Impact of Cost-Sharing on Use of Ambulatory Services Under Medicare, 1969

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This examination of the impact of the cost-sharing requirements (deductible and coinsurance) of the supplementary medical insurance program of Medicare on persons enrolled in the program is in response to the mandate contained in section 1875 of the Social Security Act. The study is based on Current Medicare Survey data for 1969.

The study divided the SMI population without hospital stays in 1969 into subgroups and compared their use of out-of-hospital medical care and the charges incurred for that care. According to the study, enrollees with low-to-moderate family incomes felt the impact of the deductible more heavily, reported a higher incidence of unmet needs for physician's services, and appeared to have a different threshold of health for seeking medical care than did persons with high family incomes or with private insurance to help pay the cost-sharing requirements. Persons with public medical assistance were the heaviest users of SMI ambulatory services, reflecting the combined effect of characteristics associated with a high incidence of illness and the fact that public assistance paid all or part of their cost-sharing obligations.

AMENDMENTS to the Social Security Act in 1965 authorized the Federal program of health insurance for the aged—Medicare. The legislation establishing the program provides that the Secretary of Health, Education, and Welfare "shall carry on studies and develop recommendations to be submitted from time to time to the Congress relating to the care of the aged, including studies and recommendations concerning . . . the effects of the deductibles and coinsurance provisions upon beneficiaries, persons who provide health services, and the financing of the program."

In accordance with this legislative mandate, a study was made to measure the impact of the deductible and coinsurance requirements on enrollees under the supplementary medical insurance part of the Medicare program. (Because, under the hospital insurance part of Medicare, admission to a hospital and the length of hospital stays tend to be determined by the physician rather than the patient, the impact of the deductible and coinsurance payments in that program was not examined in the present study.) This article presents the findings of the study.

Supplementary medical insurance (SMI) is the voluntary part of Medicare that provides persons aged 65 or older who pay a monthly premium with medical and surgical services of physicians in and out of hospitals, outpatient hospital services, and home health agency services. The study refers collectively to physicians' visits and other SMI benefits as "services." Enrollees pay the first $50 of allowed charges for covered benefits received in a calendar year (the deductible)[1] and 20 percent of the charges incurred above the deductible amount (coinsurance). Charges incurred in the last quarter of one year and applied to the deductible of that year may be carried over to the next calendar year and applied to its deductible to avoid the need to meet two deductibles in a short period.

Most studies on the effect of cost-sharing on utilization have been concerned primarily with hospital utilization. Studies concerned with physician services and outpatient services (including the study sponsored by the Social Security Administration and reported in the BULLETIN) analyze programs after some form of cost-sharing has been introduced and compare utilization in the period before its introduction with utilization thereafter.[2]

The SMI program has had deductible and coinsurance provisions from its inception. To measure the impact of these SMI features, this study compares the utilization of services and charges incurred by persons with the apparent

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[1] The annual deductible was increased from $50 to $60 for covered services received after December 31, 1972.

[2] Anne A. Scitovsky and Nelda M. Snyder, "Effect of Coinsurance on Use of Physician Services," *Social Security Bulletin*, June 1972, and Charles E. Phelps and Joseph P. Newhouse, "Effect of Coinsurance: A Multivariate Analysis," *Social Security Bulletin*, June 1972. See also R.G. Beck, "An Analysis of the Demand for Physicians' Services in Saskatchewan" (Ph.D. thesis, Department of Economics, University of Alberta, Spring, 1971).

financial ability to pay cost-sharing expenses (or whose cost-sharing is paid by other sources) with utilization and charges for those without such resources.

The data presented here are from the Current Medicare Survey, a continuing household interview survey of a sample of SMI enrollees.[3] Because of the necessary lag in processing Medicare bills, the survey was initiated to provide current information on utilization and charges under the Medicare program. This information is collected monthly through personal interviews conducted by the Bureau of the Census. Demographic and other data are collected once or twice during the period of a person's participation in the sample. The data in this article are for calendar year 1969, the most recent year for which data were available when the study was started.

DESIGN OF STUDY

The study tests the premise that enrollees who are comparatively affluent or for whom the deductible and coinsurance requirements involve little or no out-of-pocket cost will tend to use SMI services more than other enrollees. Enrollees who were hospitalized during the survey period (about 4 million) and their covered services both in and out of the hospital are excluded because the seriousness of the illness requiring hospitalization might preclude any choice by the enrollees on the basis of their ability or willingness to pay the cost-sharing expenses. Data on hospitalized enrollees are shown occasionally for comparative purposes.

The approximately 15 million persons without hospital stays were classified by their resources for financing the cost-sharing, according to priorities 1 through 5, in the order given below. Each person was counted only in the category with the first priority for which he qualified, regardless of his eligibility for other categories.

Priority 1. Public medical assistance: (a) Enrollees whose SMI premiums, deductible, and coinsurance obligations are paid by the State and who may or may not have used SMI services during the survey period. These persons were identified in the enrollment files. By the end of 1969, 40 States and the District of Columbia had "buy in" agreements with the Secretary of Health, Education, and Welfare. These agreements cover mainly recipients of cash public assistance although States can also "buy-in" for persons requiring aid only for medical purposes.[4] (b) Enrollees who may pay their own premium but reported receiving public assistance for medical services during the survey period.

The public medical assistance category excludes recipients of money payments in States that did not buy into SMI and who were not users of medical services during 1969. It also excludes those persons who might have been eligible for public assistance for medical purposes if they had used services or enough services to qualify for aid. In some States, persons who are not cash recipients do not become eligible for medical aid until their medical costs reach a certain level in relation to their income and resources.

Priority 2. Coverage complementary to SMI for out-of-hospital services: Primarily persons with private insurance to pay all or a portion of out-of-hospital doctors' charges not paid by Medicare. This category also includes members of group-practice prepayment plans and enrollees who received from the Veterans Administration, either entirely or in part, the types of out-of-hospital medical services covered by SMI. (Persons eligible for medical care under both the Veterans Administration and Medicare have a choice, but the Veterans Administration does not pay the deductible or coinsurance payments for civilian care obtained under Medicare.)

Priority 3. High annual family income: Enrollees without out-of-hospital private insurance or other complementary coverage whose family income in 1969 was at least as high as the following amounts for the family size:

Family size	*Family income*
1 person	$4,000
2 persons	7,500
3 persons	10,000
4 persons or more	15,000

These amounts approximate roughly the top income quartile point for such family groups except that for one-person families the $4,000 figure represents approximately the top 17 percent.[5]

Priority 4. Low-to-moderate annual family income: Enrollees with family incomes below the amounts described above who did not have public medical assistance or out-of-hospital insurance or other coverage to complement SMI.

Priority 5. Family income not reported: Enrollees without public medical assistance or coverage supplementary to SMI who did not report family income.

[3] Jack Scharff, "Current Medicare Survey: The Medical Insurance Sample," *Social Security Bulletin*, April 1967.

[4] Paula Piro, *Medicare: Public Assistance Recipients in the Supplementary Medical Insurance Program, 1969*, Health Insurance Statistics Note No. 47, 1973.

[5] The values are derived from the Bureau of the Census, "Income in 1969 of Families and Persons in the United States," *Current Population Reports* (Series P–60, No. 75), December 14, 1970.

The groups are analyzed primarily on the basis of the following four indicators of utilization and charges:

(a) *Charge and deductible status*—SMI enrollees are distributed on the basis of the percentages with no charges for physicians' visits or other SMI services in 1969, with covered charges but not in a sufficient amount to meet the $50 deductible, and with sufficient charges to meet the deductible. The deductible status of a respondent is calculated on the assumption that all charges would be determined "allowable" by the Medicare carrier responsible for making this determination and making payments.

(b) *Per capita services*—the average number of covered services reported by enrollees with charges and the average for those enrollees meeting the deductible.

(c) *The distribution of persons with covered charges by three charge intervals*—$1–$49, $50–$99, and $100 or more. Estimated covered charges are based on total amounts billed by physicians for covered services, as reported by respondents, before the Medicare carrier's determination of whether or not they are "allowable." Most charges for covered services for recipients of public medical assistance are imputed and are based on charges in the area for comparable services.

(d) *Per capita charges*—the average covered charge incurred by enrollees with charges and by those enrollees meeting the deductible.

The study compares utilization and charges of the population subgroups, according to selected demographic and economic variables. The public medical assistance category is discussed separately: (a) State agencies pay the deductible and coinsurance for most of the members of this group and (b) because of their age and other characteristics often associated with poor health, they require more care than other enrollees. For enrollees not reporting family income, utilization and charge data are of limited value in assessing the economic impact of the deductible and coinsurance requirements and, therefore, frequently are omitted from the discussion.

Mobility status of the respondents and self-assessment of their health are among the variables considered. Respondents were asked to rate their health in terms of their ability to move around inside and outside their living quarters. Specifically, they were asked (1) if they had to stay in bed all or most of the time; (2) if they had to stay in the house all or most of the time; (3) if they needed the help of another person or of a cane, wheelchair, or other special aid in getting around; or (4) if they had trouble getting around even though they did not need the help of another person or of a special aid.

Respondents were also asked to compare their health with the health of other persons their age. Self-assessment of one's health can be a subjective judgment, greatly influenced by the general attitude towards life, education, social status, or mood at the time of reply and by other factors not directly related to health. One person may consider certain symptoms to be normal at his age and report his health to be the same as that of other people his age; another person with the same symptoms may view his health as being worse than that of other persons his age. Nonetheless, various studies have concluded that a positive relationship exists between self-rating and physicians' ratings of health of the elderly.[6] Replies on mobility and on comparative health status are as of November 1968; related utilization and charge data are for calendar year 1969.

CHARACTERISTICS OF SMI ENROLLEES WITHOUT HOSPITAL STAYS

An estimated 18.9 million persons enrolled under SMI responded to the Current Medicare Survey in 1969.[7] The respondents reported charges for physicians' services and other SMI benefits estimated at $2.7 billion.

About 80 percent of the respondents (15.0 million) had no hospital stays in 1969. These persons are the major concern of the study and their distribution into the five groups of the study is shown below. Approximately 50 percent of the

Cost-sharing resource	Percentage distribution
SMI enrollees without hospital stays, total (in thousands)	15,000
Total percent	100.0
Public medical assistance	12.7
Complementary out-of-hospital coverage	17.2
High annual family income	9.2
Low-to-moderate family income	51.3
Family income not reported	9.6

[6] George L. Maddox and Elizabeth B. Douglass, "Self-assessment of Health: A Longitudinal Study of Elderly Subjects," *Journal of Health and Social Behavior*, March 1973, and Nancy J. Gaspard and Carl E. Hopkins, "Determinants of Use of Ambulatory Medical Services by an Aged Population," *Inquiry*, March 1967.

