Equal Treatment and Unequal Benefits: The Medicare Program

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This paper analyzes the distribution of Medicare benefits among elderly persons on the basis of income, race, and geographical location. It first presents available statistical evidence from Medicare on the distribution of benefits and the magnitude of differentials among these elderly. It then sorts out the contribution to differentials arising from differences in the availability of medical resources, prices of medical services, and other demographic factors. The importance of various Medicare program features on remaining differentials—such as the cost-sharing provisions of Medicare, reimbursement policies, and nondiscrimination enforcement procedures—are then investigated. The effect of health status on utilization of medical services by the elderly is also analyzed, and the distribution of Medicare benefits by income for elderly persons of similar health status is presented. The paper concludes with recommendations for reducing differentials in Medicare benefits and indicates those policy changes which would result in a distribution of benefits more closely related to health care needs of the elderly.

Medicare is a uniform, federal program providing medical care benefits to all elderly persons covered by the social security retirement program. Even though the same set of benefits are available to all covered persons regardless of income, race, or geographical location, wide differences exist in the use of services and receipt of payments on the basis of each of these factors. Higher income elderly persons are more likely to visit physicians and to see physicians charging higher prices than are lower income elderly persons. Elderly blacks, either because of current or past discriminatory practices, receive medical care less often than elderly whites. Elderly persons in areas with a limited availability of medical manpower receive a less than proportionate share of Medicare benefits.

These outcomes are at variance with one of the basic aims of the Medicare program (see Somers and Somers, 1967; Corning, 1969; Marmor, 1973). It was originally hoped that the removal of financial barriers would enable all elderly persons to receive medical care services largely on the basis of medical need. Yet, many elderly population groups with poor health receive only limited Medicare payments.

This variation in distribution of benefits raises several important questions. The first concern is the magnitude and nature of variations in benefits. How large are the differentials, and do they reflect primarily differences in utilization of medical services or in prices charged for medical care? Second, given that the program favors whites, higher income persons, and persons residing outside of the South, how should the program be financed? Third, what measures can be taken to redress any inappropriate patterns of medical care utilization? Finally, is experience with the Medicare program instructive for the design of future medical care financing plans affecting all age groups?

This paper addresses these questions by first reviewing the provisions and overall experience of the Medicare program; examining the evidence on distribution of benefits by income, race, and geographical location; and finally concluding with recommendations for changes both in the Medicare program and in medical care finanacing and delivery programs affecting all age groups.

Medicare Benefits

The Medicare program provides a basic hospital insurance plan for all persons sixty-five and over covered by the social security retirement program and pays half the cost of a voluntary supplementary medical insurance plan (SMI) covering physicians' services and certain other benefits. By July 1971, 20.7 million persons were entitled to hospital insurance, and 20.0 million of these (96 percent) had enrolled for SMI (U.S. Department of Health, Education, and Welfare, 1971:40).

Under the basic hospital insurance plan, the elderly receive a broad range of hospital and post-hospital services subject to certain deductible and coinsurance provisions.[1] For a given benefit period, beneficiaries must pay a deductible for hospital care set at approximately the cost of one day of hospital care, currently $84. No further charges to the patient are made for covered services for hospital stays of less than 60 days (patients may, however, face

[1]A deductible is the amount to be paid by the patient before insurance benefits begin. A coinsurance rate is the percentage of the medical bill paid by the patient himself. These patient charges are sometimes referred to as out-of-pocket costs or as cost-sharing.

charges for noncovered services such as private rooms, private duty nurses, televisions, and telephone and for physician services provided in the hospital). Between the sixty-first and ninetieth days, beneficiaries must pay $21 per day; for the next sixty days they must pay $42 a day, after which hospital insurance ceases.[2]

In order to encourage early discharge from hospitals, the Medicare program also covers certain types of post-hospital care, such as extended care facility services. Extended care services are intended for patients who have been hospitalized for treatment of a medical condition and who, while no longer requiring the full range of hospital services, still need full-time, skilled nursing care in an institutional setting.[3] Benefits are payable for persons who have had at least three consecutive days of hospital care and who are admitted to an extended care facility within 14 days from the date of hospital discharge. Beneficiaries are required to pay $10.50 per day for the 21st through the 100th day in an extended-care facility at which point benefits terminate.

In order to be eligible for participation in the Medicare program, institutions must be in substantial compliance with conditions of participation established by the Secretary of Health, Education, and Welfare, and must also agree to provide services on a nondiscriminatory basis in accordance with Title VI of the Civil Rights Act of 1964.

The supplementary medical insurance program provides coverage of physicians' services, outpatient hospital services, additional home health services, other medical services and supplies, and outpatient physical therapy services furnished by qualified providers. Individuals 65 years of age and over may enroll in the program regardless of whether they are eligible for social security retirement benefits. Monthly premiums paid by the individual are matched by the federal government out of general revenues.

[2]Under current law, the last sixty days of coverage constitute a "lifetime reserve." After that is used, no coverage is provided after the first ninety days. The first 90 days of hospital coverage, however, are renewed whenever the patient has been out of a hospital or nursing home for 60 days. The deductible and coinsurance payments then begin anew under a new benefit period.

[3]An extended care facility is an institution, or a distinct part of an institution, which is primarily engaged in providing skilled nursing care or rehabilitation services and which has in effect a transfer agreement with one or more hospitals.

Beneficiaries pay the first $60 of supplementary medical insurance services incurred during the year.[4] After the deductible is met, the SMI program pays for 80 percent of the allowed charges for covered physician services and other medical services. If the physician will not accept assignment of insurance benefits, the patient is required to pay all charges in excess of the allowable charge as well as 20 percent of the allowable charge.

The 1965 Amendments to the Social Security Act, which authorized Medicare, provided for purchase of SMI coverage for aged public assistance recipients by states. Subsequent amendments in 1967 permitted states to purchase SMI coverage for all elderly persons eligible for Medicaid (whether receiving cash assistance or medically indigent). State election of these provisions is referred to as "buying into" the SMI program, and recipients under such an agreement are called "buy-ins." Under a buy-in agreement, a state is responsible for the payment of the beneficiary's premium and share of SMI medical expenses—the deductible and coinsurance charges. By the end of 1970, 46 states and the District of Columbia had such agreements, covering two million persons (U.S. Department of Health, Education, and Welfare, 1971:23).

The Medicare program now represents a major item in the federal budget. Expenditures have nearly quadrupled from $3.3 billion in fiscal year 1967 to an estimated $12 billion in 1974. A portion of this tremendous growth is attributable to an increase in number of persons eligible for the program (from 19.1 million initially to 22.9 million in 1974). Some of the increase represents greater utilization of medical care services per enrolled person. The major portion of the increase, however, is attributable to increases in the costs of medical care (e.g., the consumer price index for hospital daily service charges increased 74 percent from 1967 to 1972). As a consequence of rising prices, the elderly now pay more for medical care than before the Medicare program started. Private payments for personal health care averaged $293 per elderly person in fiscal year 1966 and $404 per capita in fiscal year 1972, including $67 in Medicare premiums (Cooper and Worthington, 1973:14).

Since this program represents a major governmental expenditure, it is important that the distributional impact of the program

[4]Expenses incurred in the last three months of the previous year may be applied toward the current year's deductible.

be thoroughly explored. How are Medicare payments distributed on the basis of income, race, and location? How does utilization of medical care services under the program vary by these characteristics, and how much of the variation in payments is traceable to differences in prices for medical care faced by different population groups? The following sections turn to these questions, and consider in turn the distribution of payments by income, race, and location.

The Role of Income in Medical Care Utilization and Medicare Payments

One objective of the Medicare program was elimination of financial barriers discouraging the elderly from seeking "necessary" medical care. Removal of important financial barriers could not be expected to result in equal utilization of medical care services by all elderly persons, since the elderly vary with respect to health status and medical condition. It should, however, have increased the utilization of medical care services by the poor relative to higher income elderly persons, since charges for medical care (before Medicare) could have been expected to pose the strongest deterrent to the poor in seeking necessary medical care. In the absence of financial barriers to care, in fact, medical care utilization might be inversely related to income since the poor typically are in poorer health than higher income persons.

