Use of Medical Services Under Medicare

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THE STATISTICAL SYSTEM of the Social Security Administration records the use of and charges for covered hospital services under the hospital insurance program of Medicare (health insurance for the aged) and for covered medical services under the supplementary medical insurance program. This billing system involves considerable delays in the reporting of current information, however, because final data do not become available until the hospital and medical bills sent to and paid by intermediaries and carriers throughout the country are received by the Social Security Administration. For this reason, a continuing monthly Current Medicare Survey (CMS) is conducted to obtain current estimates of hospital and medical care services used and charges incurred by persons covered by these two programs.

This article deals only with the supplementary medical insurance program. It presents summary findings for 1967 from the Current Medicare Survey on the use of medical services under that program and their relation to selected economic and social characteristics of the aged population. The discussion is divided into four general subject areas: the characteristics of persons who use medical services, the proportion meeting the deductible, the sources of payment used in meeting the deductible and coinsurance amounts not paid by Medicare, and the use of prescription drugs, which are not covered under the medical insurance program but about which data have been collected in the survey. A technical note follows the article.

BACKGROUND

The Current Medicare Survey sample consists of about 4,500 persons selected from the 5-percent statistical sample of persons enrolled in the supplementary medical insurance program that is used in the basic Medicare data system.[1] The CMS sample currently represents about 20 million medical insurance enrollees residing in the 50 States and the District of Columbia.

Each year a new panel of sample persons is selected and remains in the sample 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 the next calendar year may be carried over and applied to the deductible for the next calendar year.

Data on the general use of and charges for medical care are collected monthly. In addition, data on various demographic characteristics are gathered once at the beginning of the 15-month interviewing cycle. At the end of the cycle, some items are updated and certain economic data are added. In 1967, however, the demographic data were obtained only once, near the end of the year.

A 15-month time period for the monthly interviews of a panel of eligible persons offers many advantages, but it is recognized that the possible conditioning of the person in the sample as he becomes better acquainted with the program may result in sample bias. Census interviewers are instructed not an answer any questions about the Medicare program but to refer persons with genuine questions to a social security district office. It is difficult to determine what conditioning, if any, is introduced into the sample because of repeated exposure. A comparison of an outgoing sample with an incoming sample for the October–December period of the same year does not, however, indicate major differences in the proportion using services.

Before examining the findings from the survey for 1967 on the use of medical care services and their relation to economic and social characteristics, it is essential to emphasize that the data include only services covered under the medical insurance program of Medicare. Charges and

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[1] For a description of the basic data system, see Howard West, "Health Insurance for the Aged: The Statistical Program," *Social Security Bulletin,* January 1967, pages 3–16.

services covered by the hospital insurance program are excluded, but physician's services during a hospital stay are included. Also excluded are charges for the services of noncovered practitioners such as dentists and chiropractors. (Some data on prescription drugs are presented separately from the data for covered services under the program.)

The Current Medicare Survey also excludes charges made and services provided for hospital patients by pathologists and radiologists even though they are reimbursable under the medical insurance program. These charges are excluded because the hospital patient is frequently unaware of them and may not be billed separately for them. This exclusion results in some understatement of utilization and total charges. General underreporting as a result of faulty recall by the aged may also depress charges. The use of a diary form helps to minimize this problem, however, because the enrollee is encouraged to record in advance of the interviewer's visit the use of medical care services.

The reimbursable charges derived from the Current Medicare Survey are, of course, estimates. Reimbursement for covered services is predicated on the need to meet the $50 deductible. The deductible status of each person in the survey is calculated for individuals as each change occurs. An assumption is made that all charges would be "allowable" as determined by the Medicare carrier, who has this responsibility and makes payment. The survey uses the term "potentially reimbursable" because there is no certainty that all persons entitled to reimbursement will, in fact, file for benefits. This procedure leads perhaps to some overestimation of reimbursable charges.

For some demographic characteristics, the data were unknown for about 10 percent of the sample in 1967. In that year, the demographic information was collected near the end of the year. The result was that certain characteristics could not be obtained for those persons who had been enrolled earlier in the year but whose coverage had been terminated because they had died, disenrolled, or moved out of the sampling area. Since, in subsequent years, the demographic questions were asked near the beginning of the survey period, an improvement in the response rate should result.

In addition, many persons who answered most questions could not or would not supply complete income information. Data on family income were reported in full for about three-fifths of all persons who were ever enrolled in 1967. Proportions related to income therefore apply only to those reporting on income and do not represent the entire enrolled population.

In 1967—the first full year of Medicare operations—nearly 19 million persons were enrolled at some time during the year in the medical insurance program, or about 93 percent of all persons eligible for hospital insurance benefits under Medicare during that year. This ever-enrolled population (that is, enrolled at any time during the year) is used as a base for determining the proportion of persons who used services during the year. Another enrollment population used is "average" enrollment—full-year equivalents of the number of persons enrolled—a figure that is especially useful as a base for calculating average charges per person enrolled. The "average" enrollment for 1967 was about 18 million, or 1 million less than the ever-enrolled population.

FINDINGS

Previously published data from the Current Medicare Survey have examined the use of medical services according to age, sex, and region.[2] This report presents, for the first time, data relating the use of medical services to a larger number of social and economic characteristics.