[7] With nonrespondents included, an estimated 20.3 million persons were enrolled under SMI sometime during 1969. See *Health Insurance Statistics*, CMS Report No. 14, July 12, 1971.

TABLE 1.—Estimated number and percentage distribution of SMI enrollees without hospital stays by cost-sharing resource, and by selected characteristics, Current Medicare Survey, 1969

Characteristic [1]	Public medical assistance		Complementary out-of-hospital coverage		High family income		Low-to-moderate family income		Family income not reported	
	Number [2] (in thousands)	Percentage distribution	Number [2] (in thousands)	Percentage distribution	Number [2] (in thousands)	Percentage distribution	Number [2] (in thousands)	Percentage distribution	Number [2] (in thousands)	Percentage distribution
Total reporting	1,900		2,570		1,380		7,670		1,440	
Age	1,900	100	2,570	100	1,380	100	7,670	100	1,440	100
65–69	410	22	960	38	550	40	2,590	34	610	43
70–74	450	24	760	30	410	30	2,300	30	330	23
75–79	430	22	540	21	180	13	1,570	20	260	18
80 and over	610	32	310	12	240	17	1,210	16	230	16
Sex	1,900	100	2,570	100	1,380	100	7,670	100	1,440	100
Men	540	29	1,270	49	550	40	3,170	41	590	41
Women	1,350	71	1,300	51	830	60	4,500	59	850	59
Race	1,890	100	2,570	100	1,380	100	7,660	100	1,430	100
White	1,540	81	2,490	97	1,360	98	6,960	91	1,350	94
Other races	360	19	80	3	20	2	700	9	80	6
Marital status	1,860	100	2,560	100	1,380	100	7,610	100	1,380	100
Married	490	26	1,600	62	710	52	4,080	54	740	54
Widowed, divorced, etc	1,170	63	770	30	590	43	3,000	39	580	42
Never married	200	11	190	7	70	5	540	7	60	4
Number of persons in household	1,880	100	2,560	100	1,380	100	7,660	100	1,390	100
1	1,000	53	650	25	370	27	2,180	28	340	24
2	560	30	1,510	59	770	56	4,040	53	670	48
3 or more	320	17	400	16	240	17	1,450	19	380	28
Years of education	1,760	100	2,510	100	1,370	100	7,530	100	1,320	100
0–6	860	49	290	12	140	10	2,000	26	280	21
7–12	820	47	1,590	64	820	60	4,840	64	850	64
1 year or more of college	80	5	630	25	410	30	700	9	200	15
Family income	1,620	100	2,180	100	1,380	100	7,670	100		
Less than $3,000	1,370	85	730	34			4,270	56		
3,000–7,499	190	12	1,010	46	260	19	3,140	41		
7,500 or more	60	4	440	20	1,120	81	250	3		
Work status	1,900	100	2,570	100	1,380	100	7,670	100	1,440	100
No work	1,800	95	1,870	73	970	70	5,820	76	1,280	89
Part-time	80	4	310	12	110	8	1,120	15	70	5
Full-time	20	1	390	15	310	22	730	10	80	6
Type of private insurance [3]	1,880	100	2,560	100	1,380	100	7,640	100	1,360	100
Hospital	190	10	2,370	92	900	65	3,680	48	680	50
Physicians' services, in-hospital	120	6	2,370	92	800	58	2,960	39	540	40
Physicians' services, out-of-hospital	70	4	2,400	94						
No private insurance	1,700	90	190	5	480	35	3,960	52	680	50
Residence	1,900	100	2,570	100	1,380	100	7,670	100	1,440	100
Urban, large cities [4] and suburbs	590	31	760	30	580	42	2,110	28	480	33
Urban, other cities and towns	1,020	54	1,560	61	760	55	4,220	55	800	55
Rural	290	15	250	10	40	3	1,340	18	170	12
Mobility status [5]	1,860	100	2,540	100	1,380	100	7,640	100	1,360	100
Impaired mobility	760	41	300	12	140	10	1,130	15	220	16
Unimpaired mobility	1,110	59	2,240	88	1,240	90	6,520	85	1,140	84
Comparative health status [6]	1,820	100	2,520	100	1,370	100	7,610	100	1,340	100
Better	480	26	1,490	59	860	62	3,770	50	750	56
Worse	400	22	200	8	70	5	690	9	110	8
Same	930	52	830	33	450	32	3,150	41	490	37

[1] Data represent enrollees reporting specified item. Components may not add because of rounding.
[2] All figures shown regardless of whether or not they are statistically significant.
[3] Excludes membership in group-practice prepayment plans.
[4] See footnote 5, table 8.
[5] With at least 250,000 population.
[6] Mobility status and comparative health status as reported at beginning of year; utilization data are total for the year.

respondents had low-to-moderate family incomes and about 13 percent received or were eligible to receive public medical assistance. Of the estimated 1.9 million in this category, about 43 percent were persons with buy-in coverage who may or may not have used services; the remainder were persons using medical services who reported receiving some public assistance in meeting charges. Persons without hospital stays incurred about one-third of the $2.7 billion SMI charges, or an estimated $936 million.

Except for the "public medical assistance" category, the subgroups were fairly comparable demographically (table 1). Almost one-third of the enrollees in that category was aged 80 or older, a rate more than double that of any other

category. They also had the highest proportion of women (about 7 women for every 3 men) and of nonwhite members—nearly 2 in 10. Unlike the majority of other enrollees, who lived with at least one other person, most public medical assistance enrollees lived alone.

As a group, enrollees with public medical assistance were the least educated. Almost 50 percent of them had less than 7 years of schooling. An estimated 95 percent did not work and those who did work reported that they were chiefly part-time workers. Workers with low-to-moderate family incomes also were primarily part-time workers but those who did work were an estimated 25 percent of that group. Family income was less than $3,000 in 1969 for an estimated 85 percent of the public medical assistance category. An estimated 90 percent of enrollees in the category had no type of private health insurance. The relative number of persons with impaired mobility (41 percent) was two to four times that of the other categories. This category also had the highest proportion (22 percent) of persons assessing their health to be worse than that of other persons their age and the highest proportion reporting that they did not see a physician as often as they believed necessary (34 percent).

Unlike public medical assistance respondents, those in the other four groups without hospital stays were fairly homogeneous demographically, but there were some important differences among them. Among these four groups, respondents with low-to-moderate family incomes had the highest proportion of persons with less than 7 years of education. Relatively more persons in this category had no private health insurance coverage of any type (52 percent), more lived in rural areas (18 percent), and more reported unmet needs (30 percent). Except for the public medical assistance group, the group with low-to-moderate family incomes was the only one with a significant number of members who were not white (9 percent). The proportion of respondents of other races, however, was only about half that for the public medical assistance category (19 percent).

The sex ratio was almost 1 to 1 in the group with complementary out-of-hospital coverage, compared with about 6 women to 4 men in the other population groups without public medical assistance. The category with complementary out-of-hospital coverage also had the highest proportion of married respondents. The proportion of persons aged 80 or older was greater among respondents with high family incomes than among persons with private out-of-hospital physician insurance or other types of complementary coverage. The high-income respondents also had the highest proportion of full-time workers (22 percent).

UTILIZATION AND CHARGES FOR SMI ENROLLEES WITHOUT HOSPITAL STAYS

Enrollees who did not see a physician or who seldom saw one in 1969 were not necessarily deterred by the deductible and coinsurance provisions. Good health and a complex of factors other than economic considerations govern whether anyone sees a physician. Habit patterns, one's general attitude towards the medical profession, personal and family considerations, and accessibility of services are among the determining factors. A selection process also may be at work. A person with private health insurance to supplement Medicare may see a doctor often, not simply because he has insurance; rather, he may carry the insurance because he needs to see a doctor frequently.

The deductible and coinsurance provisions, however, cannot be completely ignored as influencing whether or not a person seeks medical care—particularly among the population aged 65 and over who, it is conceded, have a high incidence of illness and relatively low incomes. It was reasoned therefore that some light might be cast on the impact of the deductible and coinsurance requirements under SMI by cataloging enrollees according to availability of resources to defray cost-sharing expenses and then comparing use of out-of-hospital services and charges incurred by each of the groups.

Public Medical Assistance

Among respondents without hospital stays, the public medical assistance category had the smallest proportion of members not using SMI services. An estimated 13 percent of the category did not use services in 1969 (table 2).

TABLE 2.—Estimated utilization and charges for SMI services incurred by SMI enrollees with and without hospital stays: Enrollees, by cost-sharing resource, Current Medicare Survey, 1969

Item	Without hospital stays					With hospital stays
	Public medical assistance [1]	Complementary out-of-hospital coverage	High family income	Low-to-moderate family income	Family income not reported	
Number of enrollees:						
Reporting (in thousands)	1,900	2,570	1,380	7,670	1,440	3,940
With charges for covered services (in thousands) [2]	1,650	1,840	1,050	5,220	870	3,880
Percent of enrollees, charge and deductible status:						
Not using covered services [3]	13	28	24	32	40	6
Users of covered services with charges:						
Deductible not met	37	33	30	36	30	
Deductible met	50	39	46	32	30	94
Average number of visits and services per user: [4]						
Users of covered services with charges	22	12	9	8	8	36
Users of covered services meeting deductible	34	14	13	13	13	38
Percent of enrollees with charges by charge interval: [3]						
$1–49	46	49	42	57	55	5
50–99	19	23	23	22	17	10
100 or more	35	28	35	21	28	85
Average charge per user:						
Users of covered services with charges	$134	$88	$95	$73	$85	$460
Users of covered services meeting deductible	218	145	141	132	153	480

[1] Charges for covered services are estimated for recipients of public medical assistance and are based on charges in the area for comparable services.

[2] Charges are actual amounts incurred in 1969. Some persons whose charges were less than $50 nevertheless met the deductible because of the carryover provision of the law: charges incurred in the last 3 months of 1968 and applied to the 1968 deductible are carried over to the deductible for 1969.

[3] Includes a relatively small number of persons with covered services who were not billed for them because the services were performed as professional courtesy or because payment for certain services is prohibited by law (those provided by relatives or household members, by a Federal hospital, or under workmen's compensation).

[4] Per capita service rate slightly overstated; computation is based on covered services that include a small percentage of services provided without charge.