Several factors, however, may offset such an inverse relationship. First, the Medicare program does not completely eliminate all out-of-pocket costs for medical care, nor does it vary cost-sharing provisions in accordance with income. Both the basic hospital insurance plan and, to a greater extent, the supplementary medical insurance plan require some fixed deductible and coinsurance payments on the part of the elderly. A $60 deductible and 20 percent coinsurance rate for physicians' services is more of a deterrent to use of medical services for a person with $3,000 income than for one with $15,000 income. Higher income persons are also more likely to be able to purchase supplementary private insurance, picking up all or part of out-of-pocket costs. For those poor "bought-into" Medicare coverage by state Medicaid pro-

grams, the deductible and coinsurance amounts are paid by the Medicaid program—rather than levied directly on the individual. This combination of supplementary public and private insurance, as well as direct income effects, predicts that utilization will be lowest for low-income persons not covered by the state Medicaid "buy in" programs, and somewhat greater for higher income individuals, elderly persons with private insurance, and elderly persons covered by Medicaid.

In addition to the importance of Medicare cost-sharing provisions in determining utilization of services by elderly persons of different income classes, variations in the availability of medical resources may reinforce the tendency for high-income persons to obtain care more readily. In areas with limited, scarce medical manpower and facilities, those elderly persons with relatively minor ailments may have to yield to younger persons with more urgent medical problems. In addition, the time, search, and transportation costs required to obtain medical care, which tend to be systematically related to the availability of medical resources, can pose important barriers to the receipt of medical care for elderly persons even in the absence of substantial out-of-pocket medical costs. Since physicians tend to be more densely located in high-income areas, persons in such areas can expect to incur much lower non-medical costs in seeking and obtaining medical care.

The costs of medical care may also vary systematically with income. Physicians in high-income areas may be able to charge higher prices for any type of service; and a greater abundance of specialist physicians may lead to a more expensive mix of available services in high-income areas. Similarly, hospitals in high-income–high-wage areas may have higher costs than hospitals located in poor communities. If hospitals respond to high income and extensive insurance coverage in the surrounding community by providing higher quality or at least a more expensive style of care, hospital costs will be concomitantly higher in such areas. All of these availability factors would lead to greater utilization, higher quality, and higher costs of medical care services for higher income elderly persons.

Education may play an independent role in influencing decisions to seek medical care and the type and amount of care obtained. Since education and income tend to be related, relatively

greater benefits for higher income persons may be a reflection, at least in part, of educational factors. Education may affect use of medical services in a variety of ways. More educated persons may be more aware of the Medicare program and the benefits it provides, and hence submit claims for benefits for which they are eligible to a greater degree than less educated persons. This effect may be reduced over time, as publicity about the program makes the program more familiar to all members of society. More educated persons, in addition to being relatively more informed about the Medicare program, may also be more knowledgeable about the benefits of medical care, more perceptive about symptoms requiring medical attention, and more inclined to seek out specialized care for specific types of medical problems.

Some patterns of medical care utilization among the elderly may be traceable to habit persistence, with persons neglecting to seek medical care over a long period of time for financial or other reasons, continuing to do so even with adequate financing. Again, this effect might be reduced over time as more elderly persons have longer experience with the Medicare program.

Finally, it should be noted that attitudes of physicians and other medical care providers may also affect patterns of medical care utilization. To the extent that physicians prefer to treat patients from a similar socioeconomic class, physicians may either consciously or unconsciously discourage lower income persons from obtaining care. Signs in the office indicating that the physician does not accept Medicaid patients are a blatant manifestation of discrimination among patients, but more subtle tactics may be equally effective.

In summary, even with a uniform financing program which removes most major financial barriers to the receipt of medical care services, substantial variations in utilization of services and distribution of payments may occur on the basis of income. Low-income persons without private insurance or without coverage under a supplementary Medicaid program may find the cost-sharing provisions of Medicare prohibitive. The non-medical costs of seeking medical care—the time, search, and transportation costs—faced by the poor may further discourage use. Higher prices in high income areas may lead to a disproportionate share of payments to high-income elderly persons. The interrelated effects of income and education—or the persistence of habitual neglect of

health—may reinforce the tendency for the poor to fail to obtain adequate care.

The following sections first present data on the extent of inter-income class variation in benefits and then attempt to isolate the underlying factors giving rise to this variation.

Medicare Benefits by Income

Wide differences do exist in the level of payment for medical care services under the Medicare program by income class.

Table 1 presents data on three components of Medicare reimbursements for persons covered by the voluntary supplementary medical insurance plan in 1968: (1) the percentage of all persons enrolled who receive services in excess of the deductible ($50 in 1968); (2) the number of reimbursable services received by persons exceeding the deductible (reimbursable services are counted only after the deductible is exceeded); and (3) the average Medicare payment per reimbursable service.

As shown in the table, marked disparities in the distribution of medical payments by income occur in the SMI program. Medicare reimbursements for medical services per person with family income above $15,000 was $160 in 1968, compared with $79 for persons with incomes below $5,000—or more than *twice* as much for the highest income group as for the lowest. This wide difference in benefits reflects in large part the higher level of reimbursement per service received by high income persons, but there are also significant differences by income class in percentage of eligible persons exceeding the deductible.

As expected, higher income elderly persons see physicians charging higher prices. Average Medicare reimbursement per service is $10.40 for persons with family incomes above $15,000 compared with $6.06 for persons with incomes below $2,000. Part of the difference could reflect higher quality care received by higher income persons or more expensive types of services—such as specialist physician care or in-hospital physician care. While the Medicare survey does not provide information on the type of physician rendering Medicare services, the Health Interview Survey conducted by the National Center for Health Statistics does indicate the type of physician and place of visit for physician visits of non-hospitalized patients. As shown below, higher income

TABLE 1

Medicare Reimbursements for Covered Services under the Supplementary Medical Insurance Program and Persons Served, by Income, 1968

	Medicare reimbursement per person enrolled	*Persons receiving reimbursable services per 1000 Medicare enrollees*	*Number of reimbursable services per person receiving reimbursable services*	*Medicare reimbursement per reimbursable services*
Total	$ 88.60	460.1	26.6	$ 7.27
Under $5,000	78.77	431.7	26.0	7.02
Under $2,000	76.32	438.2	28.7	6.06
$ 2,000- 4,999	80.95	425.9	23.4	8.11
$ 5,000- 9,999	103.87	475.0	26.6	8.21
$10,000-14,999	115.10	527.2	27.5	7.95
$15,000 and over	160.30	552.3	27.9	10.40
Ratio, over $15,000 income to under $5,000 income	2.04	1.28	1.07	1.48

Source: U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, calculated from unpublished tabulations from the 1968 Current Medicare Survey.

elderly persons are more likely to see internists, while lower income persons receive a greater proportion of their medical care from general practitioners.

While type of physician may explain part of the variation in average reimbursement by income class, higher charges for medical services in high-income areas may also account for some of the variation. The Medicare program follows the practice of setting allowable charges in relation to the prevailing level of usual and customary charges in the area. Thus physicians practicing in a low-income, low-prevailing charge area, will be compensated for services provided Medicare patients at a lower rate than physicians choosing to practice in higher income areas. This method of setting allowable charges perpetuates incentives for physicians to avoid practicing in lower income communities—rather than posing positive incentives for changes in the distribution of medical manpower.

While price variations in medical care services raise important issues with respect to appropriate methods of reimbursing physicians and deriving revenue, variations in the use of medical services by income class are also a source of concern. Fifty-five

percent of Medicare enrollees with family incomes above $15,000 use medical services in excess of the deductible ($50 in 1968) and hence receive some Medicare reimbursement, compared with only 43 percent of enrollees with family incomes below $5,000. The number of services received for those persons exceeding the deductible does not vary markedly by income class. However, since fewer poor persons exceed the deductible, it might be expected that the medical condition of those who do is relatively more serious, and hence would require even more physician visits than persons with higher income. The deductible provision of Medicare, and perhaps the coinsurance payment on medical service in excess of the deductible, appears to be a major deterrent to the poor in seeking medical care.[5]

Unfortunately, only limited data are available directly from the Medicare program on the distribution of hospital benefits by income class. The 1969 Current Medicare Survey, however, does provide some information on SMI benefits for persons with hospital stays. As shown in Table 2, 32 percent of public medical assistance recipients are hospitalized during the year, compared with only 16 percent of lower income persons not covered by Medicaid or private insurance. No marked differences exist between the percentage of higher income persons without complementary private insurance coverage who are hospitalized (17 percent) and lower income persons not covered by either Medicaid or private insurance (16 percent). Persons with private insurance coverage have somewhat higher rates of hospitalization (21 percent).

