Coinsurance and the Demand for Physician Services: Four Years Later

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In 1971 a study was made of the effects of a 25-percent coinsurance provision on the demand for physician services under a comprehensive prepaid plan for medical care Comparing physician utilization rates in 1966 (the year before coinsurance was introduced) and 1968 (the first calendar year after the change) showed that coinsurance led to a 24-percent decline in the per capita number of all physician visits that held true regardless of how the data were examined—whether by demographic characteristics of the study population, physician specialization, or place of visit This effect of coinsurance could be temporary—a kind of shock effect that would wear off Since there was no conclusive proof of this hypothesis, the authors conducted a followup study, comparing physician utilization rates in 1972 and 1968 They found no evidence of any upward trend in the use of physician services The overall utilization rate was much the same in 1972 as in 1968, and the rates of the demographic subgroups and types of visits were either much the same or slightly lower Equally important was the finding that the plan had become relatively unattractive for families in the lowest socioeconomic group who constituted a smaller proportion of the 1972 plan membership than of the pre-coinsurance membership

IN 1970 the authors conducted a study of the impact of the introduction of a coinsurance provision on the use of physician and outpatient ancillary services under a comprehensive prepaid plan of medical care [1] The plan studied, Group Health Plan (GHP), had been offered by Stanford University to its employees and their dependents since 1965 Under a different name but with much the same provisions, it had been offered since 1952 Until April 1967, GHP (like its predecessor plan) had provided first-dollar coverage for almost all physician services in and out of the hospital and for practically all outpatient ancillary services Hospital services were covered through a contract with a private insurance company (Blue Cross coverage has since been substituted) In April 1967, a 25-percent across-the-board coinsurance provision applying to all physician and outpatient ancillary services was introduced because the provider of these services under the plan—the Palo Alto Medical Clinic—found that the plan was running in the red None of the other provisions of the plan were changed A natural experiment for studying the effect of coinsurance on the demand for physician services was thus provided

To measure the impact of coinsurance, GHP members' use of physician services in 1966 (the calendar year before its introduction) has been compared with their use in 1968 (the first full calendar year after the change) To eliminate as far as possible demographic factors that might influence the demand for physician services, the study population was limited to those GHP members who had been covered by the plan the full 12 months of both years It was found that the introduction of coinsurance led to a substantial reduction in the use of physician services For the group as a whole, the per capita number of all physician services declined 24 percent

What is perhaps even more striking is that, with few exceptions, the use of physician services showed a sharp drop from the earlier year, whether the data are examined by demographic characteristics of the members (age, sex, occupation, and insurance status) or by type of physician service (place of visit or field of specialty of the physician) The main exceptions appeared in the data on hospital visits, which declined only slightly, and on young children, whose use of physician services also changed little

It has sometimes been argued that, although

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[1] Anne A Scitovsky and Nelda M Snyder, "Effect of Coinsurance on Use of Physician Services," *Social Security Bulletin*, June 1972, which includes detailed descriptions of the plan provisions, the provider under the plan, and the methodology

coinsurance may lower the demand for physician services in the short run, its impact will wear off after some time and utilization will begin to rise again Some evidence appears to support this contention When Saskatchewan introduced a coinsurance provision applying to physician services ($1 50 for an office visit and $2 for a home, emergency, or hospital outpatient visit) in April 1968, use of physician services declined about 4 percent in the following year In subsequent years, however, the physician utilization rate began to climb again [2] This rise may reflect the fact that Saskatchewan physicians apparently did not always collect the copayment Whatever the reasons for the increase, the hypothesis that the impact of coinsurance may be temporary seemed cogent enough to warrant further exploration

It is of great importance for planners of health insurance—both private and public—to know whether coinsurance curtails the demand for physician services only in the short run or whether it has a lasting effect on demand If its impact is only temporary, the administrative cost, inconvenience, and possible hardships it involves may not be worth the savings in physician expenditures If, on the other hand, it curtails demand in the long run as well as the short run, a case can be made for copayment, provided a careful evaluation is made to assure that it is not a barrier to needed medical care services