Public assistance enrollees also had the highest number of services per user and the highest level of charges per user. They averaged 22 physician visits or other SMI services in 1969—10 more than the average for users with out-of-hospital complementary coverage and 13 or 14 more than the other users. Public assistance enrollees who met the deductible averaged 34 services a year; the result was an even wider numerical disparity with the other groups and an approach to the level (38 per capita) of services received both in and out of hospitals by persons with hospital stays. Among those meeting the deductible, the annual estimated per capita charge for the public assistance enrollees was $218, compared with $132–$153 for the other enrollees.

With relatively more users meeting the deductible among public medical assistance recipients and among affluent enrollees, these two groups had the highest proportion of users (35 percent) incurring charges of at least $100. The rate for the low-to-moderate income users was 21 percent.

As already indicated, public assistance was a source of payment for two classes of persons—enrollees under the State buy-in agreements and persons who reported receipt of assistance for medical service in 1969. The majority of the persons without covered medical services were those in whose behalf the State "bought into" the SMI program, as the following tabulation shows in comparing the charge and deductible status of the two components of the public medical assistance category. About 1 in 5 of those under buy-in agreements did not use services—a smaller proportion than that for enrollees without public assistance.

Item	Public medical assistance [1]	
	Enrollees under "buy-in" agreement	Enrollees not under "buy-in" agreement
Total number without hospital stays (in thousands)	820	1,070
Total percent	100.0	100.0
Enrollees not using covered services	21.4	6.9
Users of covered services with charges:		
Deductible not met	39.8	35.1
Deductible met	38.8	58.0

[1] Charges for covered services are estimated for recipients of public medical assistance and are based on charges in the area for comparable services.

With respect to meeting the deductible, the difference in percent between those insured under a buy-in agreement and other enrollees in the public medical assistance category was substantial: 58 percent of those not under such agreement met the deductible but only 39 percent of those with

TABLE 3.—Estimated utilization and charges [1] for SMI services incurred by SMI enrollees without hospital stays: Enrollees with public assistance, by selected characteristics, Current Medicare Survey, 1969

Characteristic [2]	Number of enrollees reporting (in thousands)	Percentage distribution of enrollees, by charge and deductible status				Number of services per user with charges [5]		Covered charges					
				With charges [4]				Percentage distribution of users, by charge interval				Charge per user	
		Total	Without services [3]	Deductible not met	Deductible met	Total	Deductible met	Total	$1–49	$50–99	$100 or more	Total	Deductible met
Total reporting	1,900	100	13	37	50	22	34	100	46	19	35	$134	$218
Age:													
65–69	410	100	12	42	46	16	27	100	53	18	29	92	154
70–74	450	100	10	35	55	25	33	100	41	20	39	136	208
75–79	430	100	10	36	54	19	29	100	43	22	35	120	186
80 and over	610	100	19	36	45	26	43	100	49	16	35	175	299
Sex:													
Men	540	100	20	34	46	25	36	100	48	24	28	150	245
Women	1,350	100	10	38	51	20	33	100	46	18	37	129	208
Race:													
White	1,540	100	12	38	50	24	37	100	46	18	36	137	224
Other races	360	100	17	36	47	13	19	100	47	26	26	121	195
Marital status:													
Married	490	100	15	33	52	22	29	100	45	22	34	169	260
Widowed, divorced, etc.	1,170	100	13	39	48	18	29	100	48	17	35	120	199
Never married	200	100	8	40	52	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Number of persons in household:													
1	1,000	100	13	36	51	32	49	100	44	16	40	169	272
2	560	100	13	36	50	11	17	100	46	26	28	106	167
3 or more	320	100	12	43	46	9	15	100	52	17	30	79	132
Years of education:													
0–6	860	100	15	34	51	20	31	100	45	24	30	129	199
7–12	820	100	11	41	47	18	32	100	49	16	35	125	216
1 year or more of college	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Family income:													
Less than $3,000	1,370	100	14	36	50	21	33	100	47	19	34	123	195
3,000–7,499	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
7,500 or more	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Work status:													
No work	1,800	100	13	37	50	22	35	100	46	18	36	138	225
Part-time	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Full-time	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Type of private insurance: [6]													
Hospital	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Physicians' services, in-hospital	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Physicians' services, out-of-hospital	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
No private insurance	1,700	100	14	36	50	22	33	100	46	20	34	129	206
Residence:													
Urban, large cities [7] and suburbs	590	100	12	32	57	20	29	100	37	18	45	153	226
Urban, other cities and towns	1,020	100	15	38	47	25	39	100	50	18	33	137	229
Rural	290	100	10	46	44	16	28	100	54	27	19	87	156
Mobility status: [8]													
Impaired mobility	760	100	10	32	58	28	38	100	38	19	42	190	281
Unimpaired mobility	1,110	100	15	40	44	18	31	100	52	19	29	96	163
Comparative health status: [8]													
Better	480	100	18	38	44	13	20	100	49	22	29	90	148
Worse	400	100	3	33	64	29	43	100	36	18	46	233	339
Same	930	100	15	39	46	20	33	100	50	18	32	99	166

* Not shown where base is too small.

[1] Charges for covered services are estimated for recipients of public medical assistance and are based on charges in the area for comparable services.

[2] Data represent enrollees reporting specified item. Components may not add because of rounding.

[3] Includes a relatively small number of persons with covered services who were not billed for them because the services were performed as professional courtesy or because payment for certain services is prohibited by law (those provided by relatives or household members, by a Federal hospital, or under workmen's compensation).

[4] Charges are actual amounts incurred in 1969. Some persons whose charges were less than $50 nevertheless met the deductible because of the carryover provision of the law: charges incurred in the last 3 months of 1968 and applied to the 1968 deductible are carried over to the deductible for 1969.

[5] Per capita service rate slightly overstated; computation based on services that include a small percentage of services provided without charge.

[6] Excludes membership in group-practice prepayment plans.

[7] With at least 250,000 population.

[8] Mobility status and comparative health status as reported at beginning of year; utilization data are total for year.

buy-in agreements did so. For persons without buy-in coverage, the high proportion may reflect the fact that, for many, eligibility for assistance is not recognizable until after they have incurred medical charges. Because the State pays cost-sharing for those with buy-in coverage, the 20-percent coinsurance charge probably was not the major reason why proportionately fewer of them met the deductible.

Utilization and estimated charges by demographic variables for the combined components of the public medical assistance category are shown in table 3. The proportion of men without services was twice the proportion of women not using services, but the other indicators showed a smaller difference between the sexes. Racially, the difference between enrollees in meeting the deductible was not significant, but white users averaged almost twice as many services as the enrollees who were not white. Approximately half

the people who either lived alone or with one other person met the deductible, but enrollees living alone obtained almost three times as many services as enrollees in two-person households. Relatively fewer rural than urban residents incurred charges of $100 or more.

Persons in the public medical assistance category who believed they were in worse health than other people their age were the heaviest users. Almost 2 out of 3 met the deductible, and those meeting the deductible averaged charges close to $340 for the 43 services they obtained in 1969. Persons with impaired mobility also were heavy users of services, undoubtedly reflecting an overlap between them and persons reporting worse health than their peers.

In 1969, the SMI cost-sharing obligations were paid by the State agencies for the vast majority of the public medical assistance enrollees who used covered benefits. This group of enrollees is older and presumably sicker than the other population groups and, consequently, requires considerably more medical care services. For this group, therefore, no firm conclusions can be drawn on the relationship between their heavy use of services and the partial or total absence of their need to pay the deductible and coinsurance amounts.

Complementary Coverage and Reporting of Family Income

The impact of the deductible on the use of out-of-hospital SMI services appears greatest for respondents with low-to-moderate family incomes. In this group, 68 percent had no charges or insufficient charges to meet the deductible (table 2). The comparable percentages for the more affluent persons and for persons with private out-of-hospital physician insurance or other complementary coverage were 54 percent and 61 percent, respectively. In contrast, those who incurred sufficient charges to meet the deductible accounted for 46 percent of the population with high annual family incomes, 32 percent of those with low-to-moderate family incomes, and 39 percent of the respondents with complementary out-of-hospital coverage.

Once the enrollee meets the deductible, the impact of the coinsurance is less clear. The number of services used was about the same for enrollees without hospital stays and without public medical assistance—13–14 services per user—and per capita charges did not differ significantly. Perhaps, despite the same average number of services, the threshold of health for seeking medical care differs among the groups—that is, persons with the same condition might seek services sooner in the high-income category than in the low-to-moderate income category. Relatively more high-income enrollees than other enrollees, for example, claimed better health than their age peers. Relatively fewer of the affluent making this assertion were without services or without sufficient services to meet the deductible, however. The relative number of high-income persons reporting unmet needs was also less than that of low-to-moderate income respondents.

About 21 percent of the users with low-to-moderate family incomes incurred charges of $100 or more compared with 35 percent of the users from high-income families and 28 percent of the users with complementary out-of-hospital coverage. It may be that physicians' fees for the same types of services vary among these groups. Compared with persons with high family income, proportionately fewer persons with complementary out-of-hospital coverage who used services incurred charges of $100 or more. This situation may reflect the limits imposed by some private policies offering complementary physician insurance to SMI enrollees when they are not hospital inpatients.[8] The average user with complementary insurance, however, was somewhat more likely than the average user with low-to-moderate family income to meet the deductible and incur charges of $100 or more.

Among respondents with hospital stays, nearly everyone had met the deductible, most had SMI charges of $100 or more, and the average charge for those meeting the deductible was $480. These statistics reflect the combination of expensive services and the numerous services received by persons with hospital stays.

Differences observed for the three groups without public medical assistance in the impact of

[8] A review of about 70 Blue Shield plans in effect in 1971 showed that roughly one-third paid all of the SMI deductible and coinsurance, one-third paid no deductible, and about 10 percent paid four-fifths of the 20-percent coinsurance amount. For the remainder, the policies imposed various combinations of restrictions on place or type of service.