In spite of the fact that higher income persons do not tend to be hospitalized with greater frequency than lower income persons, non-hospital Medicare payments are substantially higher for higher income persons ($541 per person with hospital stay compared with $405 for lower income persons). This difference occurs primarily because higher income persons receive a greater number of SMI services. This might reflect a greater tendency for higher income elderly persons to have several specialist physicians, for their physicians to make more frequent visits during hospitalization, or

[5]A similar conclusion was reached in a study by Peel and Scharff (1973). They used 1969 data and grouped Medicare beneficiaries by: public medical assistance recipients, persons with out-of-hospital insurance coverage and others divided into higher and lower income on the basis of family size and income.

TABLE 2

Percentage Distribution of Ambulatory Physician Visits, by Family Income, 1969

	By Type of Physician		
	General Practitioner	*Internist*	*Other Specialists*
All persons age 65 and over:	71%	10%	19%
Under $5,000 income	75	7	18
Aid[a]	85	5	10
No aid	74	8	18
$ 5,000- 9,999	70	10	20
10,000-14,999	60	14	26
15,000 and over	65	17	18

Source: Calculated from 1969 Health Interview Survey tapes supplied by U.S. Department of Health, Education, and Welfare, National Center for Health Statistics.

[a]Aid includes all persons receiving welfare assistance.

for higher income persons to make more visits to physicians for pre- and post-hospital care. Since hospital based physicians—such as anesthesiologists, radiologists, and pathologists—are reimbursed under the SMI plan rather than under the basic hospitalization plan, the greater number of SMI services received by higher income persons could also reflect more ancillary hospital services. Differences in the rate of surgery may also partially account for the tendency for higher income persons to receive more SMI services.

Explanations of Inter-Income Class Variation in Medicare Benefits

While the preceding section has attempted to summarize the magnitude and nature of inter-income class variations in Medicare benefits, it has not provided any thorough explanation of the causes of such variations. Higher income persons could receive more medical services and highter payments for any number of reasons—they can afford the cost-sharing amounts imposed on the patient more readily than the poor; they are more likely to purchase complementary private insurance; they are likely to live in areas with more available medical resources and higher medical prices; they are more highly educated and are more likely to seek out higher quality and specialized care; they have established past

habits of seeking medical care for a wide variety of conditions, and, not unimportantly, physicians may have preference for treating patients of a similar socioeconomic background and hence encourage more visits from higher income persons.

Several studies have been conducted which examine a number of important factors simultaneously. Feldstein (1971) has analyzed state data on Medicare benefits, and looked at the effect of state per capita income and other factors on: (1) whether or not an elderly person enrolled in the basic hospital insurance plan will also voluntarily purchase the supplementary medical insurance coverage; (2) hospital and extended care facility admissions; and (3) average benefits of both the basic hospital plan and SMI. Feldstein did not find any significant income effects. His study, however, is not ideally suited for an explanation of inter-income class variation in Medicare benefits. Variations in benefits among income classes within a state are obscured by working with state averages. In addition, it was not possible in the interstate analysis to hold constant for health status. Thus, systematic relationships among income and health may obscure the effect of income. Finally, average income of all persons within a state may not be an accurate proxy for spending power of the elderly in the state.

Koropecky and Huang (1973) have investigated SMI benefits with 1969 Current Medicare Survey data using a multivariate regression model. Their study used thirty different variables representing various combinations of income, prices, and patient payments; income enters in eleven different forms in the same equation. Thus, it is not surprising that no single variable indicates much effect of income. A summary tale indicates that average physician visits increase from 3.6 per person for a family with $1,000 income to 4.7 for persons with family incomes of $5,000. It would appear, therefore, that the total effect of income is quite important. These results must be treated as quite tentative, however, because of methodological and data handling procedures.

Econometric Estimation of the Elderly's Use of Medical Services, Health Interview Survey

It is possible to shed additional light on some of the unresolved questions about the effect of income on Medicare benefits by analyzing the use of medical services by the elderly as contained in

the Health Interview Survey conducted by the National Center for Health Statistics. This household interview survey, conducted annually on about 130,000 individuals (of which about 12,000 are age 65 or over) is an excellent source of data on utilization of physician and hospital services, health status, money income, welfare status, and demographic characteristics. Tapes of the 1969 survey have been supplied, making possible a detailed econometric analysis of utilization patterns of the elderly. The major limitation of the 1969 survey is the absence of any data on medical expenditures or private insurance coverage. It is not possible, therefore, to analyze inter-income class differences in average prices for medical services, or to examine the effect of net out-of-pocket costs on utilization of services.

Table 3 presents estimates of the effect of income on physician visits by the elderly, derived from regressions reported in Table 4. The results presented are adjusted for health status of the elderly as well as other factors such as race, geographical location, and availability of health providers (see Table 4 for a complete list of variables).

Once physician visits are standardized for health condition, physician visits are seen to increase uniformly with income (excluding from consideration those persons on welfare). Among elderly persons with average health, the lowest users of physicians services are persons with incomes below $5,000 who average 6.1 visits annually; compared with 9.5 visits for elderly persons with family incomes above $15,000. Elderly persons receiving public assistance see physicians much more frequently than other low-income elderly and slightly more frequently than elderly persons in the $5,000 to $15,000 income range. Calculation of these utilization rates assumes that elderly people in each income class have the same average education, availability of medical care, and geographic distribution. Thus, this adjustment for other factors affecting utilization removes any differences in utilization among income classes that could be traced to these other determinants of utilization which may be associated with income.

In summary the regression results indicate that substantial differences in use of physician services by the elderly exist on the basis of income, and that these differences are not attributable solely to factors associated with higher incomes such as greater availability of physicians in high-income areas or higher levels of

TABLE 3

Supplementary Medical Insurance Charges for Persons with Hospital Stays, by Income and Insurance Coverage, 1969

	Charges per person enrolled with hospital stays	*Persons with hospital stays per 1000 enrollees*	*Number of services per person with hospital stay*	*Charges per service*
Total	$452.40	220.1	35.59	$12.71
Public medical assistance	500.84	313.9	42.41	11.81
Lower income[a]	405.07	159.7	29.34	13.81
Higher income[a]	541.06	171.7	37.01	14.62
Complementary out-of-hospital insurance coverage	422.44	207.3	35.63	11.85
Ratio, higher income to lower income	1.34	1.08	1.26	1.06

Source: U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, calculated from unpublished tabulations from the 1969 Current Medicare Survey.

[a]The dividing point between higher and lower income is $4,000 for a one-person family, $7,500 for a two-person family, $10,000 for a three-person family, and $15,000 for a family with 4 or more persons. See Peel and Scharff (1973) for a description of classification on the basis of income and insurance.

Note: The author wishes to thank Peel and Scharff for making these unpublished tabulations available.

TABLE 4

Average Physician Visits for the Elderly, by Health Status and Family Income, Adjusted for other Determinants

	Health status[a]		
	Good	*Average*	*Poor*
Family income:			
Under $5,000			
No aid[b]	2.78	5.64	10.47
Aid	3.86	7.52	13.42
$ 5,000- 9,999	3.14	6.60	11.70
$10,000-14,999	3.75	7.27	12.98
$15,000 and over	5.35	9.53	16.98

Source: Calculated from table 4 and tabulations from the 1969 HIS.

[a]Good health status is defined as without any chronic conditions, limitation of activity, or restricted activity days. Average and poor health are defined as at the mean and twice the mean level, respectively, of the three morbidity indicators used.

[b]Aid indicates public assistant recipients.

education. One major explanation which may account for these persistent differences is, of course, the deterrent effect of the cost-sharing provisons of Medicare physician coverage for persons with low incomes.

Table 5 presents a similar analysis derived from regression estimates of days of hospital care by the elderly. Again, comparing elderly persons with comparable health status indicates that hospital episodes and hospital days increase directly with higher family income. No significant differences are observed, however, between public assistance recipients and other low-income elderly persons.

