	55	45	46	38
Home health aides	782	467	60	400	51	315	40

We found that adopting a separate payment for each type of visit would reduce estimated expenditures by about $3 million compared to those under the basic methodology. For all HHAs, our simulation showed that use of this modification would decrease total payments by about 0.1 percent. Payments by type of visit instead of payments under a combined rate would be lower for occupational and speech therapy and higher for medical social services.

We found similar results at the 70th percentile. At the 65th percentile, a slight increase in total payments would occur.

USE OF SEPARATE RATE CALCULATIONS FOR LABOR AND NONLABOR COSTS: BASE RATES AND ESTIMATED EXPENDITURES

If separate rate calculations were used for (1) labor and (2) nonlabor costs, we estimate that the total expenditures at the 75th percentile of providers would be as shown in table VI.1. We added the resulting separate rates to produce overall rates.

Labor costs are usually associated with nursing care, while high nonlabor costs often have been associated with perceived abuses of excessive management costs. Also, concerns have been expressed that resources that should be devoted to direct health care may be diverted to pay for overhead costs. Theoretically, the development of separate rate computations would provide a disincentive for this situation. We simulated this alternative methodology to determine its effect on total expenditures.

Table VI.1

Impact on Expenditures of Separating Labor and Nonlabor Rates, Weighted by Visits

Disciplines	Visits	Labor	Nonlabor costs	Total rate	Estimated expenditures[a]
					(millions)
		Urban providers			
Skilled nursing	14,114,321	$37.15	$11.67	$48.82	$ 689
Physical therapy	2,859,812	35.84	11.17	47.01	134
Home health aides	9,169,226	26.40	8.35	34.75	319
Combined	1,234,980	45.56	14.50	60.06	74
Total	27,378,339				$1,216

Disciplines	Visits	Labor	Nonlabor costs	Total rate	Estimated expenditures[a] (millions)
		Rural providers			
Skilled nursing	3,889,678	$42.58	$10.67	$53.25	$ 207
Physical therapy	425,263	44.35	10.73	55.08	23
Home health aides	2,450,403	26.08	6.61	32.69	80
Combined	139,269	55.28	13.30	68.58	10
Total	6,904,613				$ 320
Total					$1,536

[a]Includes Puerto Rico.

Overall, adopting separate labor and nonlabor cost rates would add about $2 million to total payments under the basic methodology. For all HHAs, this modification would increase total estimated expenditures by less than 0.1 percent. Accordingly, our simulation indicated that adopting this modification would not significantly affect rates.

Similar results would occur at the 70th percentile. At the 65th percentile, the adoption of labor and nonlabor rates would result in a $9.9 million decrease in payments compared to those under the basic methodology. Apparently, this shift occurs because the relative positions of the providers in the cost data arrays change when costs are separated in this manner.

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Ohio
Wisconsin

West North Central

Iowa
Kansas
Minnesota
Missouri
Nebraska
North Dakota
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South Atlantic

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