TABLE 4.—Estimated utilization and charges for SMI services incurred by SMI enrollees without hospital stays: Enrollees with complementary out-of-hospital coverage or with family income reported, by age and sex, Current Medicare Survey, 1969

Age and sex [1]	Number of enrollees reporting (in thousands)	Percentage distribution of enrollees, by charge and deductible status				Number of services per user with charges [4]		Covered charges					
				With charges [3]				Percentage distribution of users, by charge interval				Charge per user	
		Total	Without services [2]	Deductible not met	Deductible met	Total	Deductible met	Total	$1–49	$50–99	$100 or more	Total	Deductible met
Complementary out-of-hospital coverage													
Age	2,570	100	28	33	39	12	14	100	49	23	28	$88	$145
65–69	960	100	34	31	35	9	10	100	53	18	30	81	132
70–74	760	100	29	30	40	15	20	100	44	25	30	109	174
75–79	540	100	21	39	40	13	14	100	52	23	25	82	139
80 and over	310	100	24	36	41	8	14	100	47	31	22	71	118
Sex	2,570	100	28	33	39	12	14	100	49	23	28	88	145
Men	1,270	100	29	34	37	14	15	100	51	23	27	83	138
Women	1,300	100	28	32	40	9	14	100	48	23	29	93	151
High family income													
Age	1,380	100	24	30	46	9	13	100	42	23	35	$95	$141
65–69	550	100	32	28	40	8	11	100	46	20	35	96	146
70–74	410	100	21	36	43	7	11	100	48	19	33	79	127
75–79	180	100	(*)	(*)	(*)	(*)	(*)	100	(*)	(*)	(*)	(*)	(*)
80 and over	240	100	12	17	71	18	21	100	24	33	43	129	154
Sex	1,380	100	24	30	46	9	13	100	42	23	35	95	141
Men	550	100	26	26	48	11	16	100	36	23	41	96	137
Women	830	100	23	32	45	8	12	100	46	22	31	95	144
Low-to-moderate family income													
Age	7,670	100	32	36	32	8	13	100	57	22	21	$73	$132
65–69	2,590	100	32	38	30	8	15	100	58	22	20	73	140
70–74	2,300	100	34	30	35	8	12	100	51	23	25	80	133
75–79	1,570	100	28	39	32	8	13	100	61	24	14	62	112
80 and over	1,210	100	31	39	30	8	14	100	62	17	21	74	142
Sex	7,670	100	32	36	32	8	13	100	57	22	21	73	132
Men	3,170	100	37	35	29	8	13	100	59	22	19	68	126
Women	4,500	100	29	37	34	8	13	100	56	22	22	76	136

* Not shown where base is too small.

[1] Data represent enrollees reporting specified items.

[2] Includes a relatively small number of persons with covered services who were not billed for them because the services were performed as professional courtesy or because payment for certain services is prohibited by law (those provided by relatives or household members, by a Federal hospital, or under workmen's compensation).

[3] Charges are actual amounts incurred in 1969. Some persons whose charges were less than $50 nevertheless met the deductible because of the carryover provision of the law: charges incurred in the last 3 months of 1968 and applied to the 1968 deductible are carried over to the deductible for 1969.

[4] Per capita service rate slightly overstated; computation based on covered services that include a small percentage of services provided without charge.

cost-sharing did not prevail uniformly when data are examined by demographic characteristics of the groups.

Age and sex.—If they had high family income, persons aged 80 or older met the deductible at a considerably greater rate (71 percent) than did those of comparable age with low-to-moderate incomes (30 percent) or with complementary out-of-hospital coverage (41 percent) (table 4). The more affluent older enrollees who used services also incurred charges of $100 or over more frequently than other users in their age bracket. At the other end of the age spectrum —65–69—approximately one-third of the enrollees did not visit a physician or use other SMI services, regardless of size of reported family income or of privately insured status.

Men and women met the deductible at different rates, but the gap between the group was greater for the men in the low-to-moderate income category than for women. An estimated 29 percent of the men with low-to-moderate incomes met the deductible compared with 48 percent of the men with high family incomes and 37 percent with complementary coverage. Only 19 percent of the men with low-to-moderate incomes had charges of $100 or more, compared with 41 percent of the more affluent men.

Differences among the population groups for women were smaller. The number per 100 meeting the deductible ranged from 34 in the low-to-

TABLE 5.—Estimated utilization and charges for SMI services incurred by SMI enrollees without hospital stays: Enrollees with complementary out-of-hospital coverage or with family income reported, by education and race, Current Medicare Survey, 1969

Education and race [1]	Number of enrollees reporting (in thousands)	Percentage distribution of enrollees, by charge and deductible status				Number of services per user with charges [4]		Covered charges					
								Percentage distribution of users, by charge interval				Charge per user	
		Total	Without services [2]	With charges [3]		Total	Deductible met	Total	$1–49	$50–99	$100 or more	Total	Deductible met
				Deductible not met	Deductible met								
	Complementary out-of-hospital coverage												
Years of education	2,510	100	28	33	39	11	15	100	49	23	28	$89	$146
0–6	290	100	30	38	32	16	32	100	54	20	26	114	219
7–12	1,590	100	26	33	41	9	12	100	48	24	27	79	127
1 year or more of college	630	100	33	29	37	12	14	100	48	20	32	105	169
Race	2,570	100	28	33	39	12	14	100	49	23	28	88	145
White	2,490	100	28	33	39	12	15	100	49	23	28	89	146
Other	80	100	(*)	(*)	(*)	(*)	(*)	100	(*)	(*)	(*)	(*)	(*)
	High family income												
Years of education	1,370	100	24	30	47	9	14	100	42	22	35	$96	$141
0–6	140	100	(*)	(*)	(*)	(*)	(*)	100	(*)	(*)	(*)	(*)	(*)
7–12	820	100	25	30	44	10	15	100	44	23	33	84	126
1 year or more of college	410	100	22	28	50	8	11	100	40	20	40	116	169
Race	1,380	100	24	30	47	9	13	100	42	23	35	95	141
White	1,360	100	24	29	46	10	14	100	41	23	36	96	142
Other	20	100	(*)	(*)	(*)	(*)	(*)	100	(*)	(*)	(*)	(*)	(*)
	Low-to-moderate family income												
Years of education	7,530	100	32	36	32	8	13	100	57	22	21	$71	$129
0–6	2,000	100	33	39	28	8	14	100	63	20	17	62	120
7–12	4,840	100	32	35	33	8	13	100	55	24	21	74	130
1 year or more of college	700	100	30	37	33	7	12	100	56	17	27	79	144
Race	7,660	100	32	36	32	8	13	100	57	22	21	73	132
White	6,960	100	32	36	33	8	14	100	56	22	22	75	135
Other	700	100	35	43	22	6	10	100	70	18	12	45	93

* Not shown where base is too small.

[1] Data represent enrollees reporting specified item. Components may not add because of rounding.

[2] Includes a relatively small number of persons with covered services who were not billed for them because the services were performed as professional courtesy or because payment for certain services is prohibited by law (those provided by relatives or household members, by a Federal hospital, or under workmen's compensation).

[3] Charges are actual amounts incurred in 1969. Some persons whose charges were less than $50 nevertheless met the deductible because of the carryover provision of the law: charges incurred in the last 3 months of 1968 and applied to the 1968 deductible are carried over to the deductible for 1969.

[4] Per capita rate slightly overstated; computation based on covered services that include a small percentage of services provided without charge.

moderate income group to 45 in the high-income group, and the number of users per 100 with charges of at least $100 went from 22 among the less affluent to 31 among the more affluent. Within the low-to-moderate income category, men and women users averaged the same number of services, but a somewhat higher proportion of women used services.

Education and race.—Persons with little education who had out-of-hospital coverage to complement the SMI program made greater use of SMI benefits than did persons with the same level of education in the low-to-moderate family income category (table 5). In fact, persons with less than 7 years of schooling who carried complementary coverage and met the deductible had the highest annual rate of service (32) of any of the users of SMI services without hospital stays and without public medical assistance.

At the higher level of education, one or more years of college was not sufficient to reduce the differential between enrollees with low-to-moderate family income and those with high family income in meeting the deductible.

The low-to-moderate income group was the only one with a significant number of enrollees who were not white. In this income class, the proportions of persons without services were fairly close racially.

Family income and work status.—Comparison by income of enrollees with complementary out-of-hospital coverage with enrollees categorized on the basis of family income is limited because the income data for the group with complementary

TABLE 6.—Estimated utilization and charges for SMI services incurred by SMI enrollees without hospital stays: Enrollees with complementary out-of-hospital coverage or with family income reported, by family income class and work status, Current Medicare Survey, 1969

Family income and work status [1]	Number of enrollees reporting (in thousands)	Percentage distribution of enrollees, by charge and deductible status				Number of services per user with charges [4]		Covered charges					
				With charges [3]				Percentage distribution of users, by charge interval				Charge per user	
		Total	Without services [2]	Deductible not met	Deductible met	Total	Deductible met	Total	$1–49	$50–99	$100 or more	Total	Deductible met
Complementary out-of-hospital coverage													
Family income	2,180	100	28	33	38	12	15	100	49	23	28	$92	$153
Less than $3,000	730	100	26	35	39	15	20	100	48	24	28	104	180
3,000–7,499	1,010	100	28	35	37	9	10	100	52	24	24	72	117
7,500 or more	440	100	33	27	40	13	15	100	42	21	38	118	183
Work status	2,570	100	28	33	39	12	14	100	49	23	28	88	145
No work	1,870	100	26	34	40	13	16	100	49	23	28	92	150
Part-time	310	100	31	37	32	7	10	100	56	25	19	71	129
Full-time	390	100	38	26	36	7	10	100	45	22	33	82	125
High family income													
Family income	1,380	100	24	30	46	9	13	100	42	23	35	$95	$141
$3,000–7,499	260	100	30	28	42	10	14	100	(*)	(*)	(*)	(*)	(*)
7,500 or more	1,120	100	28	14	58	9	13	100	42	24	34	95	140
Work status	1,380	100	24	30	46	9	13	100	42	23	35	95	141
No work	970	100	23	29	48	11	15	100	42	23	35	96	141
Part-time	110	100	(*)	(*)	(*)	(*)	(*)	100	(*)	(*)	(*)	(*)	(*)
Full-time	310	100	28	31	41	6	8	100	41	24	35	90	141
Low-to-moderate family income													
Family income	7,670	100	32	36	32	8	13	100	57	22	21	$73	$132
Less than $3,000	4,270	100	34	37	29	8	15	100	60	23	17	70	135
3,000–7,499	3,140	100	29	34	37	8	12	100	53	22	25	75	126
7,500 or more	250	100	36	42	23	6	10	100	(*)	(*)	(*)	(*)	(*)
Work status	7,670	100	32	36	32	8	13	100	57	22	21	73	132
No work	5,820	100	30	36	34	8	14	100	56	22	21	76	137
Part-time	1,120	100	38	34	28	7	11	100	58	24	19	61	111
Full-time	730	100	38	37	25	6	10	100	63	19	18	57	115

* Not shown where base is too small.