Use of Covered Medical Services

In the calendar year 1967 about 15 million persons, or almost four-fifths of all enrollees, used some covered medical services. Total charges of almost $2.2 billion were incurred during the year—an annual average of $152 per person. Various types of services are covered under the medical insurance program, including physicians' visits in and out of the hospital, services of other medical personnel such as nurses, physical thera-

[2] See Current Medicare Survey Reports (CMS 1–12), *Health Insurance Statistics*, Office of Research and Statistics.

pists, and those providing ambulance services and other medical services and supplies. All types of medical services used in 1967 numbered 238 million, and 221 million of them represented physicians' visits.[3]

The number of physicians' visits averaged 16 per person using this service. On a per-person-enrolled basis, the average number of visits was 14. For those familiar with the data on physicians' visits from the Health Interview Survey conducted by the National Center for Health Statistics, this figure appears much too high. That survey reported a total of six physicians' visits per person aged 65 and over for the year ending June 30, 1967.[4]

Most of the difference between the two numbers is explained by the fact that the Current Medicare Survey counts the surgical and medical visits of physicians in hospitals and nursing homes and the National Center for Health Statistics omits such visits from the total count. When the in-hospital and nursing-home visits are omitted from the total reported by the Current Medicare Survey, the number is reduced substantially and compares closely to the National Health Survey figure. In 1968, for example, 14.9 physicians' visits per person were reported in all locations. Of this total, 8.1 visits were for inpatients of hospitals or other institutions and 6.8 represented out-of-hospital visits.[5]

Table 1 presents the Current Medical Survey data on the use of and charges for covered medical care services by aged persons in terms of various demographic, economic, and social characteristics of the aged.

Age, race, and sex.—The proportion of the population using covered medical services increased with advancing age from 75 percent for persons aged 65–69 to 82 percent for persons aged 75 and older. The average number of physicians' visits per person served also rose with age: 14 visits for persons aged 65–69 and 18 visits for those aged 75 and older. These differences are not unexpected since the aging process is generally coupled with a rise in chronic health conditions that require medical attention. The differences according to age in the estimates for average charges per person served were not significant.

A larger percentage of women (82 percent) than of men (75 percent) used medical care services during the year, but differences in average charges and the average number of physicians' visits were not significant.

It is interesting to note that no significant difference related to race was evident in the proportion of persons using services. Averages for charges and for visits per person using services, however, were significantly higher for white persons than for all persons of other races. Average charges for the former group were almost twice that for the latter—$157, compared with $86. The average number of physicians' visits per person using services was also significantly higher for white persons—16 visits, compared with 12. The larger number of visits for white persons partly accounts for the higher charges.

Education.—There were no significant differences by level of education in the rate of use of medical services or in the average number of physicians' visits. It is important to note, however, that the nonresponse rate on this item was very high—almost 13 percent. Education was one of the characteristics for which the data were collected near the end of the year and many persons could not be reached. The large number who died before information on education and a few other characteristics could be obtained accounts for the higher figures for utilization, average charges, and visits per person served that are shown for those not reporting such characteristics. Frequently, the period immediately before death is one marked by higher medical utilization and charges.

Health limitations.—The impact of poor health on use of medical services is clearly demonstrated by the data on health limitations of the sample population. Twice a year the sample person is asked to rate his health in terms of his ability to move around inside and outside his living quarters. The proportion of persons confined to bed who used services is about one-third higher

[3] Physicians' visits are defined as the visits or services of physicians to patients, performed in the hospital and in out-of-hospital settings—extended-care facilities, clinics, offices, private residences, etc.

[4] *Volume of Physician Visits, United States, July 1966–June 1967*, National Center for Health Statistics, Series 10, Number 49.

[5] See "Medical Insurance Sample," *Health Insurance Statistics* (CMS Note No. 12), Office of Research and Statistics, 1970.

than for persons who had no health limitations. Seventy-four percent of those with no limitations used some medical service, and 99 percent of those confined to bed used services. Clearly, persons with no health limitations are least likely to use medical services and those at the other end of the severity-of-limitation spectrum are the most likely to seek medical care.

Health limitations also have a significant impact on the charges and frequency of use of services. For persons confined to bed or house, the average number of physicians' visits per per-

TABLE 1.—Estimated use of and charges for covered medical services under the supplementary medical insurance program, by selected characteristics, 1967

Characteristic	Persons ever enrolled			SMI charges		Physicians' visits (ambulatory and hospital)	
	Total (in thousands)	Using SMI services		Total (in millions)	Average per person using services	Number (in thousands)	Average per person using services
		Number (in thousands)	Percent of total				
Total	18,960	14,946	79	$2,159	$152	220,972	16
Age:							
65–69	5,933	4,448	75	552	136	55,961	14
70–74	5,528	4,350	79	637	151	62,333	15
75 and over	7,499	6,148	82	971	165	102,678	18
Sex:							
Men	8,090	6,039	75	893	157	92,263	16
Women	10,870	8,907	82	1,267	149	128,710	15
Race:							
White	17,248	13,605	79	2,032	157	204,081	16
All other	1,462	1,134	78	91	86	13,009	12
Unknown	251	207	82	37	219	3,883	23
Education:							
Less than 7 years	4,622	3,503	76	429	125	48,154	14
7–8 years	4,920	3,795	77	545	147	51,987	14
9 years and over	7,007	5,456	78	829	156	72,724	14
Not reported	2,411	2,191	91	357	206	48,107	28
Health limitations:							
Confined to bed or house	880	825	94	277	338	30,980	38
Other limitations	2,190	1,931	88	403	211	41,078	22
No limitation	13,782	10,266	74	1,191	119	114,044	11
Not reported	2,109	1,923	91	289	197	34,870	24
Marital status:							
Nonmarried	8,582	6,757	79	923	140	99,561	15
Married	8,896	6,814	77	1,038	158	95,244	14
Not reported	1,482	1,375	93	198	196	26,168	26
Living arrangement:							
Institution	869	812	93	272	343	39,080	49
Living alone	4,076	3,162	78	386	124	38,837	12
Living with spouse only	6,914	5,274	76	775	151	69,132	14
Living with others	5,291	3,997	76	498	128	46,485	12
Not reported	1,809	1,700	94	229	180	27,438	22
Household size:							
1 person	4,879	3,907	80	646	168	76,598	20
2 persons	8,744	6,670	76	918	142	83,823	13
3 or more persons	3,524	2,663	76	367	142	33,013	13
Not reported	1,813	1,704	94	229	180	27,539	22
Work status:							
None	12,537	9,914	79	1,449	148	149,164	15
Part time	1,631	1,164	71	115	103	10,186	9
Full time	1,857	1,236	67	140	122	11,044	10
Not reported	2,935	2,632	90	455	211	50,578	23
Family income:							
Less than $3,000	6,130	4,674	76	632	137	70,150	15
3,000–4,999	2,539	1,886	74	258	141	24,605	13
5,000 or more	2,746	2,072	75	305	152	26,491	13
Not reported	7,545	6,314	84	965	168	99,727	17
Private health insurance coverage:							
No plan at all	8,284	6,210	75	876	144	95,974	16
Hospital care only	1,333	1,046	78	147	145	13,025	13
Hospital and surgical care only	1,993	1,611	81	237	150	20,748	13
Hospital, surgical, and physicians' care	4,849	3,809	79	570	154	51,194	14
Other combinations	307	268	87	32	123	2,984	11
Not reported	2,196	2,001	91	297	192	37,047	24
Welfare status:							
No welfare	15,696	12,077	77	1,682	147	160,008	14
Some welfare	3,265	2,869	88	477	174	60,964	22
Region:							
Northeast	5,170	4,130	80	587	150	67,654	17
North Central	5,587	4,313	77	569	139	62,203	15
South	5,386	4,190	78	590	147	57,280	14
West	2,817	2,313	82	414	189	33,836	15
Size of community:							
Urban	16,641	13,242	80	1,973	158	200,460	16
Rural	2,315	1,699	73	186	112	20,491	12