DESCRIPTION OF STUDY AND OF STUDY POPULATION

To test the hypothesis that coinsurance has only a temporary effect on the demand for physician services and that demand tends to rise again after some time, a followup study of physician utilization under GHP was undertaken, comparing GHP members' use of physician services in 1968 (the first year after its introduction) with their use in 1972 (4 years later) The data sources, methodology, and general presentation of this followup study are identical with those of the 1966–1968 study in all but one respect

Because the number of GHP members who were covered by the plan the full 12 months of all 3 years—1966, 1968, and 1972—was only just over 1,400 and because by definition this group would not have included any persons under age 7 and over age 58, it was decided to use as the population for the followup study those GHP members covered by the plan the full 12 months of any of these years but not necessarily all 3 years As discussed briefly below, the study was, however, duplicated for the 1966–1968–1972 cohort as well as for another possible GHP study population, and the results were found to be very much the same Although the main interest of the followup study is in physician utilization rates in 1968 and 1972, data are presented for 1966 in addition, since the data in the original study refer to the 1966–1968 GHP cohort [3]

Tables 1 and 2 show the principal demographic characteristics of the followup study population, which consisted of 3,819 GHP members in 1966, 3,710 in 1968, and 3,038 in 1972 As in the original study, plan subscribers and their dependents were again classified in three occupational groups that, in decreasing order, can be assumed to reflect both income and education Faculty, other professional staff, and nonprofessional staff

As table 1 shows, in 1966 and 1968 plan subscribers were about evenly distributed among the three groups, each accounting for approximately one-third of all subscribers A sharp drop occurred, however, in the number of nonprofessional staff subscribers by 1972, when they accounted for only one-fourth of all subscribers Similarly for total membership (subscribers and dependents), the number of nonprofessional staff declined from about 23 percent of all members in 1966 and 1968 to just under 16 percent in 1972 Faculty and other professional staff members each accounted for just under 40 percent of all members in 1966 and 1968, with the percentage of other professional staff members increasing to 43 percent in 1972 The same decline in nonprofessional staff subscribers and members is shown when the data are examined by sex Nonprofessional staff accounted for about 20 percent of all

[2] Saskatchewan Medical Care Insurance Commission, *Annual Reports*

[3] One additional change was made In the 1966–1968 study, radiology contacts were counted not only as ancillary services (number of X-rays) but also as physician visits (number of patient/radiologist contacts) They are counted here only as ancillary services To make the overall utilization figures comparable with those in the original study, about 0 5 physician visits must be added to the totals

male subscribers and of all male members in 1966 and 1968, but the proportions dropped to 12 percent and 13 percent, respectively, in 1972 In all 3 years, men accounted for the great majority of all subscribers Plan members, however, were about evenly divided between the two sexes

Age distributions of the study population in the 3 years are presented in table 2 In the 6-year period, both the group as a whole and each of the occupational subgroups grew older, with the percentage of children under age 15 declining and that of persons aged 45–64 increasing In all 3 years, nonprofessional staff was the oldest group and other professional staff the youngest The age distribution of the study population as a whole differed from the national distributions in 1968 and 1972 in that it had fewer children under age 15 and more persons aged 45–64 years Except for other professional staff in 1968, this finding was true for each of the occupational subgroups in both years

Finally, it may be of interest to note that the dependent/subscriber ratio of GHP plan members declined from 2 0 in 1966 to 1 9 in 1968 to 1 7 in 1972 It declined least for the faculty group (from 2 5 in 1966 to 2 4 in 1972), who had the highest dependent/subscriber ratio in all 3 years, and most for nonprofessional staff (from 1 1 in 1966 to 0 8 in 1972), who had the lowest ratio in all 3 years

TABLE 1 —Percentage distribution of GHP subscribers and members, by sex and occupation, 1966, 1968, and 1972