[1] Data represent enrollees reporting specified item. Components may not add because of rounding.

[2] Includes a relatively small number of persons with covered services who were not billed for them because the services were performed as professional courtesy or because payment for certain services is prohibited by law (those provided by relatives or household members, by a Federal hospital, or under workmen's compensation).

[3] Charges are actual amounts incurred in 1969. Some persons whose charges were less than $50 nevertheless met the deductible because of the carryover provision of the law: charges incurred in the last 3 months of 1968 and applied to the 1968 deductible are carried over to the deductible for 1969.

[4] Per capita rate slightly overstated; computation based on covered services that include a small percentage of services provided without charge.

coverage, unlike the data for the income categories, do not take into account family size. This limitation does not, however, affect data for families with incomes under $7,500 because family size does not significantly alter the income classification in either the less than $3,000 or $3,000–$7,499 brackets. The high-family income group must be excluded from this comparison. The comparison shows that enrollees with incomes less than $3,000 who have complementary coverage met the deductible at a rate about one-third higher and incurred charges of $100 or more at a rate almost two-thirds higher than did persons with comparable family income but without such coverage (table 6). Users with complementary coverage averaged 15 services a year compared with 8 for low-to-moderate income respondents.

Respondents with family incomes from $3,000 to $7,499 met the deductible at the same rate in both the low-to-moderate income category and the complementary coverage category. They also incurred charges of $100 or more at about the same rate.

Within the group having complementary out-of-hospital coverage, enrollees in the family income brackets of less than $3,000 and $3,000–$7,499 met the deductible at about the same rate (39 percent and 37 percent, respectively). Those persons with family incomes less than $3,000 reported more services per user—15 services compared with nine services for persons in families

with $3,000–$7,499 in income. Thus, when complementary coverage exists, there is little correlation between income and utilization.

Approximately 25 percent of the combined populations of the three categories without public medical assistance reported that they worked either full- or part-time. Twenty-five percent of full-time workers with low-to-moderate family incomes met the deductible compared with 41 percent of workers with high family incomes, and incurred charges of $100 or more at a significantly lower rate. There were relatively few who were part-time workers with high family incomes. Part-time workers in the other two categories utilized SMI services at relatively comparable rates.

Marital status and size of household.—At the time of the survey, an estimated 38 percent of enrollees without public medical assistance were divorced, widowed, or separated (table 7). Of these no-longer-married persons, if they were from families with a low-to-moderate income, 31 percent met the deductible and 19 percent had charges of at least $100 compared with about 45 and 31 percent for both those in high-income families and those with complementary coverage.

By size of household, the difference in meeting the deductible between respondents with low-to-moderate incomes and those with high incomes was most pronounced for persons living in households with three or more persons. In households of this size the proportion of persons meeting the deductible was approximately 80 percent greater for respondents with a high family income (47 percent, compared with 26 percent). The differences between the two categories in incurring charges of at least $100 and in per capita services, however, were largest for one-person households.

In utilization and charges for services, disparity between enrollees with low-to-moderate incomes and those with complementary coverage was, in general, widest for persons living alone. For persons living alone, 45 percent met the deductible if they had complementary coverage, compared with 32 percent if they had a low-to-moderate family income.

Private health insurance (excluding group-practice prepayment plans) and residence.—Respondents were asked if, in addition to their Medicare coverage, they were covered by (1) health insurance that pays all or part of their hospital bills, (2) health insurance that pays all or part of their doctors' bills when they are in a hospital, or (3) health insurance that pays all or part of the doctors' bills when they are *not* in a hospital. On the basis of replies to these three questions, enrollees are classified in table 8 by type of insurance coverage.

As described earlier, enrollees were first classified by whether or not they had complementary out-of-hospital insurance coverage. Those *without* such coverage were then grouped by family income. Many of the persons shown by income class carried private insurance limited to coverage of the coinsurance amounts for physicians' bills for in-hospital services and for hospital charges not paid by Medicare.

More than half of the 7.6 million enrollees with low-to-moderate incomes who reported on insurance did not carry any type of supplementary private health insurance. An estimated 40 percent of these approximately 4 million persons without private insurance did not use SMI services. In the high-income group, an estimated 35 percent of the enrollees had no private health insurance and an estimated 29 percent of these uninsured persons used no SMI services. Persons from the more affluent families without private insurance presumably had the financial resources to help pay for cost-sharing. Those using out-of-hospital medical services met the deductible and incurred charges of at least $100 at rates comparable with the rates of persons with complementary coverage for out-of-hospital services.

By place of residence, the relative difference between low-to-moderate income respondents and high-income respondents in the rate they met the deductible and incurred charges of at least $100 was less in cities with populations of at least 250,000 persons than in smaller cities and towns.

In the smaller urban areas, 36 percent of the more affluent users incurred charges of at least $100, twice the percent observed for the less affluent users. In rural areas, 25 percent of persons with low-to-moderate incomes and 30 percent of persons with complementary out-of-hospital coverage met the deductible, rates considerably below those (39 and 49 percent) for comparable groups living in large urban areas.

Mobility and comparative health status.—Re-

TABLE 7.—Estimated utilization and charges for SMI services incurred by SMI enrollees without hospital stays: Enrollees with complementary out-of-hospital coverage or with family income reported, by marital status and size of household, Current Medicare Survey, 1969

Marital status and size of household [1]	Number of enrollees reporting (in thousands)	Percentage distribution of enrollees, by charge and deductible status				Number of services per user with charges [4]		Covered charges					
								Percentage distribution of users, by charge interval				Charge per user	
		Total	Without services [2]	With charges [3]		Total	Deductible met	Total	$1–49	$50–99	$100 or more	Total	Deductible met
				Deductible not met	Deductible met								
	Complementary out-of-hospital coverage												
Marital status	2,560	100	28	33	39	12	14	100	49	23	28	$88	$145
Married	1,600	100	31	34	36	9	11	100	53	22	26	77	128
Widowed, divorced, etc.	770	100	24	31	45	17	20	100	43	27	31	109	169
Never married	190	100	(*)	(*)	(*)	(*)	(*)	100	(*)	(*)	(*)	(*)	(*)
Number of persons in household	2,560	100	28	33	39	12	14	100	49	23	28	88	145
1	650	100	27	28	45	19	21	100	40	26	34	117	178
2	1,510	100	27	35	38	8	11	100	51	23	26	79	130
3 or more	400	100	35	35	31	12	15	100	58	17	25	73	134
	High family income												
Marital status	1,380	100	24	30	46	9	14	100	43	22	35	$95	$141
Married	710	100	28	25	47	11	15	100	37	23	40	108	153
Widowed, divorced, etc.	590	100	19	35	46	8	11	100	47	22	31	83	128
Never married	70	100	(*)	(*)	(*)	(*)	(*)	100	(*)	(*)	(*)	(*)	(*)
Number of persons in household	1,380	100	24	30	46	9	14	100	43	22	35	95	141
1	370	100	24	30	46	14	22	100	46	15	40	93	139
2	770	100	27	26	47	8	10	100	38	25	36	96	137
3 or more	240	100	14	40	47	8	11	100	50	24	26	97	158
	Low-to-moderate family income												
Marital status	7,610	100	32	36	32	8	13	100	57	22	21	$73	$133
Married	4,080	100	31	36	33	8	13	100	56	22	22	71	127
Widowed, divorced, etc.	3,000	100	30	39	31	8	14	100	60	21	19	73	138
Never married	540	100	47	26	27	9	15	100	55	23	22	87	151
Number of persons in household	7,660	100	32	36	32	8	13	100	57	22	21	73	132
1	2,180	100	31	36	32	10	17	100	57	22	21	85	158
2	4,040	100	31	36	34	7	12	100	55	23	22	68	119
3 or more	1,450	100	36	38	26	7	12	100	65	19	16	66	131

* Not shown where base is too small.

[1] Data represent enrollees reporting specified item. Components may not add because of rounding.

[2] Includes a relatively small number of persons with covered services who were not billed for them because the services were performed as professional courtesy or because payment of certain services is prohibited by law (those provided by relatives or household members, by a Federal hospital, or under workmen's compensation).

[3] Charges are actual amounts incurred in 1969. Some persons whose charges were less than $50 nevertheless met the deductible because of the carryover provision of the law: charges incurred in the last 3 months of 1968 and applied to the 1968 deductible are carried over to the deductible for 1969.

[4] Per capita rate slightly overstated; computation based on covered services that include a small percentage of services provided without charge.

plies to questions on mobility indicate that somewhat under 15 percent of the people in the three major population groups without public medical assistance were handicapped, to a greater or lesser extent, in their ability to move around (table 9). Of these persons with impairments who carried complementary out-of-hospital coverage, 47 percent met the deductible, compared with 33 percent for persons with impairments in families with a low-to-moderate income. Measured by the proportion of persons who incurred charges of at least $100, however, the difference between the two groups was greater for persons without a limitation on their mobility. This difference may reflect the fact that proportionately fewer persons with low-to-moderate incomes than with complementary coverage incurred charges of that magnitude if they did not have an impairment.