In summary, persons with incomes above $15,000 receive significantly more hospital care than lower income persons with similar health condition, and this differential is not accounted for by a greater abundance of hospital facilities in higher income areas or by higher levels of education.

Summary

Medicare benefits are distributed quite unequally among income classes. In spite of the better health condition of higher income elderly persons, they receive more medical services and a more expensive mix of services. Furthermore, these differences are not attributable solely to certain advantages which most higher income persons in the United States possess—such as more education or living in areas with a greater concentration of specialized medical resources. Instead, available evidence suggests that the structure of the Medicare program through its reliance on uniform cost-sharing provisions for all elderly persons may be largely responsible for the greater use of medical services by higher income persons. Major findings include the following:

- Under the voluntary supplementary medical insurance part of Medicare which covers physician and other medical services, elderly persons with incomes above $15,000 receive twice the payments received by persons with incomes below $5,000.
- The average reimbursement per physician visit for higher income persons is 50 percent higher than for lower income persons. This difference in average price level is not purely a monetary difference, but reflects at least in part the tendency of higher income persons to receive higher quality and more specialized services. While 75 percent of physician visits for lower income persons are to

TABLE 5

Tobit Regression Analysis of Medical Care Utilization by Persons Age 65 and Over, 1969[a]

	Physician visits	*Hospital episodes*	*Hospital days*
Constant	−2.072 (4.81)[b]	−3.107 (6.55)	−63.22 (7.48)
Chronic conditions	0.317 (14.02)	0.151 (6.90)	2.23 (5.71)
Limited in activity	0.304 (3.95)	0.603 (8.17)	12.00 (9.11)
Age	−0.018 (3.45)	0.008 (1.57)	0.16 (1.79)
Restricted activity days	0.120 (16.82)	0.115 (17.24)	2.02 (17.11)
Income $5,000-10,000	0.145 (1.73)	0.253 (3.20)	3.72 (2.64)
Income $10,000-15,000	0.309 (2.30)	0.392 (3.08)	3.99 (1.74)
Income $15,000+	0.721 (5.02)	0.492 (3.45)	7.94 (3.13)
Public assistance recipient	0.370 (2.69)	−0.044 (0.32)	−0.82 (0.34)
Family size	−0.063 (2.05)	0.015 (0.55)	0.43 (0.86)
Female	0.144 (2.17)	−0.064 (1.02)	−1.30 (1.17)
Individual education, 9 years and over	0.181 (2.67)	−0.025 (0.39)	−0.14 (0.12)
Working	−0.066 (0.67)	−0.304 (3.10)	−6.02 (3.42)
Black–South	−0.491 (2.93)	−0.670 (4.17)	−10.03 (3.52)
Black–Nonsouth	−0.122 (0.67)	−0.055 (0.32)	1.64 (0.54)
Physicians	0.257 (2.26)	−0.422 (3.76)	−6.41 (3.23)
Hospital beds	–	0.079 (1.18)	2.50 (2.10)
Non SMSA–South	−0.015 (0.11)	−0.159 (1.24)	−3.82 (1.67)
Non SMSA–Nonsouth	0.180 (1.59)	−0.137 (1.24)	−3.44 (1.75)
Chi-square	904	813	790

[a]Tobit analysis is the appropriate regression technique when the dependent variable has many zero values. See Tobin (1958).

[b]*t*-statistics in parentheses.

general practitioners, only 65 percent of physician visits of higher income persons are to such physicians.

- Adjusting for the poorer health status of the elderly poor, higher income persons visit physicians almost 60 percent more frequently than lower income persons with similar health conditions.

- Those poor persons covered by both Medicare and Medicaid receive substantially more medical services than other poor persons not covered by Medicaid.
- Elderly persons with incomes above $15,000 receive 45 percent more days of hospital care than lower income persons with similar health conditions.

Race and Access to Medical Care

From its initiation, the Medicare program took the position that services were to be made available to all elderly persons on a nondiscriminatory basis. In order to qualify for eligibility in the program, hospitals were required to desegregate facilities for all patients—not just elderly patients. This provision was rigorously enforced with on-site examination to certify integration not just for the hospital as a whole but by assignment to semi-private rooms as well (Ball, 1973). Although some hospitals, particularly in the South, initially elected not to serve Medicare patients, within a few years of operation of the program nearly all hospitals in the U.S. had indicated a willingness to meet Medicare certification requirements.

Evidence indicates that substantial reductions in racial disparities in the use of hospital care for all age groups occurred with the introduction of Medicare. As shown in Table 6, the rate of hospitalization of whites was 30 percent higher than that for blacks in 1961 and 1962. This situation had changed little by 1966, the year in which Medicare was initiated. But by 1968, the rate of white hospitalization was only 17 percent higher than that of blacks. While disparities between the races were greatest for elderly persons in the early 1960s, these had also been reduced substantially by 1968. These simple comparisons make no adjustment for health status. Since blacks tend to have more serious health problems than their white counterparts, equality in the rate of utilization of hospital services does not imply equal treatment for persons of equivalent health condition. The trends over the 1960s, however, are indicative of the possible impact of the Medicare program in reducing discriminatory barriers to hospitalization for all age groups.

TABLE 6

Average Hospital Utilization for the Elderly by Health Status and Family Income, Adjusted for Other Determinants

Family income	Health Status[a]		
	Good	*Average*	*Poor*
		Hospital episodes	
Under $5,000	.114	.210	.362
$ 5,000- 9,999	.140	.250	.427
10,000-14,999	.159	.285	.472
15,000 and over	.177	.312	.512
		Hospital days	
Under $5,000	2.31	4.21	7.21
$ 5,000- 9,999	2.78	4.93	8.16
10,000-14,999	2.85	5.02	8.29
15,000 and over	3.52	6.06	9.77

[a]See table 5 for definitions of health status levels.

While the Medicare program has had notable achievements in the area of access to hospital care for minority persons, the program has been less successful in assuring equality in treatment for other types of medical services, particularly physicians' services and nursing home services. The following sections first explore the extent of inequality of Medicare benefits by race, noting important regional variations in utilization patterns by race, and then investigate the underlying causes for these inequalities.

Medicare Services by Race

As shown in Table 7, Medicare reimbursements per person enrolled average $273 for whites, compared with only $195 for blacks and other races—or 40 percent higher average benefit levels for whites than for others. Disparities on the basis of race vary considerably by type of medical service. Inpatient hospital service differentials are fairly low. In the case of physicians' services, however, whites receive more than 60 percent higher payments than blacks. In part, this reflects the greater tendency for blacks to receive medical services in hospital outpatient departments, but even including hospital outpatient services, whites average 53 percent more benefits under the supplementary medical insurance plan than blacks. The most blatant inequality in distribution of benefits occurs for skilled nursing home services, with whites re-

TABLE 7

Persons Hospitalized per 1000 Population, by Race and Age, Selected Years

	White	*Black and other races*	*Ratio, white to other*
All ages			
1961-62	95	73	1.301
1966	103	81	1.272
1968	97	83	1.169
Under age 15			
1961-62	52	36	1.444
1966	58	43	1.349
1968	46	39	1.180
Age 15 to 44			
1961-62	125	114	1.097
1966	125	120	1.042
1968	113	116	.974
Age 45 to 64			
1961-62	98	68	1.441
1966	112	83	1.349
1968	102	90	1.133
Age 65 and over			
1961-62	114	78	1.462
1966	134	88	1.522
1968	158	126	1.254

Source: U.S. Department of Health, Education, and Welfare, National Center for Health Statistics, *Persons Hospitalized by Number of Hospital Episodes and Days in a Year, July 1960-June 1962; July 1965-June 1966; 1968*, Series 10, Nos. 20, 50, and 64.

ceiving more than double the extended care facility benefits received by blacks.

In all cases, differences in Medicare reimbursements between races are almost totally a reflection of differences in proportion of persons exceeding the Medicare deductible—rather than in other factors. As shown in Table 8, only 30 percent of blacks enrolled in the Medicare program receive any reimbursable services compared with 41 percent of whites. Thirty-nine percent of whites, but only 28 percent of blacks receive reimbursement for physicians' services.