[1] Less than $500,000.

NOTE: Small numbers are subject to relatively large sampling variability. They are shown here only to assist the users of data should they wish to form aggregates and not because they possess reliability in and of themselves.

son served was about three and one-half times that of persons who reported no health limitation—38 visits, compared with 11. The large number of physicians' visits per person using services who report severest health limitations account for the very high average for this group. Average charges per person confined to bed or house was $338 during 1967. This amount declined proportionately with the severity of limitation to $119 for those reporting no health limitations.

Again, for this question the nonresponse rate is high. The question was asked only once in 1967. In later years it was asked twice. It is clear that persons not responding in 1967 had died before the interview and that such persons might have had health limitations resulting in a high rate of use of medical services. Ninety-one percent of the persons not reporting health limitations used medical services in 1967, a rate comparable to that for persons reporting the severest limitations.

Marital status, living arrangements, and household size.—Marital status and living arrangements (whether a person lived alone, with spouse, or other persons) had very little effect on the rate of use of medical services, average charges, or the average number of physicians' visits—except for institutionalized persons, whose utilization rate and charges were higher than those of all others.[6]

Closely connected with living arrangements is the total number of persons residing in the household. In households consisting of one person, about 80 percent used some medical services. This proportion was significantly higher than the 76 percent using services in households with two or more persons. In households with only one person, the number of visits per person served averaged 20 visits, but the average was only 13 visits for persons in households of two or more persons. Persons living alone tend to be older and, as mentioned previously, use more services. There were no significant differences related to household size in average charges per person served.

Work status and family income.—An individual's employment status influences the amount of income and other resources that accrue to the family unit. Particularly for persons aged 65 and older, this factor also may be a partial indication of the ability of the individual to work. Many factors must be considered, including the availability of and the desire to work, but it is probably true that people with major health problems are less likely to be employed. The data on use of services by employment status confirm this hypothesis. Persons who worked full or part time had a lower rate of utilization and had fewer physicians' visits per person served than did those who did not work. Almost 80 percent who did not work during the year used medical services, compared with 71 percent for part-time workers and 67 percent for full-time workers. The average number of physicians' visits for those who did not work was about one and one-half times the average for the workers. Since persons who do not work tend to be older, age undoubtedly plays a large part in the use of services among those not working.

Private health insurance coverage.—Many older persons have private health insurance coverage in addition to Medicare. The survey data indicate that 37 percent had private insurance coverage for surgical services and 27 percent for physicians' visits outside the hospital. Some plans pay a fixed amount according to the type of medical service; others, particularly the Blue Shield plans, are designed to cover the gaps in Medicare payment for physicians' services. The effect on the use of Medicare services by persons with such private health insurance coverage cannot be readily determined from the data shown in table 1. Nevertheless, there is some indication that persons covered under private plans that pay for hospital services and surgeons' services are more likely to use medical services than those without any private health insurance: 81 percent of the former group used medical services, compared with 75 percent of the latter group. No significant differences between those with plans and those with no plans are indicated, however, in average charges and average number of physicians' visits per person served.

[6] For purposes of the survey, these institutions include nursing homes, homes for the aged, rest homes, convalescent homes, tuberculosis sanitariums, and institutions for the mentally ill or emotionally upset. Information is collected directly from persons who are inpatients of such institutions if these persons are physically or mentally able to be interviewed. If not, the information is obtained from a relative or friend who is knowledgeable about the sample person's use of medical services or from staff members of the institution.

Welfare status.—For purposes of the survey, persons were classified as receiving some welfare payments or services if (1) the central records of the Social Security Administration showed that a State where the person resided had agreed to pay the premium for the individual; (2) in response to a question in the survey about sources of income the individual listed some public assistance or other welfare payments; or (3) the person indicated in reporting a medical service that a welfare agency would pay either the entire amount or at least the part not covered by Medicare.

About 17 percent of all medical insurance enrollees received some welfare services during 1967. Welfare recipients had higher utilization rates and a higher average number of physicians' visits per person served than other enrollees. Differences in average charges per person served were not significant, however.