At least half of the respondents in the three population groups without public medical assistance claimed they enjoyed better health than other people their age. In the high-income group, 62 percent said their health was better than that of other persons their age; of those making this assertion, 54 percent subsequently used no services or did not use enough to meet the deductible. In the low-to-moderate income group, 50 percent claimed better health, with 73 percent using no services or not enough to meet the deductible. In both income classes users in better health aver-

TABLE 8.—Estimated utilization and charges for SMI services incurred by SMI enrollees without hospital stays: Enrollees with complementary out-of-hospital coverage or with family income reported, by type of insurance and residence, Current Medicare Survey, 1969

Type of private health insurance and residence [1]	Number of enrollees reporting (in thousands)	Percentage distribution of enrollees, by charge and deductible status				Number of services per user with charges [4]		Covered charges					
								Percentage distribution of users, by charge interval				Charge per user	
		Total	Without services [2]	With charges [3]		Total	Deductible met	Total	$1–49	$50–99	$100 or more	Total	Deductible met
				Deductible not met	Deductible met								
Complementary out-of-hospital coverage													
Private health insurance	2,560	100	28	33	39	12	14	100	49	23	28	$88	$145
Hospital	2,370	100	27	32	40	9	14	100	48	24	28	90	144
Physicians' services, in-hospital	2,370	100	27	33	40	9	14	100	48	24	28	90	145
Physicians' services, out-of-hospital	2,400	100	27	33	40	9	14	100	48	24	28	89	144
Other coverage [5]	190	100	(*)	(*)	(*)	(*)	(*)	100	(*)	(*)	(*)	(*)	(*)
Residence	2,570	100	28	33	39	12	14	100	49	23	28	88	145
Urban, large cities [6] and suburbs	760	100	25	26	49	10	12	100	39	25	36	104	146
Urban, other cities and towns	1,560	100	29	36	35	13	16	100	53	22	25	85	151
Rural	250	100	33	37	30	8	12	100	(*)	(*)	(*)	(*)	(*)
High family income													
Private health insurance	1,380	100	24	29	47	9	13	100	42	23	35	$95	$141
Hospital	900	100	22	30	49	8	11	100	41	23	36	100	146
Physicians' services, in-hospital	800	100	21	29	50	9	12	100	39	24	37	103	93
Physicians' services, out-of-hospital [7]													
No private insurance	480	100	29	29	42	12	18	100	44	21	34	85	130
Residence	1,380	100	24	30	46	9	13	100	42	23	35	$95	141
Urban, large cities [6] and suburbs	580	100	18	31	51	8	11	100	44	22	34	98	145
Urban, other cities and towns	760	100	27	28	44	11	16	100	41	23	36	92	135
Rural	40	100	(*)	(*)	(*)	(*)	(*)	100	(*)	(*)	(*)	(*)	(*)
Low-to-moderate family income													
Private health insurance	7,640	100	32	36	32	8	13	100	57	22	21	$73	$132
Hospital	3,680	100	23	38	39	8	13	100	53	23	24	78	135
Physicians' services, in-hospital	2,960	100	25	36	39	8	13	100	52	24	23	79	134
Physicians' services, out-of-hospital [7]													
No private insurance	3,960	100	40	35	25	8	14	100	62	21	16	65	128
Residence	7,670	100	32	36	32	8	13	100	57	22	21	73	132
Urban, large cities [6] and suburbs	2,110	100	31	30	39	8	12	100	49	21	30	88	140
Urban, other cities and towns	4,220	100	32	37	30	8	14	100	58	23	18	69	129
Rural	1,340	100	32	43	25	7	14	100	67	20	13	58	123

* Not shown where base is too small.

[1] Data represent enrollees reporting specified items

[2] Includes a relatively small number of persons with covered services who were not billed for them because the services were performed as professional courtesy or because payment of certain services is prohibited by law (those provided by relatives or household members, by a Federal hospital, or under workmen's compensation).

[3] Charges are actual amounts incurred in 1969. Some persons whose charges were less than $50 nevertheless met the deductible because of the carryover provision of the law; charges incurred in the last 3 months of 1968 and applied to the 1968 deductible are carried over to the deductible for 1969

[4] Per capita rate slightly overstated, computation based on covered services that include a small percentage of services provided without charge.

[5] Respondents may have received services from Veterans Administration or belonged to a group-practice prepayment plan.

[6] With at least 250,000 population

[7] By definition, respondents in the two income categories did not have private insurance for physicians' out-of-hospital services

aged about the same number of services but more than twice as many high-income respondents incurred charges of $100 or more. Persons with complementary out-of-hospital coverage who reported better health than their peers also met the deductible more often and relatively more of them incurred high charges than did persons with low-to-moderate family incomes claiming the same health status. The differences between these categories were, however, smaller than the differences between the two income categories.

Persons who claimed worse health than that of other persons their age were, by far, the heaviest users of SMI services in the low-to-moderate income category—the only category, except for public medical assistance, in which they were numerous enough to permit analysis by all four indicators. Approximately 20 percent of the low-to-moderate income persons making this claim did not use covered services, and 57 percent met the deductible. Among respondents with complementary out-of-hospital coverage who reported

TABLE 9.—Estimated utilization and charges for SMI services incurred by SMI enrollees without hospital stays: Enrollees with complementary out-of-hospital coverage or with family income reported, by reported mobility and health status, Current Medicare Survey, 1969

Mobility and comparative health status [1]	Number of enrollees reporting (in thousands)	Percentage distribution of enrollees, by charge and deductible status				Number of services per user with charges [4]		Covered charges					
				With charges [3]				Percentage distribution of users, by charge interval				Charge per user	
		Total	Without services [2]	Deductible not met	Deductible met	Total	Deductible met	Total	$1–49	$50–99	$100 or more	Total	Deductible met
Complementary out-of-hospital coverage													
Mobility status [5]	2,540	100	28	33	39	12	15	100	49	23	28	$89	$145
Impaired mobility	300	100	28	24	47	34	31	100	36	28	36	136	195
Unimpaired mobility	2,240	100	29	34	38	9	12	100	51	22	27	82	137
Comparative health [5]	2,520	100	28	33	39	11	15	100	49	23	28	88	145
Better	1,490	100	32	34	34	7	11	100	53	22	26	76	131
Worse	200	100	12	20	67	(*)	(*)	100	(*)	(*)	(*)	(*)	(*)
Same	830	100	26	35	39	11	14	100	51	23	26	88	147
High family income													
Mobility status [5]	1,380	100	24	30	46	9	14	100	42	22	35	$95	$141
Impaired mobility	140	100	(*)	(*)	(*)	(*)	(*)	100	(*)	(*)	(*)	(*)	(*)
Unimpaired mobility	1,240	100	25	29	46	8	11	100	43	22	35	89	132
Comparative health [5]	1,370	100	24	29	47	10	14	100	42	22	35	96	141
Better	860	100	25	29	46	6	9	100	42	24	34	85	126
Worse	70	100	(*)	(*)	(*)	(*)	(*)	100	(*)	(*)	(*)	(*)	(*)
Same	450	100	26	30	44	14	22	100	44	21	35	96	144
Low-to-moderate family income													
Mobility status [5]	7,640	100	32	36	32	8	13	100	57	22	21	$73	$132
Impaired mobility	1,130	100	32	35	33	12	20	100	53	20	27	107	186
Unimpaired mobility	6,520	100	33	36	30	7	12	100	58	22	19	66	120
Comparative health [5]	7,610	100	32	36	32	8	13	100	57	22	21	73	133
Better	3,770	100	36	37	27	6	10	100	62	22	16	56	107
Worse	690	100	20	23	57	19	25	100	35	21	43	166	222
Same	3,150	100	30	38	32	7	12	100	57	22	21	68	123

* Not shown where base is too small

[1] Data represent enrollees reporting specified item. Components may not add because of rounding.

[2] Includes a relatively small number of persons with covered services who were not billed for them because the services were performed as professional courtesy or because payment for certain services is prohibited by law (those provided by relatives or household members, by a Federal hospital, or under workmen's compensation).

[3] Charges are actual amounts incurred in 1969. Some persons whose charges were less than $50 nevertheless met the deductible because of the carryover provision of the law: charges incurred in the last 3 months of 1968 and applied to the 1968 deductible are carried over to the deductible for 1969.

[4] Per capita rate slightly overstated, computation based on covered services that include a small percentage of services provided without charge.

[5] Mobility and comparative health status as reported at beginning of year, utilization and charge data are total for the year.

worse health, 12 percent did not use services and about 67 percent met the deductible.

FULFILLMENT OF NEED FOR PHYSICIANS' SERVICES

Respondents were asked at the beginning of the 1969 survey period (October 1968) whether they see a doctor as often as they believed necessary, and those answering negatively were asked why they do not do so. When more than one reason was given, only the first reason was recorded. The layman, of course, may not be able to determine accurately his need to see a doctor, and replies can be influenced by subjective factors. If, however, an individual states that he saw a doctor as often as he needed, it is reasonable to assume that his decision is based, at least in part, on assessment of his health needs and not solely on the availability of resources to pay for the services, although cost-sharing considerations may enter into his assessment.

An estimated 74 percent of the respondents without hospital stays reported that they see a doctor as often as they think necessary. The rate for the entire SMI population without unmet needs is 72 percent, as indicated in the tabulation that follows. This rate is comparable to that shown in the Retirement History Study of the Social Security Administration for a somewhat younger population (aged 58–63). In the spring of 1969, 74 percent of the respondents in that

Cost-sharing resource	Enrollees with unfulfilled need for physicians' services [1]			
	Total number reporting (in thousands)	Percentage distribution		
		Total	Without unmet needs	With unmet needs
Total	18,530	100	72	28
Without hospital stays	14,760	100	74	26
Public medical assistance	1,850	100	66	34
Complementary out-of-hospital coverage	2,540	100	81	19
High annual family income	1,380	100	83	17
Low-to-moderate family income	7,630	100	70	30
Family income not reported	1,360	100	79	21
With hospital stays	3,770	100	67	33

[1] As reported at beginning of survey period.

survey claimed that they had not postponed seeking care.[9]

The two most frequently reported reasons for failure to see a doctor were finances and inconvenience—unavailability of physicians, long waits at the doctor's office, or other inconveniences—as table 10 shows. Nearly two-thirds of the persons without hospital stays who claimed insufficient money to see physicians whenever it is necessary were from families with low-to-moderate incomes. An estimated 750,000 persons reporting insufficient money at the beginning of the survey period did not use services in 1969 or did not use sufficient services to meet the deductible: 68 percent of the low-to-moderate income category (495,000 persons) and 64 percent of the other categories (about 255,000 persons). Regardless of category, approximately 380,000 users claiming insufficient money to fulfill their medical needs had met the deductible in 1969, as indicated below.

Charge and deductible status [1]	Enrollees without hospital stays		
	Total	Low-to-moderate family income	All other enrollees [2]
Number reporting insufficient money to see doctor whenever needed, total (in thousands) [1]	1,130	730	400
Total percent	100	100	100
Without covered charges	21	25	15
With covered charges.			
Deductible not met	45	43	49
Deductible met	34	32	36

[1] Number reporting insufficient money as of beginning of survey period, charge and deductible status at end of survey period.
[2] Includes enrollees with public medical assistance, with complementary out-of-hospital coverage, with high family incomes, and enrollees who did not report family income.

[9] See Dena K Motley, "Health in the Years Before Retirement," *Social Security Bulletin*, December 1972.

Public medical assistance enrollees.—About two-thirds of the respondents with public medical assistance without hospital stays reported they saw a doctor as often as needed. Approximately 15 percent of the estimated 1.2 million persons making this claim did not use any services in 1969 (table 11). Differences in use of medical services in 1969 by public medical assistance enrollees reporting unmet needs and those reporting no unmet needs were sizable. Respondents reporting no unmet needs incurred charges of at least $100 at almost twice the rate of persons reporting an unfulfilled need to see a doctor (41 percent and 22 percent, respectively). The average user stating that he had no unmet needs obtained approximately three times the number of services obtained by the user who had not satisfied his need for physicians' services, and incurred a significantly higher per capita charge.