The only type of service for which the average Medicare reimbursement per service is substantially higher for whites than for blacks is private physicians' services, with average reimbursement per person served approximately 15 percent higher for whites than for blacks. This could reflect differences in number of services per

TABLE 8

Medicare Reimbursement per Person Enrolled, by Type of Service and Race, 1968

	White	*Black and other races*	*Ratio, white to other*
All Medicare services	$272.63	$194.68	1.400
Hospital and post-hospital services	194.10	146.59	1.324
Inpatient hospital services	175.00	136.98	1.278
Extended care facility services	17.03	7.84	2.172
Supplementary medical insurance services	82.70	54.20	1.526
Physicians' services	78.76	48.44	1.626
Hospital outpatient services	2.79	4.53	.616

Source: U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, *Medicare: Health Insurance to the Aged, 1968, Section 1: Summary, Utilization and Reimbursement by Person,* 1973.

person, differences in types of services, or differences in the average price charge per service. Although data are not available directly from the Medicare program on these components, the Health Interview Survey indicates that elderly blacks receive a greater proportion of their physician care from general practitioners than do elderly whites.[6] Part of the difference in average reimbursement levels, therefore, is undoubtedly attributable to less specialized medical care received by blacks.

It is not possible on the basis of aggregative data such as those published by the Medicare program to determine whether the quality of care received by blacks is comparable to that received by whites. The greater tendency of elderly blacks to receive medical care from hospital outpatient departments, however, strongly suggests that blacks receive more fragmented, impersonal care than whites who have greater access to private physicians.[7] The mere fact that blacks must turn to hospital outpatient departments for

[6]Eighty-one percent of elderly black physician visits are to general practitioners, compared with only 70 percent of elderly white physician visits (calculated from the 1969 Health Interview Survey tapes).

[7]Fifteen percent black elderly physician visits take place in hospital outpatient or emergency departments compared with five percent of white visits for medical care (calculated from 1969 Health Interview Survey tapes).

care to a greater extent than whites is itself a reflection of the failure of the Medicare program to provide equal treatment for all elderly persons.

Regional data on Medicare reimbursements by race indicate some striking patterns. As shown in Table 9, the only region in which hospital benefits are substantially greater for whites than for blacks is the South—where Medicare reimbursement per person enrolled is 54 percent higher for whites than for blacks. Whites receive more physicians' benefits than blacks in every region, but in the South whites receive almost double the physicians' services received by blacks. Similarly, the disparity in extended care facility services is widest in the South, with whites receiving two-and-one-half times the benefits received by blacks.

The latest available data are for 1968. It is possible that some improvement in this pattern has been made in more recent years.

TABLE 9

Persons Served and Medicare Reimbursements per Person Served, by Type of Service and Race, 1968

	White	*Blacks and other races*	*Ratio, white to other*
	Persons served per 1000 enrollees		
All Medicare services	407.1	301.7	1.349
Hospital and post-hospital services	203.1	161.7	1.287
Inpatient hospital services	201.3	153.8	1.309
Extended care facility services	20.9	9.4	2.223
Supplementary medical insurance services	402.7	304.0	1.325
Physician services	394.9	279.4	1.413
Hospital outpatient services	71.6	89.9	.796
	Reimbursement per person served		
All Medicare services	$669.70	$645.19	1.038
Hospital and post-hospital services	932.75	906.72	1.029
Inpatient hospital services	869.47	890.36	.977
Extended care facility services	816.60	836.53	.974
Supplementary medical insurance services	205.34	178.27	1.152
Physicians' services	199.44	173.37	1.150
Hospital outpatient services	39.02	50.43	.774

Source: U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, *Medicare: Health Insurance for the Aged, 1968, Section 1: Summary, Utilization and Reimbursement by Person*, 1973.

However, since these patterns are found persistent well after the implementation of extensive civil rights legislation, there is genuine cause for alarm that the safeguards providing for nondiscriminatory practices in the Medicare program have not been sufficient to guarantee equal access to medical care for blacks and other minorities.

While discrimination is the most obvious explanation of differences among races in the use of medical services, other causes may contribute to the low utilization of blacks. Elderly blacks are poorer, have less education, are more concentrated in the South, and are sicker than elderly whites. Sorting out "pure" racial differences requires adjusting utilization patterns for these other possible sources of racial variation.

Data from the 1969 Health Survey make it possible to separate some of the independent effects of race on utilization of medical services (refer to Table 4). Holding constant for health status, income, welfare status, education, availability of physicians, and age and sex composition of the elderly population, low-income elderly blacks in the South have half as many physician visits as comparable whites. Differences by race, however, are not significant outside the South. No systematic differences in utilization of hospital services occur by race for the nation as a whole.

Summary

The Medicare program has contributed to the reduction of discriminatory barriers to medical care for all persons through its insistence that hospitals provide services on a nondiscriminatory basis as a prerequisite for participation in the Medicare program. In spite of the notable achievements in the area of access to hospital care for minority persons, however, the program has been less successful in assuring equality in treatment for other types of medical services, particularly physicians' services and nursing home services. The difficulties faced by elderly blacks in receiving equal access to these services is particularly regrettable in view of their poorer health status and limited supporting services in the home. The major findings regarding race and access to medical care under the Medicare program are the following:

- In 1968, whites received 30 percent more payments for inpatient hospital care per person enrolled than elderly blacks, 60 percent

more payments for physicians' services, and more than twice the payments for extended care facility services.

- In the South, disparities in benefits between races are even wider; whites received 55 percent more inpatient hospital care, 95 percent more payments for physicians' services, and more than two and one-half times the payments for extended care services received by elderly blacks enrolled in Medicare.
- In 1969, 96 percent of elderly whites enrolled under the Medicare basic hospital insurance plan were also covered under the supplementary medical insurance plan, compared with 90 percent of elderly blacks. The disparities in physician payments per elderly person, therefore, are even wider than indicated by average payments per enrollee.
- Most of the difference in average reimbursement is a consequence of difference in proportion of enrollees served by the program—rather than in the average price of services.
- The lower utilization of medical services by blacks in the South is not attributable to their lower average incomes or poorer education. Even holding constant for these and other determinants of utilization such as health status, blacks in the South receive fewer physicians' services.

Geographical Variation in Medicare Benefits

Despite the national uniformity of the Medicare program, substantial variations in benefits occur according to geographical location. Elderly persons residing in the South and the North Central region receive far lower benefits than elderly persons in the Northeast and the West. As shown in Table 10, elderly persons in the West receive 32 percent more payments for inpatient hospital care than elderly persons residing in the South; 43 percent more physicians' benefits, and two-and-one-half times the payments for extended care facility services.

Different policy issues are raised by variations in the costs of medical care and in the use of medical services. Variation in the costs of medical care raises issues about the appropriate method of financing the program and the appropriate method of reimbursing providers of care. For example, under the SMI plan, the elderly pay a premium covering one-half the cost of the program. With a uniform premium assessment for all persons, persons in low

TABLE 10

Medicare Reimbursement per Enrollee for Selected Services, by Region and Race, 1968

	White	*Black and other*	*Ratio, white to other*
		Inpatient hospital services	
All areas	$175.00	$136.98	1.278
Northeast	186.75	216.28	.863
North central	178.27	194.45	.917
South	156.99	101.87	1.541
West	197.71	181.34	1.090
		Physicians' services	
All areas	$ 78.76	$ 48.44	1.626
Northeast	84.05	64.22	1.309
North central	64.44	51.85	1.243
South	76.80	39.37	1.951
West	102.86	80.17	1.283
		Extended care facility services	
All areas	$ 17.03	$ 7.84	2.172
Northeast	18.28	8.81	2.075
North central	13.37	10.96	1.220
South	13.01	5.23	2.488
West	30.37	18.98	1.600

Source: Unpublished tabulations from the 1968 Medicare Summary based on bills for reimbursed services for a 5 percent sample of the enrolled population, Office of Research and Statistics, Social Security Administration, U.S. Department of Health, Education, and Welfare.

medical cost areas pay not only the expected cost of their medical services but also a portion of the expected cost of services for elderly persons in high medical cost areas. Higher medical cost areas also tend to be higher income areas. Therefore, the premium method of financing derives revenue neither on the basis of expected benefits nor on the basis of ability to pay, but instead transfers funds from elderly persons whose incomes tend to be lower to those whose incomes tend to be higher.