Sex and occupation	Subscribers			Total members (subscribers and dependents)		
	1966	1968	1972	1966	1968	1972
	Total					
Total number	1,292	1,301	1,070	3 819	3,710	3,038
Total percent	100 0	100 0	100 0	100 0	100 0	100 0
Faculty	34 0	29 8	33 8	39 7	37 1	40 9
Other professional staff	34 6	36 5	41 9	37 7	39 6	43 4
Nonprofessional staff	31 4	33 7	24 3	22 7	23 3	15 7
	Male					
Total number	1,001	957	779	1,870	1,827	1,463
Total percent	100 0	100 0	100 0	100 0	100 0	100 0
Faculty	42 6	39 3	45 4	41 1	38 5	43 1
Other professional staff	38 3	40 5	42 4	38 7	40 9	43 8
Nonprofessional staff	19 2	20 2	12 2	20 2	20 5	13 1
	Female					
Total number	291	344	291	1 949	1 883	1 575
Total percent	100 0	100 0	100 0	100 0	100 0	100 0
Faculty	4 5	3 5	2 7	38 3	35 6	38 9
Other professional staff	22 0	25 3	40 5	36 6	38 3	43 0
Nonprofessional staff	73 5	71 2	56 7	25 0	26 1	18 0

TABLE 2 —Percentage distribution of GHP members, by age, sex, and occupation, 1966, 1968, and 1972

Age	All occupations		
	Total	Male	Female
	1966		
Total number	3 819	1,870	1,949
Total percent	100 0	100 0	100 0
0–14	32 2	32 9	31 5
15–44	42 1	41 9	42 3
45–64	25 7	25 2	26 2
	1968		
Total number	3,710	1,827	1,883
Total percent	100 0	100 0	100 0
0–14	29 9	31 7	28 1
15–44	44 0	43 0	45 0
45–64	26 1	25 3	26 9
	1972		
Total number	3,038	1,463	1,575
Total percent	100 0	100 0	100 0
0–14	25 9	27 1	24 7
15–44	45 3	44 3	46 3
45–64	28 9	28 6	29 0

FINDINGS

Physician Utilization Rates

The principal findings of the study can be summarized very briefly No general upward trend was apparent in physician utilization rates With minor exceptions, the per capita number of physician services in 1972 was either the same as in 1968 or somewhat lower For the group as a whole, it was 3 9 in 1968 and 3 6 in 1972 (table 3) [4]

When the data were looked at in more detail, it was found that the use of physician services declined for both males and females (table 4). The physician utilization rates of faculty and other professional staff were lower in 1972 than in 1968, with the difference especially marked for faculty Faculty males had 3 7 physician services per member in 1968 and only 3 1 in 1972

[4] Age-sex adjusting the 1972 figure by the 1968 GHP age-sex distribution does not change the 1972 figure

TABLE 3.—Per capita number of physician visits and of outpatient ancillary services, by type of service, 1966, 1968, and 1972

Type of service	1966	1968	1972
Physician visits, total	5.2	3.9	3.6
Outpatient ancillary services	6.0	5.0	9.7
Laboratory tests	3.8	3.1	8.0
X-rays	.6	.5	.5
All other	1.6	1.4	1.4

Similarly, faculty females had 4.5 physician services per member in 1968 and only 3.9 in 1972. By contrast, nonprofessional use of physician services was somewhat higher in 1972 than in 1968, for males the physician utilization rates were 3.4 services per person in 1968 and 3.6 services in 1972, and for females they were 3.8 and 4.1, respectively. The data for physician office visits show similar relative changes for the six sex-occupation groups for the 2 years.

When broken down into age-sex-occupation groups, the data show no special pattern of differences between the 2 years. For 24 of the age-sex-occupation groups, the per capita number of all physician visits was lower in 1972 than in 1968, and for the remaining 18 groups it was slightly higher. No single subgroup shows a consistent pattern of differences (an age-sex group across occupations, for example), and the differences appear to be random.