Insufficient money was the single most important reason given by respondents with public medical assistance for not seeing a doctor whenever necessary (30 percent). Inconvenience and lack of transportation were next in order of importance.

Other population groups.—Thirty percent of the respondents with low-to-moderate family incomes reported at the beginning of the survey period that they did not see a physician as often as they believed necessary, giving finances as the prime reason (32 percent). About 29 percent in this category who reported unmet needs did not see a doctor in 1969. In the high-income group, 17 percent claimed their needs were unmet—29 percent giving inconvenience as the major reason and 21 percent giving finances as the major reason.

Both for persons reporting unmet needs and for those without, the high-income population in 1969 had proportionately more persons using services, meeting the deductible, and incurring charges of $100 or more than did the less affluent population. Generally, however, the difference between the two income categories was greater for members who satisfied their needs for medical care than for members with unsatisfied requirements—a reflection perhaps of differences between categories in perception of need or in condition of health. Per capita services and charges for respondents without unmet needs were about the same in the two income groups.

TABLE 10.—SMI enrollees with and without hospital stays: Percentage distribution of enrollees with unfulfilled need for physicians' services, by cost-sharing resource and reason for not seeing doctor, Current Medicare Survey, 1969

Reasons for not seeing doctor [1]	Without hospital stays					With hospital stays
	Public medical assistance	Complementary out-of-hospital coverage	High family income	Low-to-moderate family income	Family income not reported	
Total number (in thousands)	620	480	240	2,280	280	1,230
Total percent	100	100	100	100	100	100
Financial reasons	30	20	21	32	23	27
Lack of transportation	18	8	7	11	6	11
Did not think would be helpful	12	17	17	12	19	13
Recovered before seeing doctor	10	8	16	16	12	12
Services not conveniently available	27	39	29	24	35	30
Other reasons	2	6	10	6	6	7

[1] As reported at beginning of survey period.

For persons with complementary out-of-hospital coverage, inconvenience was by far the major reason for not seeing a doctor as often as necessary. Financial reasons were the second most important cause for failure to get care.

COVERED AND NONCOVERED SERVICES

The data in the discussion that follows are based on the total population rather than on users only. Average charges are given both for services covered under the SMI program and services not covered under the program. Out-of-hospital prescription drugs, routine physical examinations, dental services, eye examinations, and eyeglasses are among the services and items not covered under the SMI program.

Public Medical Assistance Recipients

The public medical assistance population had a combined per capita charge for covered and noncovered services of $195, or $79 more than the per capita amount for the low-to-moderate income group (table 12). Covered services were primarily responsible for the high per capita charge of the public medical assistance enrollees, accounting for 60 percent of the charge.

TABLE 11.—Estimated utilization and charges for SMI services incurred by SMI enrollees without hospital stays: Enrollees, by cost-sharing resource and reported fulfillment of need for physicians' services, Current Medicare Survey, 1969

Item	Public medical assistance [1]		Complementary out-of-hospital coverage		High family income		Low-to-moderate family income		Family income not reported	
	Without unmet needs	With unmet needs	Without unmet needs	With unmet needs	Without unmet needs	With unmet needs	Without unmet needs	With unmet needs	Without unmet needs	With unmet needs
Number of enrollees reporting (in thousands)	1,230	620	2,060	480	1,140	240	5,350	2,280	1,070	280
Percent of enrollees, charge and deductible status										
Not using covered services [2]	15	10	31	19	24	22	34	29	43	29
Users of covered services with charges										
Deductible not met	34	45	30	43	28	36	36	38	28	29
Deductible met	52	45	39	38	47	41	31	34	30	42
Average number of visits and services per user [3]										
Users of covered services with charges	27	8	11	10	10	7	8	8	9	7
Users of covered services meeting deductible	40	13	15	14	14	10	14	12	14	9
Percent of enrollees with charges by charge interval [4]										
$1–49	43	53	47	55	42	47	58	56	53	51
50–99	16	25	24	18	22	22	22	22	19	16
100 or more	41	22	28	27	36	31	20	22	29	33
Average charge per user										
Users of covered services with charges	$149	$74	$90	$84	$96	$92	$75	$68	$89	$88
Users of covered services meeting deductible	231	125	144	151	139	151	138	120	155	130

[1] Charges for covered services are estimated for recipients of public medical assistance and are based on charges in the area for comparable services

[2] Includes a relatively small number of persons with covered services who were not billed for them because the services were performed as professional courtesy or because payment for certain services is prohibited by law (those provided by relatives or household members, by a Federal hospital, or under workmen's compensation).

[3] Per capita service rate slightly overstated, computation based on covered services that include a small percentage of services provided without charge

[4] Charges are actual amounts incurred in 1969. Some persons whose charges were less than $50 nevertheless met the deductible because of the carryover provision of the law: charges incurred in the last 3 months of 1968 and applied to the 1968 deductible are carried over to the deductible for 1969

TABLE 12.—Estimated covered and noncovered charges per capita for SMI enrollees without hospital stays: Amount and percentage distribution, by cost-sharing resource of enrollees, Current Medicare Survey, 1969

Type of charge	Public medical assistance	Complementary out-of-hospital coverage	High family income	Low-to-moderate family income	Family income not reported
Total amount of charges (in thousands)	$369,665	$366,564	$255,344	$892,049	$175,341
	Per capita charges [2]				
Total	$195	$143	$184	$116	$122
Covered charges	117	63	72	49	51
Noncovered charges:					
Prescription drugs	58	41	42	41	30
Other	20	38	70	26	41
	Percentage distribution of per capita charges				
Total	100	100	100	100	100
Covered charges	60	44	39	42	42
Noncovered charges:					
Prescription drugs	30	29	23	35	25
Other	10	27	38	22	34

[1] Charges for services are estimated for recipients of public medical assistance and are based on charges in the area for comparable services

[2] Per capita charges based on the total population in each category, not on users only

Charges for noncovered services (excluding drugs) accounted for one-tenth of the total per capita charge of medical assistance recipients. In contrast, such charges accounted for more than one-fifth of the total per capita charge for low-to-moderate income enrollees and almost two-fifths of the per capita charge for the high-income population.

Other Population Groups

For both noncovered services and covered services, enrollees with a low-to-moderate family income incurred a lower per capita charge than did the more affluent enrollees. The total difference between the two groups was $68, with SMI charges accounting for $23, prescription drugs for $1, and other noncovered services for $44.

Although for both groups the money difference in charges for prescription drugs was negligible, in each of the groups prescription charges were a significantly different proportion of the total charge. In the high-income group, drug charges were about 23 percent of total charges, with the remaining charges about equally divided between other noncovered services and covered services. For low-to-moderate income enrollees, drug charges were an estimated 35 percent of total per capita charges. Other charges not covered by SMI were 22 percent of the total; and covered charges were 42 percent. The average person with private insurance for out-of-hospital physicians' services or with other coverage to complement the SMI program incurred essentially the same charge for prescription drugs as did the person with a low-to-moderate or high family income.

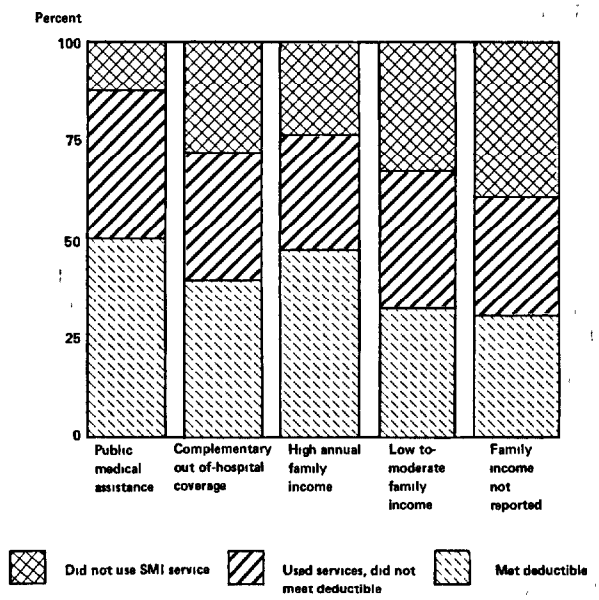
SUMMARY AND CONCLUSIONS

The initial decision to seek medical care generally rests with the individual. The deductible apparently has a greater effect on the making of this decision for enrollees from families with low-to-moderate incomes than for the other enrollees without hospital stays and without public medical assistance. In 1969, 68 percent of the persons with low-to-moderate incomes had no medical care or did not have sufficient care to meet the deductible. The comparable percentage for the more affluent enrollees was 54 percent. To put it another way, 46 percent of the affluent category met the deductible but only 32 percent of the low-to-moderate income category, as the accompanying chart shows.

For enrollees who meet the deductible, the effect of the coinsurance requirement is less clear. Once the enrollee has sought out medical care, it is chiefly the physician who determines the amount of his subsequent services.

In both the low-to-moderate income and the high-income categories, enrollees meeting the deductible averaged the same number of services,

Estimated utilization of SMI services by enrollees without hospital stays, Current Medicare Survey, 1969



and per capita charges did not differ significantly. Despite similar per capita rates, however, the threshold of health for seeking medical care appeared to differ. About 62 percent of the enrollees in the high-income category said their health was better than that of other persons their age, and about 54 percent of the enrollees making this assertion subsequently either used no services or did not use enough to meet the deductible. In the low-to-moderate income group, 50 percent claimed better health with an estimated 73 percent using no services or not enough services to meet the deductible.

Except for recipients of public medical assistance, enrollees with low-to-moderate family incomes reported the highest incidence of unmet needs for physicians' services. Almost two-thirds of the SMI population without hospital stays (including public medical assistance respondents) who claimed lack of enough money as the reason for their unmet needs were from families with low-to-moderate incomes. The demographic characteristics that distinguished the less affluent enrollees from the affluent generally were those that would tend to make the less affluent persons require a greater amount of medical care. Persons with out-of-hospital complementary coverage generally fell between the low-to-moderate income category and the high-income group in the level of SMI medical care they obtained.