Somewhat paradoxically, medical care costs are also higher in areas with a greater availability of medical resources. Medicare follows the practice of reimbursing hospitals and physicians on the basis of prevailing costs and charges. Physicians practicing in scarcity areas and charging low prices, therefore, will continue to receive low levels of reimbursement for Medicare patients. Even though coverage under Medicare may stimulate demand by the elderly for additional medical services, the method of reimbursing physicians is not one which will serve to attract additional physicians to these areas.

Geographical variation in use of medical services under Medicare raises quite different kinds of questions. How much of the variation is a reflection of differences in health status, availability of medical resources, and various demographic determinants of medical care utilization? Are some elderly persons receiving inadequate or insufficient medical care? Are some elderly persons taking scarce medical resources away from younger age groups for medical problems that are not as severe?

The following sections first decompose variations in average benefits by use of services and by cost of services and then return to an examination of evidence bearing on these questions.

Persons Using Medicare Services

As shown in Table 11, hospitalization rates of the elderly are not particularly sensitive to geographical region. Persons living in the West, however, are much more likely to receive Medicare physician or extended care benefits than are persons in the South.

Several explanations of this regional pattern are possible. First, persons may be healthier in some regions than in others. Second, medical resources may be more abundant in some areas than others. In areas with many physicians, the time and travel costs involved in obtaining care may be lower, thus inducing more elderly persons to obtain medical care. In such areas, it may not be necessary for physicians to ration scarce physician time among elderly and non-elderly patients, so that with adequate financing more elderly persons obtain care. Or it may be that with an abun-

TABLE 11

Medicare Reimbursement per Person Enrolled, Selected Services, by Geographical Region, 1968

	All services	*Inpatient hospital services*	*Physician services*	*Extended care facility services*
United States	$266.56	$172.04	$ 76.42	$16.56
Northeast	293.55	187.99	83.13	18.27
North central	257.85	178.94	63.73	13.37
South	231.24	148.29	71.10	12.04
West	332.80	195.44	101.88	30.17
Ratio, West to South	1.44	1.32	1.43	2.51

Source: U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, *Medicare, 1968: Section 1, Summary*, 1973.

dance of physicians, physicians encourage greater utilization greater requests for repeat visits.

The health status explanation, while perhaps accounting for some variation, does not adequately explain regional use patterns. As shown below, restricted activity days, bed disability days, and presence of limiting chronic conditions are more prevalent among the elderly in the South than in the West. However, elderly persons in the North Central region are somewhat healthier than persons in other regions—so that part of the relatively low use of services by persons in the North Central region may be a consequence of their better health.

Availability of resources, however, appears to be a major contributor to variations in use of services. Both the South and the North Central regions have few patient-care physicians per capita (1.01 patient-care physicians per 1000 persons in the South and 1.09 in the North Central region). The Northeast and the West have much higher concentrations of physicians (1.59 in the Northeast and 1.43 in the West). Regional patterns in use of physician services, therefore, are quite consistent with regional patterns in numbers of physicians per capita.

Similarly, the regional pattern in utilization of extended care facility services mirrors the availability of beds in those facilities. Extended care facility beds are most widely available in the West (3.2 beds per 100 Medicare enrollees), and the proportion of hospitalized patients transferred to such facilities is correspondingly highest in the West. The South and the North Central region lag behind, both in the availability of extended care facility beds and in the proportion of Medicare enrollees receiving such services.

Interestingly, the one medical service for which utilization rates do not vary markedly by geographical region—inpatient hospital care—is also the service with the least geographical variation in availability. Twenty-one percent of Medicare enrollees in the South are hospitalized each year compared with 20 percent in the West. Hospital beds per capita, however, are also virtually the same in those two regions (3.74 beds per 1000 persons in the South and 3.72 beds per 1000 persons in the West).

Cost of Medical Services

Just as the regional variation in persons using Medicare services is

largely a reflection of the availability of medical resources, regional variation in the average amounts reimbursed by Medicare to persons using services corresponds closely to the pattern of medical prices throughout the country. Average reimbursements are highest in the Northeast and the West—areas that also have the highest levels of hospital costs and physician charges.

Regional variation in average reimbursements to persons receiving services, however, is not as substantial as the regional variation in persons receiving services. As shown in Table 12, persons using Medicare services in the West receive reimbursements only 15 percent above that received by the elderly in the South. Differences in reimbursement levels are most marked for hospital care—with reimbursement averaging $960 in the West and only $700 in the South.

Nearly all of the variation in average reimbursements is accounted for a variation in prices of medical care—rather than in regional differences in the mix of services received. For example, hospital costs per day of hospital care are 40 percent higher in the West than in the South—accounting for nearly all of the difference in average hospital reimbursement levels between those regions. It is quite possible that the quality of hospital care, scope of services, or level of amenities are highest in the high cost regions (see Feldstein, in press, for an analysis of the relationship between cost of hospital care and quality). If so the elderly in high cost regions in some sense receive "more" hospital care than elderly persons in other regions. However, even if this is the case, it does not appear

TABLE 12

Persons Served under Medicare per 1000 Enrollees, Selected Services, by Geographical Region, 1968

	All services	*Inpatient hospital services*	*Physician services*	*Extended care facility services*
United States	397.8	197.1	385.6	20.3
Northeast	417.1	179.3	397.0	20.0
North central	383.6	208.5	358.0	16.8
South	388.7	214.1	368.6	17.1
West	490.6	202.9	476.4	36.0
Ratio, West to South	1.26	.95	1.29	2.11

Source: U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, *Medicare, 1968: Section 1, Summary*, 1973.

that the regional variation in quality or style of hospital care received by the elderly is markedly different from that for younger age groups.

Similarly, it appears that regional variations in Medicare reimbursement for physician services per person served are largely a consequence of regional variation in physician charges—rather than a systematic difference in the mix of types of physician services (e.g., greater use of specialist physician services in the Northeast). Average reimbursement levels of physician services are lowest in the North Central region and highest in the West—but the average Medicare charge for an office visit to a general practitioner also ranges from a low of $7.50 in the North Central region to a high of $9.80 in the West (calculated from Medicare data on mean physician charges by specialty and by state and number of Medicare enrollees by state). Again, these price differences—even within a single specialty such as general practitioner services—may reflect some quality differences among regions.

Urban-rural Differences

Similar variations in Medicare benefits occur between rural and urban areas. As shown in Table 13, Medicare monthly reimbursement per person enrolled ranges from $30 in metropolitan counties with central cities compared with $21 in nonmetropolitan areas—or 40 percent higher in the central city county. Medicare monthly reimbursement for physician services per person enrolled are 56 percent higher in counties with central cities than in nonmetropolitan counties.

TABLE 13

Health Status of the Elderly by Geographical Region, 1968-1969

	Restricted activity days per elderly person per year	*Bed disability days per elderly person per year*	*Percentage of elderly persons with some limitation due to chronic conditions*
United States	34.3	13.7	42.4
Northeast	31.3	13.1	39.4
North Central	30.9	11.4	39.6
South	38.8	16.6	49.5
West	37.3	13.6	38.9

Source: U.S. Department of Health, Education, and Welfare, National Center for Health Statistics, Age Patterns in Medical Care, Illness, and Disability, U.S. 1968-69 Series 10, No. 70, Tables 20 and 26.

As in the regional variations, these variations are a reflection of the distribution of medical resources, the cost of health services in rural and urban areas, and Medicare reimbursement policies which reimburse urban physicians at a higher rate than rural physicians. Some rural areas are beginning to overcome the scarcity of physicians by establishing rural health centers staffed by nurse practitioners and physician assistants, with part-time physician services from larger, more distant communities. Medicare, however, does not reimburse for these services; nor does it certify these primary health centers as providers eligible for direct reimbursement. Thus, the Medicare program through its reimbursement policies is an obstacle to improved rural health care by freezing in place payment patterns based on the current system which in turn is biased in favor of urban areas.