The same lack of any special pattern is shown when the data are grouped by other criteria. By place of visit (table 5), physician office visits were lower in 1972 than in 1968 for both sexes, and hospital visits were either unchanged or slightly lower. By insurance status and sex, the per capita number of physician services in 1972 was lower than in 1968 in the case of men faculty subscribers, dependent wives, and male children, and higher for the other three subgroups. By field of specialty of the physician, the differences between the 2 years were too small to be reflected in figures rounded to the nearest decimal point except for pediatrics, where the per capita number of physician services was 0.9 visits per person in 1968 and 0.8 visits in 1972. This difference may be due in part at least to the decline in the proportion of children under age 5, who tend to be relatively heavy users of physician services. They accounted for 7.6 percent of the study population in 1968 and for only 4.8 percent in 1972.

A comparison of the distribution of plan members by number of physician visits showed that for the study population as a whole, fewer members had no physician visits in 1972, more members had 1–3 visits, and fewer members had more than 4 visits. With minor exceptions, this decrease in nonusers and high users and the increase in moderate users was found for both sexes and for all three occupational groups.

TABLE 4.—Per capita number of physician visits, by sex and occupation, 1966, 1968, and 1972

Sex and occupation	1966	1968	1972
All occupations	5.2	3.9	3.6
Male	4.6	3.5	3.2
Female	5.8	4.2	3.9
Faculty	5.2	4.1	3.5
Male	4.6	3.7	3.1
Female	5.7	4.5	3.9
Other professional staff	5.0	3.8	3.5
Male	4.6	3.4	3.2
Female	5.5	4.2	3.9
Nonprofessional staff	5.5	3.6	3.9
Male	4.7	3.4	3.6
Female	6.2	3.8	4.1

TABLE 5.—Per capita number of physician visits, by place of visit and sex, 1966, 1968, and 1972

Place of visit and sex	1966	1968	1972
All members	5.2	3.9	3.6
Office	4.8	3.6	3.4
Home	1	(1)	(1)
Hospital medical	2	2	1
Hospital-surgical	1	1	1
Male	4.6	3.5	3.2
Office	4.3	3.3	3.0
Home	1	(1)	(1)
Hospital medical	2	1	1
Hospital-surgical	1	1	(1)
Female	5.8	4.2	3.9
Office	5.3	3.9	3.7
Home	1	(1)	(1)
Hospital medical	3	2	1
Hospital-surgical	1	1	1

[1] Less than 0.1 visits.

Costs of Physician Services

Table 6 shows the principal data on costs of physician and ancillary services in 1968 and 1972—that is, the dollar value (based on the fee schedules of the Palo Alto Medical Clinic in 1968 and 1972) of the medical services used by GHP members in the 2 years.[5] For the study population as whole, per capita costs of physician services increased 22 percent. This rise reflects the combined effects of increases in the fee sched-

[5] Comparable data for 1966 are not shown because, in the absence of coinsurance, charges are irrelevant. In the earlier study, 1966 services were priced in 1968 dollars to gain some idea of the effect of coinsurance on expenditures for physician services in constant dollars.

TABLE 6.—Per capita costs of physician and outpatient ancillary services, by type of service, 1968 and 1972

Type of service	1968	1972
Physician visits, total	$58 74	$71 85
Outpatient ancillary services	25 65	38 68
Laboratory tests	11 91	14 74
X-rays	7 23	11 32
All other	6 51	12 62

TABLE 7.—Per capita number of physician visits for GHP members covered by plan for full 12 months of all years, by sex and occupation, 1966, 1968, and 1972

Sex and occupation	1966	1968	1972
All occupations	5 0	3 8	3 7
Male	4 6	3 7	3 3
Female	5 5	4 0	4 0
Faculty	5 0	3 9	3 6
Male	4 6	3 8	3 3
Female	5 4	4 0	3 9
Other professional staff	5 2	3 9	3 5
Male	4 7	3 6	3 3
Female	5 6	4 2	3 7
Nonprofessional staff	4 9	3 5	4 5
Male	4 0	3 4	3 4
Female	5 5	3 5	5 5

ules of the Palo Alto Medical Clinic and the somewhat lower utilization of physician services in 1972