The impact of cost-sharing sometimes differed according to demographic characteristics. In the low-to-moderate income category, for example, men regardless of age and persons aged 80 or older in particular felt the effect of the deductible more than their counterparts with high incomes. On the other hand, the proportion of persons under age 70 not seeing a doctor was the same regardless of reported family income or privately insured status. Higher education did not appear to reduce the difference between the less affluent respondents and high income-respondents in meeting the deductible.

Proportionately, fewer full-time workers in the low-to-moderate income category met the deductible than in the high-income category. In general, the difference between the less affluent respondents and the high-income respondents was more pronounced in the smaller cities and towns than in the larger urban areas. On the basis of household size, the relative difference between these two income categories in meeting the deductible was largest for respondents living in households with three or more persons. By some measures, however, the one-person household exhibited the largest difference.

Persons with complementary coverage for out-of-hospital services who had little education made greater use of SMI benefits than their counterparts in the other population groups without public medical assistance.

Compared with high-income respondents who claimed they had satisfied their need for doctors, relatively more low-to-moderate income respondents making this assertion subsequently did not see a doctor and fewer met the deductible or incurred charges of as much as $100.

Persons with public medical assistance were, by far, the heaviest users of out-of-hospital SMI services. Half the group incurred sufficient charges to meet the deductible. Respondents in this category who met the deductible, on the average, obtained 34 services compared with 13–14 services obtained by persons in other categories who met the deductible. The estimated annual per capita charge was $218 for enrollees with public medical assistance compared with $132–$153 for the others.

State agencies paid all or most cost-sharing obligations for public medical assistance respondents. At the same time, these respondents are older, presumably in poorer health and, conse-

quently, need more medical care services than the other population groups. For this group of enrollees, therefore, no firm conclusions can be drawn on the relationship between their heavy use of services and the partial or total absence of their need to pay the deductible and coinsurance.

Technical Note

Source of Data

The Current Medicare Survey (CMS) uses a two-stage probability sample design. The sample represents all medical insurance enrollees in the 50 States and the District of Columbia. The first-stage sample consists of 105 primary sampling units (PSU's). Each PSU consists of a standard metropolitan statistical area (SMSA), a single county, or several adjacent counties. Within these first-stage units, a systematic sample of persons is selected from a 5-percent sample of persons enrolled in the medical insurance program for whom all bills are assembled and used in the statistical system. The selection of this 5-percent sample is based on the last two digits of the health insurance claim number.

Persons in the sample are selected for interviews starting in October of each year and remain in the survey for 15 months. This 15-month cycle was determined by the fact that any covered medical expenses incurred by an individual in the last 3 months of a calendar year and applied to the deductible for that year may be carried over and applied to the deductible for the next calendar year.

The sample consists of two groups: (1) a basic group of individuals who would normally remain in the sample for 15 months and (2) a small incremental sample drawn to include persons "aging in" to the universe and added to the sample each month.

The following basic items of information are obtained: name and address of respondent, date and place of physician visits, type of physician, condition treated, prescriptions filled, and other medical services received, including services received in the hospital, extended care facility, and home as well as X-rays, medical tests, ambulance services, and the like. Also included are questions relating to the total amount of the bill of each service, the portion not covered by the program, and the source of payment. Where no information on charge is available, an estimating procedure is used that is based on the assumption that charges will be the same for similar services rendered in the same area. Information about the characteristics of the sample persons has also been collected, such as age, marital status, living arrangements. Additional information relating to the SMI program is obtained on an ad hoc basis as required.

Ninety-three percent of the sample responded and all values in this study are based on this response rate, with no provision for nonresponse.

Reliability of Estimates

Since the estimates in this report are based on a sample of enrolled persons, they may differ somewhat from the figures that would have been obtained if the same data had been collected for the entire universe of enrolled persons and the same collection procedures used. The data may also differ from the results of statistical compilation of data from the administrative records. As in any data collection, the results are subject to errors of response, reporting, and processing, as well as being subject to sampling variability.

The estimates developed from the CMS are based in part on the memory or knowledge of each of the respondents. The memory factor in data derived from field surveys probably produces underestimates, because the tendency is to forget minor or irregular items. On the other hand, the survey process in CMS involves successive visits to the same sample enrollees and the use of memory aids so that there may be less of this tendency. The memory aid used is a diary form left with the enrollee. As the enrollee uses any medical service, he is encouraged to record information about this service on the diary form. The successive visits also may have provided a basis for greater understanding of procedures involved in program participation, which may also affect the estimates derived from this survey. Some errors may also result from misunderstanding as to the scope of the program's coverage.

TABLE A.—Approximate standard error and relative variance of estimates of number of enrollees having various program or demographic characteristics

[68 chances out of 100]

Size of estimate (in thousands)	Standard error (in thousands)	Relative variance
500	45	0081
1,000	65	0042
1,500	80	.0028
2,000	90	0020
2,500	95	.0014
3,500	110	0010
5,000	125	0006
7,500	140	0004
10,000	145	.0002
12,500	140	0001
15,000	125	0001

The standard error is primarily a measure of sampling variability—that is, of the variations that occur by chance because a sample rather than the whole universe was used. As calculated for this report, the standard error also partially measures the effect of response errors but does not measure any systematic biases in the data. The chances are about 68 out of 100 that an estimate from the sample would differ from the result for the entire universe, with the same procedures and methods used, by less than the standard error. The chances are about 95 out of 100 that the differences would be less than twice the standard error. The chances are about 99 out of 100 that the differences would be less than two and one-half times the standard error.

To derive standard errors that would be applicable to the wide variety of items presented and that could be prepared at moderate cost, a group of items was selected for which approximations to the standard errors have been estimated. It is possible, through the use of a number of assumptions, to generalize the standard errors of estimates of the number of enrolled persons having various program or demographic characteristics. Similarly, it has been possible to generalize the standard errors of estimates for charge data and for visits.

The generalized tables of standard errors of numbers of persons, dollar amounts, and visits shown on the following pages provide an indication of the order of magnitude of the standard errors rather than the standard error of any specific estimate. For ease in some uses of the data, the relative variance of each estimate is also shown.

Table A may be used for approximate standard errors of estimates of the number of enrollees with various program or demographic characteristics. Table B is for charges, both where the deductible has been met and where it has not been met. Table C contains approximate standard errors of estimated number of visits, and table D is for percentages. The reliability of an estimated percentage computed by using sample data for both numerator and denominator depends on both the size of the percentage and the size of the denominator.

TABLE B.—Approximate standard error and relative variance of estimates of charges

[68 chances out of 100]

Size of estimate (in millions)	Total charges and deductible met		Deductible not met	
	Standard error (in millions)	Relative variance	Standard error (in millions)	Relative variance
$1	(1)	(1)	$0 5	2500
5	(1)	(1)	1.0	0400
10	(1)	(1)	1 5	.0225
25	$10	.1600	2 5	0100
50	15	.0900	3 0	.0036
100	20	0400	4 0	0016
250	35	.0196	5 0	0004
500	45	.0081	(1)	(1)
1,000	65	.0042	(1)	(1)
2,000	90	0020	(1)	(1)
3,000	110	.0014	(1)	(1)

[1] Value not computed.

Computations of Standard Errors

Several examples of computing standard errors (for estimates, for averages, for percentages, etc.) are shown below.

Estimated totals.—Linear interpolation provides a satisfactory basis for estimation of standard errors not presented directly in the tables. *Illustration:* From table 11, the estimated charges incurred during 1969 by enrollees without hospital stays but with complementary out-of-hospital insurance coverage amounted to $366,564,000. Reading table B, one finds:

Size of estimate	*Standard error*
$250,000,000	$35,000,000
500,000,000	45,000,000

Interpolation indicates that the standard error sought is about $39,663,000; the chances are about 68 out of 100 that the charges incurred by these enrollees was between $326,901,000 and $406,227,000 in 1969. Similar calculations may be made for persons, using table A, or visits, using table C.

TABLE C.—Approximate standard error and relative variance of estimates of number of visits

[68 chances out of 100]

Size of estimate (in millions)	Standard error (in millions)	Relative variance
1	0.5	.2500
5	1.5	.0900
10	2.0	.0400
25	3.5	.0196
50	4 5	0081
100	6 5	0042
150	8 0	.0028
250	10 0	0016

Percentages.—Table D is used to find the standard error of a percentage. *Illustration:* From table 2 for enrollees with public medical assistance, one finds that an estimated 50 percent of the 1,900,000 enrollees in this category met the deductible during 1969. Reading table D, an estimated 50 percent with a denominator of 1,900,000 persons has a standard error of about 2.5 percent. Thus the chances are about 68 out of 100 that between 47.5 and 52.5 percent of all enrollees on public medical assistance met the deductible during the year.

Averages.—In general, a useful estimate of the standard error of an average for relatively large groups may be obtained by multiplying the average times the square root of the sum of the relative variances of the average's numerator and denominator. *Illustration:* From table 11, low-to-moderate income enrollees incurred an average total charge of $116 per enrollee. From table 1, there were an estimated 7,670,000 such enrollees and total estimated charges were $892,049,000. The relative variance of the numerator is about 0.0050 (table B), that of the denominator is about 0.0004 (table A). The square root of the sum of these is about 0.0735. Multiplying this by the average of $116 gives a standard error of about $8.50. The chances are about 68 out of 100 that the average is between $107.50 and $124.50 per enrollee.

Differences.—To estimate the standard error of A-B (the difference of A and B), compute the square root of the sum of the squares of the standard errors of A and B. *Illustration:* From table 11, the estimated average total charge per low income enrollee in 1969 was $116, while that of high income persons was $184. The difference (high-low) is $68. As shown in the last example, the standard error of $116 was around $8.50; by the same method, one finds the standard error of $184 to be about $27.50. Therefore, the standard error of $68 is equal to the square root of $(\$8.50)^2 + (\$27.50)^2$ or approximately $29. The chances are 68 out of 100 that the true difference is between $39 and $97 ($68 ± $29).

TABLE D.—Approximate standard error of estimates of percentages based on persons or total charges

[68 chances out of 100]

Type of estimate and estimated percentage	Denominator of percentage				
Enrollees (in thousands)	300	1,000	2,000	7,500	17,500
Total charges (in millions)	$75	$250	$500	$2,000	$3,000
	Standard error of percentage				
Percent.					
2 or 98	1 7	0 9	0 6	0.3	0.2
5 or 95	2 6	1 5	1.0	.5	.4
10 or 90	3.6	2 0	1.4	.7	.6
25 or 75	5.2	2 9	2.1	1 0	.8
50	6 0	3.4	2.4	1.2	.9