Region and size of community.—Among the four Census regions, slight variations were reported in the use of and charges for medical services. Differences occurred between the North Central region and the West in the percentage utilizing services and the average charges per person using services; the proportions were 77 percent for the North Central region and 82 percent for the West. Average charges per person served were highest in the West, and the average number of physicians' visits per persons served was highest in the Northeast. Differences among the regions in the use of and charges for medical care services reflect differences in age composition, illness rates, type of illness, and level of charges for medical care.

Size of community, divided here into urban and rural,[7] apparently is an important factor in the use of medical services. Persons residing in urban areas had higher utilization rates, higher average charges, and more physicians' visits per person served than persons in rural areas. The availability of a larger number and variety of medical services perhaps contributes to the higher utilization of services and the greater number of physicians' visits for persons residing in urban areas.

[7] Cities of 2,500 or more persons are classified as urban. Towns or villages under 2,500, open country, and farms are classified as rural.

Meeting the $50 Deductible

About 8.5 million persons had incurred sufficient charges in 1967 to meet the $50 deductible. This total represented about 57 percent of all persons who used some services during 1967. For those who met the deductible, average charges per person served were about $249; they were $20 per person served for those not meeting the deductible. Potentially reimbursable charges for persons meeting the deductible amounted to $169 (table 2).

Persons more likely to use medical services possess certain characteristics, as noted earlier. It is therefore not surprising that persons with the same characteristics generally are more likely than others to meet the deductible entitling them to reimbursement under the program. For example, persons with higher utilization rates were older, had more severe health limitations, were not working, and lived in urban areas, and these are the individuals who are likely to have incurred sufficient charges to enable them to meet the deductible.

Fifty-two percent of persons aged 65–69 met the deductible, compared with 60 percent for the group aged 75 and over. Average charges for those in the oldest age group who met the deductible were 14 percent higher than those in the youngest age group—$265 compared with $232.

Three-fourths of those confined to bed or house met the deductible in 1967, and their charges averaged $442. In contrast, only half of those persons with no health limitations met the deductible, and their charges were less than half of those with the severest limitations ($208).

For persons living in institutions, the proportion who met the deductible and their average charges ($430) were significantly higher than they were for persons not living in institutions. Similarly, persons not working, with some welfare payments or services, and living in the West and in urban areas were more likely to meet the $50 deductible and their average charges were higher than those workers who were not welfare recipients, did not live in the West, or did not reside in urban areas.

Although a larger proportion of women than of men used services, among men and women who met the deductible the proportions showed no difference. The lack of difference may reflect the fact that the number of visits and average

charges per person served were about the same for men and women.

The opposite situation occurred for race. The utilization rate for white persons was not significantly different from that of all other races, but their total average charges and the number of physicians' visits per person served were higher than those of other races. Thus, 58 percent of the white persons using services met the deductible, with average charges of $253; the proportion was only 44 percent for persons of all other races and their charges averaged $171.

TABLE 2.—Estimated average charges under the supplementary medical insurance program by deductible status and selected characteristics, 1967

Characteristic	Deductible not met		Deductible met		Average charges per person served		
						Deductible met	
	Number (in thousands)	Percent of persons served [1]	Number (in thousands)	Percent of persons served [1]	Deductible not met	Total	Potentially reimbursable
Total	6,018	40	8,548	57	$20	$249	$169
Age:							
65–69	1,983	45	2,334	52	20	232	154
70–74	1,707	39	2,548	59	21	243	165
75 and over	2,328	38	3,666	60	20	265	182
Sex:							
Men	2,370	39	3,471	57	19	257	175
Women	3,649	41	5,077	57	21	244	165
Race:							
White	5,330	39	7,931	58	20	253	172
All other	600	53	498	44	18	171	105
Unknown	88	43	119	57	23	351	248
Education:							
Less than 7 years	1,587	45	1,841	53	20	218	145
7–8 years	1,614	43	2,094	55	20	248	168
9 years and over	2,188	40	3,130	57	20	255	175
Not reported	627	29	1,484	68	22	286	193
Health limitations:							
Confined to bed or house	190	23	619	75	26	442	324
Other limitations	605	31	1,280	66	25	306	217
No limitation	4,649	45	5,367	52	19	208	137
Not reported	573	30	1,282	67	23	276	184
Marital status:							
Nonmarried	2,741	41	3,855	57	21	229	153
Married	2,838	42	3,809	56	19	265	182
Not reported	440	32	884	64	23	282	189
Living arrangement:							
Institution	151	19	639	79	20	430	316
Living alone	1,378	44	1,688	53	20	214	141
Living with spouse only	2,244	43	2,891	55	19	258	177
Living with others	1,730	43	2,190	55	20	213	141
Not reported	514	30	1,140	67	23	250	162
Household size:							
1 person	1,518	39	2,276	58	21	273	189
2 persons	2,858	43	3,656	55	19	240	162
3 or more persons	1,126	42	1,472	55	22	236	159
Not reported	514	30	1,144	67	23	249	162
Work status:							
None	4,031	41	5,668	57	20	243	166
Part time	620	53	519	45	19	201	130
Full time	579	47	599	48	19	227	148
Not reported	790	30	1,761	67	22	298	204
Family income:							
Less than $3,000	2,141	46	2,441	52	18	244	167
3,000–4,999	818	43	1,012	54	21	244	165
5,000 or more	766	37	1,247	60	23	234	159
Not reported	2,293	36	3,848	61	21	260	176
Private health insurance coverage:							
No plan at all	2,586	42	3,489	56	19	240	162
Hospital care only	453	43	566	54	22	247	170
Hospital and surgical care only	660	41	926	57	21	243	165
Hospital, surgical, and physicians' care	1,618	42	2,082	55	20	263	181
Other combinations	103	38	157	59	29	192	127
Not reported	596	30	1,328	66	23	271	180
Welfare status:							
No welfare	5,071	42	6,674	55	20	248	168
Some welfare	947	33	1,874	65	22	254	174
Region:							
Northeast	1,667	40	2,344	57	22	248	168
North Central	1,901	44	2,345	54	20	237	160
South	1,785	43	2,286	55	19	252	171
West	665	29	1,573	68	21	265	180
Size of community:							
Urban	5,108	39	7,761	59	20	253	172
Rural	909	54	783	46	19	217	144

[1] Percents are based on all persons using covered medical services, including a few persons for whom a bill is not expected.