TABLE 14

Reimbursement per Person Served, Selected Services by Geographical Region, 1968

	All services	*Inpatient hospital services*	*Physician services*	*Extended care facility services*
United States	$670.08	$ 872.75	$198.18	$817.05
Northeast	703.75	1,048.36	209.37	911.55
North Central	672.13	858.16	178.01	798.04
South	594.88	692.71	192.91	701.84
West	678.36	963.13	213.83	838.69
Ratio, West to South	1.140	1.390	1.108	1.195

Source: U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, *Medicare 1968: Section 1, Summary*, 1973.

Summary

Geographical variation in Medicare benefits raises somewhat different issues than those raised by differences on the basis of income or race. Some geographical variation in utilization of medical services by the elderly is undoubtedly desirable since medical resources are not uniformly distributed. Were the elderly's use of medical services not sensitive to available supply of hospitals or physicians, younger age groups in scarce resource areas could face even greater difficulty in obtaining adequate medical care. Major findings of an examination of regional differences in Medicare benefits are as follows:

TABLE 15

Medicare Average Monthly Reimbursement per Person Enrolled in Metropolitan and Nonmetropolitan Counties, by Region, January-December 1969

	Metropolitan Counties			
	With Central City	*Without Central City*	*Nonmetropolitan Counties*	*Ratio, Central City Counties to Nonmetropolitan Counties*
	Medicare monthly reimbursement per person enrolled			
United States	$29.85	$27.12	$21.16	1.41
Northeast	31.52	28.73	23.14	1.36
North Central	28.65	25.52	21.61	1.33
South	25.60	23.33	19.44	1.32
West	33.82	31.59	23.91	1.41
	Medicare monthly reimbursement for physician services per person enrolled			
United States	$ 8.53	$ 7.40	$ 5.48	1.56
Northeast	8.70	8.04	5.93	1.47
North Central	6.80	6.07	4.98	1.37
South	8.23	6.56	5.33	1.54
West	10.79	9.79	7.08	1.52

Source: Eugene C. Carter, "Health insurance for the aged: amounts reimbursed by state," U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, H1-32, October 19, 1971.

- Medicare benefits are highest in the Northeast and the West, and lowest in the North Central region and the South. Elderly persons in the West receive 32 percent more payments for inpatient hospital care than elderly persons residing in the South; 43 percent more physicians' benefits; and two-and-one-half times the payments for extended care facility services.
- Most of the regional variation in hospital benefits occurs because of regional differences in hospital costs per patient day for all persons.
- About two-thirds of the difference in Medicare physician benefits between the West and the South is attributable to differences in number of persons receiving any services, with the remaining one-third attributable to physician charge levels in the two regions.
- Nearly all of the regional variation in nursing home benefits is accounted for by variations in the percentage of Medicare enrollees receiving such services—which in turn is largely determined by the availability of nursing home and hospital beds.

There are two major policy issues raised by the geographical variation in the distribution of Medicare benefits. First, since half of the funding for the physician portion of Medicare is derived from premiums set at uniform levels for all elderly persons, the program effectively transfers funds from elderly persons in the South and North Central regions to pay for medical care of elderly persons in the Northeast and West. Persons in the South and North Central region, therefore, are doubly disadvantaged both because they receive fewer services as a consequence of the relative scarcity of medical resources, and because they must subsidize the services received by persons in other areas. Alternative methods of dealing with this inequity are (1) elimination of the premium; (2) variation of the premium with geographical differences in expected benefits; or (3) perhaps even disproportionately lower premiums for elderly persons in shortage areas to compensate for the inconveniences generated by the scarcity of resources (perhaps greater reliance on home-care services from family members, longer waiting times for medical care, foregoing medical attention for minor, but perhaps painful, medical conditions).

The other major policy question raised by the geographical variation in Medicare benefits concerns the manner in which providers are reimbursed for services. Medicare follows the policy of reimbursing physicians on the basis of prevailing charges. Since

areas in which physicians have been able to charge relatively higher prices for medical services in the past have attracted a disproportionate share of the nation's physicians, the Medicare program reinforces the poor geographical distribution of physicians by rewarding physicians for practicing in areas of relative physician abundance. Establishment of a uniform standard of physician reimbursement would eliminate these negative incentives for physician location, and, to the extent that the costs of medical practice are higher in areas of relative physician abundance, might even pose a positive incentive for physicians to locate in underserved areas.

Conclusions and Recommendations for Change

The distribution of benefits under the Medicare program, which has been in operation for eight years and now spends almost $15 billion annually on medical care services for the elderly, has somewhat surprisingly not been subjected to a thorough, in-depth examination. As a consequence, few fundamental changes in the program have been incorporated since its initiation. Such a gap in our knowledge is unfortunate not only because inequities have been permitted to persist for so long but also because experience with this program has not been scrutinized for its relevance to future financing plans such as national health insurance. This study has been conducted both so that the Medicare program—which has without question been an important force in improving the medical care of the elderly and in reducing the financial burden of medical care expenditures of many elderly persons—may be improved, and so that appropriate lessons may be drawn from the Medicare experience and applied to the design of national health insurance.

The major conclusion of the study is that a uniform medical care financing plan has not been sufficient to guarantee equal access to medical care for all elderly persons. Those elderly population groups with the poorest health are the lowest utilizers of medical care services under the program—the poor, blacks, and residents of the South. Furthermore, differences on the basis of income, race, and location are of sizeable magnitude. Elderly persons with incomes above $15,000 receive twice the payments

for physician services as those received by persons with family incomes below $5,000. Whites receive 30 percent more payments for inpatient hospital care per person enrolled than elderly blacks, 60 percent more payments for physicians' services, and more than twice the payments for extended care facility services. In the South, disparities in benefits between races are even wider. The Medicare program has also not resulted in a uniform standard of care in all geographical areas. Medicare benefits are almost 40 percent higher in the West than in the South.

Differences in Medicare benefits on the basis of income are not solely attributable to certain advantages which most higher income persons possess, such as more education or living in areas with a greater concentration of specialized medical resources. Instead, available evidence suggests that the structure of the Medicare program, through its reliance on uniform cost-sharing provisions for all elderly persons, is largely responsible for the greater use of medical services by higher income persons. Similarly, the lower utilization of medical services by elderly blacks is not attributable to their lower average incomes or poorer education.

Geographical variations in Medicare benefits are largely a reflection of regional patterns of availability of medical resources and costs of medical care. Greater uniformity in use of medical services across geographical regions, therefore, can not be achieved without remedying the underlying maldistribution of medical resources. The program, however, could help provide some incentives for a better geographical distribution of medical resources—particularly physicians—by redesigning the system of provider reimbursement. Furthermore, inequality of benefits on the basis of geographical location, as well as on the basis of income and race, call for a change in the uniform-premium method of financing the physician portion of Medicare.

Recommended Changes in the Medicare Program

Several changes in the Medicare program are required to reduce the inequities revealed by the current distribution of benefits. Four areas which seem particularly in need of reexamination are (1) the cost-sharing structure of Medicare, (2) efforts to improve access of minorities to medical care, (3) the sources of financing for Medicare, and (4) the method of physician reimbursement.

Cost-Sharing An examination of the use of services by elderly persons in different income classes indicates that the deductible and coinsurance provisions of the physician portion of Medicare pose significant deterrents to use of medical services by many poor persons. For those poor persons "bought into" Medicare by state Medicaid plans—and hence exempt from cost-sharing requirements—use of medical services is commensurate with health needs and with utilization of middle-income persons. For poor persons not covered by Medicaid "buy in" arrangements, use of medical services lags substantially behind that of higher income persons with similar health conditions.

In addition to deterring access to adequate medical care for low-income elderly persons, the cost-sharing provisions can add significantly to the financial burden of many poor persons. Currently, as a result of the Medicare cost-sharing provisions, premiums for physician coverage, and noncovered services (such as drugs), the elderly now pay out-of-pocket, on average, more than $400 per person annually. Therefore, an elderly couple with only average medical expenses could expect to pay at least $800 for medical care. Such an expenditure represents a fairly significant fraction of income for a couple with family income below $8,000.

For couples with unusually heavy medical bills, out-of-pocket costs can go much higher. Under the physician portion of Medicare, the patient is responsible for the first $60 of medical bills and 20 percent of all bills above that amount (plus any excess of the actual charge over the allowable charge if the physician does not accept assignment). Therefore, a patient with physician bills of $5,000 could expect to pay over $1,000 for physician services alone. Similarly, because of the limitations on hospitalization, an elderly person with a hospital stay of 150 days is required to pay over $3,000 toward the hospital bill (which can be substantially higher than $3,000 if he or she has already used part of the 60-day, lifetime reserve).