NOTE: Small numbers are subject to relatively large sampling variability. They are shown here only to assist the users of data should they wish to form aggregates and not because they possess reliability in and of themselves.

The rate of use of services was not affected by family income. The proportion of persons meeting the deductible did, however, rise slightly with higher income.

Source of Payment

Medicare is not responsible for the first $50 of covered charges incurred by the enrollee nor for more than 80 percent of the charges after this deductible is paid. These amounts may be paid by the enrollee or the spouse, by private insurance plans, by a welfare agency, or through combinations of these and other sources. One person may, for example, pay part of these amounts himself and rely on a private insurance plan for the remaining deductible and coinsur-

TABLE 3.—Estimated number and percent of supplementary medical insurance enrollees using covered medical services, by source of payment of deductibles and coinsurance amounts, 1967

Characteristic	Enrollees using services (in thousands)	Percent by source of payment				
		Total	Self or spouse	Insurance [1]	Welfare [1]	Other [2]
Total	14,946	100	49	20	10	21
Age:						
65–69	4,448	100	53	23	7	17
70–74	4,350	100	51	20	9	20
75 and over	6,148	100	44	17	12	27
Sex:						
Men	6,039	100	50	20	9	21
Women	8,907	100	48	20	10	22
Race:						
White	13,605	100	49	21	9	21
All other	1,134	100	48	7	19	26
Unknown	207	100	36	14	18	32
Education:						
Less than 7 years	3,503	100	52	10	15	23
7–8 years	3,795	100	51	23	9	17
9 years and over	5,456	100	53	25	4	18
Not reported	2,191	100	29	18	17	36
Health limitations:						
Confined to bed or house	825	100	28	14	17	41
Other limitation	1,931	100	42	14	15	29
No limitations	10,266	100	55	22	7	16
Not reported	1,923	100	30	19	15	36
Marital status:						
Nonmarried	6,757	100	47	18	12	23
Married	6,814	100	54	23	6	17
Not reported	1,375	100	29	16	19	36
Living arrangement:						
Institution	812	100	16	10	30	43
Living alone	3,162	100	50	20	12	18
Living with spouse only	5,274	100	55	25	4	16
Living with others	3,997	100	55	16	8	21
Not reported	1,700	100	29	19	16	36
Household size:						
1 person	3,907	100	43	18	16	23
2 persons	6,670	100	55	23	5	17
3 or more persons	2,663	100	53	16	8	23
Not reported	1,704	100	29	19	16	36
Work status:						
None	9,914	100	50	19	10	21
Part time	1,164	100	60	22	4	14
Full time	1,236	100	59	24	1	16
Not reported	2,632	100	34	20	14	32
Family income:						
Less than $3,000	4,674	100	53	14	14	19
3,000–4,999	1,886	100	51	26	7	16
5,000 or more	2,072	100	50	23	4	23
Not reported	6,314	100	44	22	9	25
Private health insurance coverage:						
No plan at all	6,210	100	57	4	20	19
Hospital care only	1,046	100	57	22	2	19
Hospital and surgical care only	1,611	100	52	30	1	17
Hospital, surgical, and physicians' care	3,809	100	42	42	1	15
Other combinations	268	100	41	36	6	17
Not reported	2,001	100	30	18	15	37
Welfare status:						
No welfare	12,077	100	55	24	---	21
Some welfare	2,869	100	20	3	50	27
Region:						
Northeast	4,130	100	43	23	10	24
North Central	4,313	100	50	26	7	17
South	4,190	100	56	14	8	22
West	2,313	100	45	14	17	24
Size of community:						
Urban	13,242	100	47	21	10	22
Rural	1,699	100	64	13	10	13

[1] Either alone or in combination with payment by self or spouse.
[2] Includes other combinations of sources of payment and unknowns.

NOTE: Small numbers are subject to relatively large sampling variability. They are shown here only to assist the users of data should they wish to form aggregates and not because they possess reliability in and of themselves.

ance amounts. Some persons may always use the same source of payment.

The relative importance of these payment sources can be measured in various ways. Here, enrollees have been classified in mutually exclusive categories that may represent one or a combination of payment sources for all services in the period. Only selected categories have been tabulated and shown in table 3.

In 1967, about half the enrollees using services indicated that they or their spouses paid all deductible and coinsurance charges. One-fifth of the enrollees indicated the participation of a private insurance plan either alone or with some payment by the person. One-tenth indicated that welfare paid all of the coinsurance and deductible amounts, or part with some self-payment. The remaining fifth of the enrollees used other combinations of sources of payment.

Welfare recipients as a group are likely, of course, to have a welfare agency pay the major share of their expenses not covered by Medicare. It is not surprising then to find half the enrollees indicating that a welfare agency had paid all or part of the deductible and coinsurance amounts. It is also clear that this group of persons has very little private health insurance; only 3 percent reported private insurance as a payment source.

Welfare agencies also ranked high as a source of payment for the institutional population. Thirty percent of that group had their deductible and coinsurance amounts paid by welfare funds.

Younger persons are more likely than older persons to pay their own bills for the deductible and coinsurance amounts not covered by the medical insurance program. They are also somewhat more likely to have private insurance as a payment source.

The pattern of payment source differs with race. About the same proportion of white persons and of persons of all other races indicated self or spouse as the sole payment source for deductibles and coinsurance. Nevertheless, an inverse relationship exists between insurance and welfare payments for these two groups. Twenty-one percent of white persons, compared with only 7 percent of the persons of all other races, used private insurance as a payment source. The converse is true for welfare funds as a source of payment: these funds were the payment source for only 9 percent of white persons and for 19 percent of all other races.

As expected, the proportion of persons who rely upon welfare programs was inversely proportional to reported family income. Fourteen percent of those with a total reported annual income of less than $3,000 indicated welfare funds as a payment source, compared with 7 percent in the $3,000–$4,999 income level and 4 percent in the income level of $5,000 or more. Persons with lower incomes are also less likely than those with higher incomes to have used private insurance as a means to cover deductible and coinsurance amounts.

When insurance or a welfare program is the source, there are differences between persons without health limitations and all others. The proportion of enrollees who pay the deductible and coinsurance amounts themselves, however, rises from a low of 28 percent for persons confined to the bed or house to 42 percent for those with other limitations; it reaches 55 percent for persons with no limitations.

It is interesting to compare, for persons with and without health limitations, the proportion relying on themselves as the sole payment source with the average charges per person served, as shown in table 1. As average charges rise from $119 per person with no health limitations to $338 among those confined to bed or the house, the proportion who rely on themselves as the sole payment source falls from 55 percent to 28 percent. Many of the persons who were limited in physical activity in 1967 not only had higher charges but they may have also suffered a reduction in income and/or assets and were therefore less able to rely on themselves as a payment source.

With respect to the level of education, there are no significant differences in the proportion of persons paying their own deductible and coinsurance amounts. Differences do exist, however, when the use of insurance and welfare funds is examined. More reliance is placed on private insurance and less on welfare agencies as a source of payment with higher levels of education. This phenomenon may not be attributable to education per se but may be only a reflection of the higher income levels generally associated with higher educational levels. As indicated below, a considerably higher percentage of persons with nine grades of school completed than of

those with less education had incomes of $4,000 or more.

Family income	All persons	Education	
		Lower than ninth grade	Ninth grade or higher
Number reporting on family income (in thousands)	11,158	6,983	4,175
Percent	100.0	100.0	100.0
Under $4,000	66.8	72.0	58.4
$4,000 or more	33.2	28.1	41.7

One additional demographic characteristic is important to note with respect to source of payment. Persons in rural areas tend more strongly than persons in urban areas to rely solely on their own finances to pay all deductible and coinsurance amounts. Forty-seven percent of those using some services and residing in urban areas indicated that they or their spouses paid these amounts; the comparable figure for rural areas was 64 percent, or more than one-third higher. Perhaps this large difference reflects the presence in rural communities of fewer alternative sources of payment. The survey data shown in the tabulation below reveal that a higher proportion of enrollees in urban areas than in rural areas have private health insurance plans that pay for such services as hospital care, surgeons' fees, and visits to physicians outside a hospital. For either urban or rural enrollees, of course, there may be additional psychological factors that come into play.

Type of insurance plan	Percent of enrollees	
	Urban community	Rural community
Hospital care	45.3	35.2
Surgical care	37.6	30.1
Physicians' services	27.8	21.1

Use of Prescription Drugs

The medical insurance program does not cover the cost of prescription drugs, yet charges for drugs constitute a sizable portion of a person's total medical expenses. In fiscal year 1969, for example, private expenditures for drugs and drug sundries amounted to $70.25 per aged person, or 36 percent of the total private outlays for this age group.[8] About three-fifths of the outlays for drugs and drug sundries are for prescription drugs.[9] The Current Medicare Survey results for 1969 indicate an average charge for prescription drugs of about $50 per person enrolled in the supplementary medical insurance program.[10]

As indicated previously, the collection of data on covered services is the primary purpose of the Current Medicare Survey. In the beginning, only questions related to covered services and charges were recorded. Noncovered services were identified solely to assure that covered services were correctly reported. As Congress considered amendments to extend coverage to certain other practitioners or services, the decision was made to actively seek information about all medical services, covered and noncovered. Because the enrollees seemed particularly concerned with the costs of prescription drugs, questions were formulated and a section on drug utilization and charges became a part of the monthly interview early in 1967. Information on these charges were collected on a pilot-test basis from the beginning of the year. Summary data for 1967 on the use of and charges for prescription drugs are presented in table 4.

About 14.8 million persons, representing almost four-fifths of the medical insurance enrollees, had prescriptions filled during 1967. This figure represented an average of 14.1 prescriptions per person acquiring drugs. Charges per prescription averaged $3.96 or $56 per person acquiring drugs during 1967.

About the same proportion of persons used prescription drugs as used medical services (78 percent), but average charges for drugs per person served was about one-third of the average charges for medical services. In highlighting some of the findings, it is interesting to note that, although differences existed between urban and rural areas in the use of medical care services, no such differences are indicated in the use of and charges for prescription drugs. This finding probably reflects the general availability of drugs,

[8] Barbara S. Cooper, "Medical Care Outlays for Aged and Nonaged Persons, 1966–69," *Social Security Bulletin*, July 1970.

[9] Task Force on Prescription Drugs, *The Drug Users*, Department of Health, Education, and Welfare, December 1969.

[10] Data are from a forthcoming Current Medicare Survey release on prescription drugs in 1968 and 1969.

regardless of size of community. On the other hand, rural areas generally do not have the more sophisticated and costly medical services that are available in urban areas—a fact that may account for the lower utilization rates and charges in rural areas.