In order to assure that lower income elderly persons receive adequate access to medical care and that all elderly persons are protected from undue financial burdens, the following changes in the cost-sharing provisions of Medicare are recommended:

- The deductible and coinsurance requirements of supplementary medical insurance should be graduated with income. All elderly

persons below the poverty level should be exempted from deductible and coinsurance amounts. Deductible and coinsurance amounts should be gradually increased with income, reaching current levels only at an income level of approximately $7,000 or $8,000 for a two-person family. Some further increases in cost-sharing amounts might be appropriate for relatively higher income persons, such as above $12,000 or $15,000.

- Similar changes in the cost-sharing provisions of the basic hospitalization plan should be made—with somewhat more substantial charges for higher income persons.
- A ceiling should be placed on the cost-sharing amounts required of the elderly. This should be reasonable in relation to income (such as requiring that out-of-pocket payments by the elderly not exceed 10 percent of income) and should take account of the elderly's financial responsibility for noncovered services. To provide adequate protection against excessive financial obligations, some expansion in the scope of covered services is also called for—particularly coverage of all medically necessary hospitalization (rather than the restriction to 90 days for any one stay in a benefit period, plus a lifetime reserve of 60 days) and perhaps prescription drugs.

Access of Minorities to Medical Care Much of the lower utilization of medical services by elderly minorities is undoubtedly a consequence of deep-seated discriminatory practices some of which will take time to correct. Solutions to this more basic underlying problem lie outside the scope of the Medicare program.

However, even within the Medicare program, certain enforcement practices should be strengthened to improve the access of minorities to medical care. The following areas seem particularly appropriate for more intensive enforcement:

- Since disparities by race in use of extended care facility services are particularly severe, much stricter inspection and enforcement of nondiscriminatory provisions is called for.
- Hospitals should be required to prove nondiscriminatory practices not only in the admission of patients, but also in the granting of staff privileges to physicians.
- Physicians discriminating among patients on the basis of race should be ineligible for federal funds.
- Informational efforts to advise minority elderly persons of their benefits and rights to medical care along with procedures for filing

complaints of discriminatory treatment should be promoted.

- Since the South remains the only major area where disparities in use of hospital care by race are particularly marked, enforcement efforts should be concentrated more heavily in the South.

Sources of Medicare Financing The method of financing the supplementary medical insurance plan half by a premium and half from general revenues is particularly in need of change. Because of the wide variation in benefits on the basis of income, race, and geographical location the premium bears little relation to the benefits which the individual can expect to receive. Furthermore, the premium requirement and the voluntary nature of the plan has the effect of excluding from Medicare benefits a dispropriate number of the poor and minorities.

Financing for the basic hospitalization plan comes from the payroll tax. As other studies have extensively documented (Pechman et al., 1968; Brittain, 1972), this method of financing medical expenses of the elderly falls disproportionately on low-income workers. Because of the rapid growth in Medicare expenditures since its initiation, the payroll tax has been steadily increased, and now represents a much larger share of all tax revenues. Reliance upon the payroll tax as a method of financing has also led to the exclusion of a few elderly persons from Medicare benefits on the grounds that they are ineligible for social security retirement benefits.

Recommended changes in the methods of financing Medicare include:

- Elimination of the premium for supplementary medical insurance plan.
- Coverage of all elderly persons, regardless of eligibility for social security retirement benefits, under both parts of Medicare.
- Reform in the structure of the payroll tax to reduce its burden on lower income workers, or replacement of payroll tax funds with general revenues as a source of financing the basic hospitalization plan.

Reimbursement Policies The method of reimbursing physicians on the basis of customary charges prevailing in the area rewards physicians for practicing in high-income areas—areas in which physicians are relatively abundant. This method of reimbursement reinforces existing geographical maldistribution of medical re-

sources, and poses little positive incentive for an increase in the supply of services to underserved areas.

Furthermore, permitting physicians to charge patients more than the allowable charge has undercut any effort to maintain reasonable restraints on physician charges. Reducing allowable charges has the effect of saving the Medicare program, but does so simply by shifting those costs onto the elderly population.

For many rural areas, however, few physicians are available to provide services. Increasingly, rural communities are organizing to sponsor primary health centers, using the services of nurse practitioners and physician assistants. Back-up physician support is obtained from larger communities to serve as referrals for more difficult cases and to monitor the quality of care. Medicare currently does not pay for such services, nor does it recognize the health centers as providers of care.

Three major changes in reimbursement policies should be considered:

- Move toward establishment of a nationally uniform reimbursement schedule for physician services, beginning with uniform fee schedules within each state. This would remove the negative incentives created by the present system and would act as a positive incentive toward redistribution, inasmuch as the costs of medical practice tend to be lower in underserved areas.
- Stipulate that physicians may not collect from the elderly any charge in excess of the Medicare allowable charge.
- Provide for the coverage of nurse practitioner services rendered in primary health centers meeting certain standards, and establish a separate reimbursement policy for such centers.

Implications for National Health Insurance

Experience with the Medicare program can also provide useful lessons for the design of national health insurance, particularly for the financing of medical care services for the nonelderly. While the major concern generated by the Medicare program is the impact of financing plans on costs of medical care, the distributional consequences of Medicare also have important implications for the design of national health insurance. There are three major lessons which may be derived from the very unequal distribution of benefits—even under a financing plan in which all persons are nominally eligible for equal benefits.

First, uniform cost-sharing provisions discriminate against lower income persons in access to medical care. As a consequence, a disproportionate share of payments and medical services go to higher income persons. The magnitude of this problem for the Medicare program is limited by the fact that few elderly persons have substantial incomes. Thus, even though elderly persons with incomes above $15,000 receive twice the physician payments received by persons with family incomes below $5,000, less than 10 percent of elderly persons are in the higher income class, so the absolute amount of redistribution is not extensive. For the population as a whole, inequality in benefits of that dimension could cause fairly substantial redistributions in the share of goods and services received by persons of different income classes.

While uniform cost-sharing provisions can be quite inequitable, the absence of any cost-sharing is not only unlikely totally to eliminate such inequities but also to add to inflationary pressures on the cost of medical care. See Davis (1973) for a discussion of the relationship between third-party payments and medical care inflation. One way in which inequities in access to medical care on the basis of income can be reduced, and a greater proportion of funds channeled to those persons most in need both of medical services and in assistance in paying for those services, is a system of cost-sharing provisions systematically related to income. Such a plan might require no cost-sharing for persons below the poverty line, with gradual increases in cost-sharing amounts as income rises. A ceiling placed on the patient's financial responsibility for medical expenses, which is reasonable in relation to income, would ensure that such expenses did not form an undue financial burden on patients (see Fried et al., 1973: 120–126, for a discussion of several income-related, national health insurance plans).

The second major implication of the pattern of benefits under Medicare concerns the problems of minorities in achieving access to medical care. Rigorous enforcement of nondiscriminatory practices on the part of all providers of medical services must be an essential part of any financing plan. In addition, however, it is obvious that financing medical services and enforcement of nondiscriminatory provisions alone is inadequate to counter the persistence of discriminatory patterns. Instead, supplementation of national health insurance with specific supply programs designed to increase access of minorities to medical care is clearly

called for. Expanded medical school scholarships for persons willing to practice in minority neighborhoods, subsidies to neighborhood health centers serving disadvantaged persons, and paramedical training programs designed to increase the supply of supporting medical personnel in minority neighborhoods, are all promising approaches to reducing disparities in access to care.

The third implication of the distribution of Medicare benefits is the need for programs to improve the geographical distribution of medical care resources. If greater equality in access to medical care is to be achieved, special programs to increase resources in underserved areas—or to reduce the transportation costs for persons in shortage areas seeking care in more distant areas—must be undertaken. One step in this direction would be expansion of Medicare coverage to nurse-practitioner services, and inclusion of primary health centers as providers of health services.

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The views expressed are those of the author and do not purport to represent the views of other staff members, officers, or trustees of the Brookings Institution. Financial support for this study is provided by the Robert Wood Johnson Foundation.

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