Persons confined to bed or house and persons with no health limitations showed differences in the proportion using prescription drugs, average charges, and the average number of drugs, as they had in the use of medical services. Eighty-seven percent of those confined to bed or house acquired drugs, compared with 76 percent for persons with no limitations. The average number of prescriptions acquired for persons confined to bed or house were more than double that for

TABLE 4.—Estimated use of and charges for prescription drugs, for supplementary medical insurance enrollees, by selected characteristics, 1967

Characteristic	Persons acquiring prescription drugs		Number of prescriptions		Charges		
	Total (in thousands)	Percent of total enrolled	Total (in thousands)	Per person acquiring drugs	Total (in millions)	Per person acquiring drugs	Per prescription
Total	14,780	78	199,007	14.1	$788	$56	$3.96
Age:							
65–69	4,430	75	51,997	12.8	211	52	4.05
70–74	4,348	79	58,261	13.7	230	54	3.94
75 and over	6,002	80	88,748	15.3	347	60	3.91
Sex:							
Men	5,914	73	72,723	13.0	297	53	4.08
Women	8,865	82	126,284	14.8	491	58	3.89
Race:							
White	13,481	78	185,351	14.4	737	57	3.98
All other	1,110	76	11,227	10.7	40	39	3.59
Unknown	189	75	2,428	15.8	10	67	4.22
Education:							
Less than 7 years	3,613	78	51,438	14.6	191	54	3.70
7–8 years	3,857	78	52,487	13.9	204	54	3.89
9 years and over	5,486	78	74,191	13.9	311	58	4.19
Not reported	1,823	76	20,891	14.3	83	56	3.95
Health limitations:							
Confined to bed or house	766	87	19,804	26.1	81	107	4.09
Other limitations	1,981	90	37,945	19.5	146	75	3.84
No limitation	10,454	76	124,660	12.2	496	49	3.98
Not reported	1,580	75	16,598	13.6	65	53	3.90
Marital status:							
Nonmarried	6,783	79	94,498	14.3	359	54	3.80
Married	6,892	77	92,796	13.9	382	57	4.12
Not reported	1,105	75	11,714	14.2	57	57	4.03
Living arrangement:							
Institution	686	79	13,797	20.6	57	86	4.15
Living alone	3,193	78	40,163	12.8	156	50	3.88
Living with spouse only	5,387	78	72,729	13.9	297	57	4.09
Living with others	4,139	78	57,933	14.4	221	55	3.81
Not reported	1,375	76	14,385	13.8	57	54	3.94
Household size:							
1 person	3,829	78	53,373	14.2	211	56	3.95
2 persons	6,809	78	92,285	13.9	372	56	4.03
3 or more persons	2,762	78	38,504	14.5	148	55	3.81
Not reported	1,379	76	14,445	13.8	57	54	3.94
Work status:							
None	10,119	81	149,456	15.0	589	59	3.94
Part time	1,194	73	12,024	10.5	48	42	4.00
Full time	1,189	64	10,594	9.7	44	40	4.17
Not reported	2,277	78	26,931	14.1	107	56	3.97
Family income:							
Less than $3,000	4,796	78	66,965	14.2	257	55	3.84
3,000–4,999	1,962	77	25,946	13.6	100	52	3.86
5,000 or more	2,133	78	30,087	14.5	125	60	4.16
Not reported	5,889	78	76,009	14.0	305	56	4.02
Private health insurance coverage:							
No plan at all	6,415	77	86,860	13.8	336	54	3.87
Hospital care only	1,090	82	14,916	14.0	58	54	3.87
Hospital and surgical care only	1,585	80	23,054	14.9	93	60	4.01
Hospital, surgical, and physicians' care	3,767	78	52,150	14.3	215	59	4.12
Other combinations	260	85	4,150	16.2	17	67	4.15
Not reported	1,662	76	17,878	13.7	70	53	3.89
Welfare status:							
No welfare	12,102	77	157,672	13.7	634	55	4.02
Some welfare	2,677	82	41,334	16.0	154	60	3.73
Region:							
Northeast	4,024	78	48,746	12.7	186	48	3.81
North Central	4,250	76	56,521	13.9	230	56	4.07
South	4,281	79	63,717	15.6	235	58	3.69
West	2,224	79	30,023	14.2	137	65	4.57
Size of community:							
Urban	12,984	78	173,592	14.0	691	56	3.98
Rural	1,791	77	25,376	14.5	97	56	3.83

[1] Less than 500,000.

NOTE: Small numbers are subject to relatively large sampling variability. They are shown here only to assist the users of data should they wish to form aggregates and not because they possess reliability in and of themselves.

persons with no limitations—26.1 prescriptions during the year, compared with 12.2. Average charges per person acquiring drugs for the former group were also twice that for the latter.

Workers were less likely to acquire prescription drugs than nonworkers and to have lower average charges per person acquiring them. Drugs were acquired for 81 percent of nonworkers, 73 percent of part-time workers, and 64 percent of full-time workers. There were also differences between workers and nonworkers, but not between part-time and full-time workers, in the average charges per person acquiring drugs.

As with the use of covered services, white persons and those of all other races did not differ in the proportion acquiring prescription drugs. Differences did exist in the number of prescriptions and in charges per person served. White persons acquired 14.4 prescriptions, with charges averaging $57 per person. For all other races the number of prescriptions was 10.7 and charges were $39 per person. Relatively more persons with some welfare services acquired prescription drugs than did persons not receiving welfare services. More women acquired drugs than men.

Summary

The Current Medicare Survey was initiated to provide current information on the utilization of and charges for medical care since lags in processing bills prevented the regular system from providing these data on a current basis. It has also proven useful in collecting types of information not obtainable from other sources, such as the use of noncovered services, and utilization and charges at levels below $50 as well as above.

In examining the data for 1967, a rough profile of medical care users emerges. Persons utilizing services at higher rates tend to be older, confined to the bed or house, and to reside in urban areas. Typically they are nonworkers, are alone in the household, and have received some welfare services in the year. Persons utilizing medical services at lower rates tend to be relatively younger, have no health limitation, be rural residents, and are more likely to be employed.

In general, the characteristics of persons who met the $50 deductible are similar to those of persons who are likely to use medical services in the first place. Race and income, however, were exceptions. There were no differences in the proportion of persons using medical services, but the proportion of white persons who met the deductible was considerably higher than for all other races. Also, the proportion of persons meeting the deductible rose slightly with higher incomes.

To pay deductible and coinsurance amounts, persons frequently rely on themselves, a private health insurance plan, and welfare funds as primary sources of payment. These findings tend to support a commonly accepted belief—that often the persons who must use medical care the most have the least resources to pay for it.

Although prescription drugs are not covered under the medical insurance program, utilization of and charges for them are collected in the survey. About four-fifths of all enrollees acquired prescription drugs, the same proportion that used covered medical care services. Older persons, those with some health limitations, and persons not working were more likely to use prescription drugs.

Technical Note

SURVEY DESIGN

Sample design.—A sample of about 4,500 persons is selected from a 5-percent statistical sample of persons enrolled in the medical insurance program. The sample is chosen to be self-weighting within 105 areas that constitute a subset of 357 primary sampling units designated by the Bureau of the Census in 1966. The sample represents 19.6 million medical insurance enrollees residing in the 50 States and the District of Columbia.

The sample consists of two groups: (1) a basic group of 4,300 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.

Data collection.—Data from these samples are collected by means of monthly personal interviews, utilizing a questionnaire and a diary form. The interviews, conducted by the Bureau of the Census, provide information about the use of medical care and related services during the preceding month.

Sample persons are selected for interviews starting in October of each year and remain in the survey for 15 months. A person selected during the year is currently interviewed until the end of the sample year even if his program status changes during the year. The survey thus includes persons in the final annual estimates who may have actually been in the sample only part of the year. Those individuals, for example, aging into the universe in December of the survey year are considered a part of the sample even though only a single month's data may be collected. Similarly, a person who either terminates his medical insurance coverage or dies at the beginning of the survey year is included in the cumulative estimates for the complete year even though interviewing stops.

Ratio estimation.—Although the CMS sample panels are designed to be self-weighting, ratio estimation was used in order to reduce sampling variability and utilize available data on characteristics of the universe.

Initially, a simple overall ratio estimate was used to provide the needed data, but it was later decided that a somewhat more complex ratio estimation procedure—by age, sex, race, and region—would provide greater statistical precision for CMS estimates of numbers of persons using medical services. The second procedure also provides a higher degree of accuracy in estimating utilization rates based on an average of persons enrolled for the entire 12 months.

RELIABILITY OF ESTIMATES

Since the estimates are based on a sample, 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. On the other hand, statistical compilations of data from the administrative records may be subject to errors of omission or incompleteness as well as processing, and, where sampling is employed, will also be subject to sampling variability.

The estimates developed from the Current Medicare Survey 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. However, the survey process in the Current Medicare Survey involves successive visits to the same sample enrollees and the use of memory aids and there may be less of this tendency. 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 of the scope of the program's coverage.

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 physicians' visits.

The generalized tables of standard errors of numbers of persons, dollar amounts, and visits shown here indicate the order of magnitude of the standard errors rather than the standard error of any specific estimate.

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

[In thousands. 68 chances out of 100]

Size of estimate	Standard error	Relative variance
100	21	0.0441
500	45	.0081
1,000	63	.0040
1,500	76	.0026
2,000	87	.0019
2,500	96	.0015
3,500	110	.0010
5,000	125	.0006
7,500	140	.0003
10,000	143	.0002
12,500	138	.0001
15,000	121	.0001
17,500	87	about 0

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 covered charges, and table C is for physicians' visits. Table D contains approximate standard errors of estimated percentages of persons, using similar assumptions. The reliability of an estimated percentage computed by using sample data for both numerator and denominator depends both on the size of the percentage and the number of persons on which the percentage is based.

To estimate standard errors of numbers or percentages not presented directly in the tables, linear interpolation provides a satisfactory basis for estimation. For example, persons aged 70–74

TABLE B.—Approximate standard error and relative variance of covered charges, both where the deductible has been met and where it has not been

[In millions. 68 chances out of 100]

Size of estimate	Total charges and deductible met		Charges, deductible not met	
	Standard error	Relative variance	Standard error	Relative variance
1			0.27	0.0729
2.5			.42	.0282
5			.59	.0139
10			.83	.0069
25	9.3	0.1384	1.28	.0026
50	13.1	.0686	1.75	.0012
100	18.6	.0346	2.27	.0005
150	22.7	.0228	2.52	.0003
200	26.2	.0172		
250	29.3	.0137		
500	41.4	.0069		
750	50.6	.0046		
1,000	58.3	.0034		
1,250	65.0	.0027		
1,500	71.1	.0022		
2,000	81.8	.0017		
2,500	91.0	.0013		
3,000	99.3	.0011		

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

[In thousands. 68 chances out of 100]

Size of estimate	Standard error	Relative variance
750	584	0.6063
1,000	675	.4556
2,500	1,067	.1822
5,000	1,510	.0912
10,000	2,137	.0457
25,000	3,387	.0184
50,000	4,810	.0093
100,000	6,857	.0047
150,000	8,465	.0032
200,000	9,851	.0024
250,000	11,099	.0020

spent an estimated $637 million for medical services during 1967. From table B, one finds:

Size of estimate	*Standard error* (in millions)
$500	$41.4
750	50.6

Linear interpolation indicates that the standard error sought is approximately $46.4 million; the chances are about 68 out of 100 that total charges for persons aged 70–74 lie between $590.6 million and $683.4 million.

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 numerator and denominator of the average. For example, the average charge per person using services in 1967 was $152—that is, approximately $2,159,000,000 divided by 14,946,000. The relative variance of the numerator is about .0016, that of the denominator about .0001, the sum of these is .0017, and the square root of the sum is about .04. Multiplying this sum by the average yields a standard error of about .04 times $152 equals $6. The chances are 68 out of 100 that the average is between about $146 and $158.

TABLE D.—Approximate standard error of percentages

[68 chances out of 100]

Percentage	Base of percentage (in thousands of enrollees)				
	300	1,000	2,000	7,500	17,500
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