Ancillary Services

Since ancillary services are largely physician-generated, they are of relatively minor interest in a study about the effects—short-run or long-run—of coinsurance, but they merit at least a brief mention As table 3 shows, the per capita number of X-rays and of miscellaneous ancillary services (diet service, physiotherapy, hearing tests, electrocardiograms and electroencephalograms, for example) was the same in 1968 and 1972 The per capita number of laboratory tests, by contrast, jumped from 3 1 tests in 1968 to 8 0 in 1972 According to the director of the Palo Alto Medical Clinic laboratory, this increase is largely attributable to the use of a new piece of equipment, introduced in 1969, which routinely performs a battery of twelve tests

The costs of ancillary services are shown in table 6 Despite the very much greater increase in the per capita number of laboratory tests than in X-rays and other ancillary services, per capita costs of laboratory tests were only about 24 percent higher in 1972 than in 1968, compared with 57 percent for X-rays and almost 100 percent for other services

Physician Utilization Rates of Other GHP Populations

The study was duplicated for GHP members covered by the plan the full 12 months of all 3 years 1966, 1968, and 1972 who, if it had not been for their relatively small numbers and the exclusion of members under age 7 and over age 58, would have been the preferable study population on theoretical grounds Table 7 summarizes the findings for this group When these figures are compared with those in table 4, only slight differences are observed in the utilization rates of the two populations in 1968 and 1972, by and large The only subgroup whose physician utilization rate differed markedly for the 1966–1968–1972 cohort in comparison with the study population is female members of the nonprofessional staff group in 1972 who averaged 5 5 physician visits in that year, compared with 4 1 visits for the corresponding group in the study population This group was, however, so small (145 members) that a few high users can affect the overall average What is important is that both populations show the same trends. (a) No overall upward trend in physician utilization rates, (b) somewhat lower rates for faculty and other professional staff in 1972 than in 1968, and (c) slightly higher rates for nonprofessional staff in the later year [6]

In addition, physician utilization in 1972 of GHP members in the followup study population who had been members of the plan before the introduction of coinsurance in 1967 was compared with that of members who joined the plan after that date [7] It could be hypothesized that members who joined the plan after coinsurance was introduced and who had never had the experience of "free" physician services would be lower users than those who had had first-dollar coverage

[6] The results of the 1966–1968 study would also have been much the same, regardless of which study population was chosen For the 1966–1968 cohort in the original study, coinsurance resulted in a 24-percent drop in the per capita number of physician visits, for GHP members in the plan the full 12 months of 1966 and 1968 but not necessarily both years, the decline was 25 percent, for the 1966–1968–1972 cohort, it was 24 percent

[7] The subscriber's date of joining was assigned to all family members because, for children, the decision to see a physician is made by the parents The results do not differ markedly if the date of each member is used

and who, though reducing their use of physician services when coinsurance was first introduced, might tend to resume their original utilization pattern after some time Alternatively, the opposite hypothesis could be made Post-1967 plan members might be higher utilizers because they might already have discounted for the 25-percent copayment when they joined the plan, although for the pre-1967 members it represented an increase in price The findings do not bear out either hypothesis

The per capita number of physician services in 1972 was slightly lower for the post-1967 than the pre-1967 group as a whole (3 5 visits compared with 3 6 visits), as well as for all male members (3 0 as against 3 3 visits) and all female members (3 9 as against 4 0 visits) But when the data are examined by occupation and sex, no consistent pattern of difference between the two groups emerges The post-1967 group used somewhat fewer physician hospital services, fewer services of internists, and more pediatric services These differences, however, are likely to be due more to the fact that the post-1967 group was slightly younger than the pre-1967 group, rather than to the time when they joined the plan

TABLE 8.—Per capita number of physician visits for members of GHP and selected prepaid group health plans and for U S population,[1] by type of visit, 1968 and 1972

Selected groups	Office visits		All visits	
	1968	1972	1968	1972
GHP[2]				
All members	3 6 (4 1)	3 4 (3 9)	3 9 (4 4)	3 6 (4 1)
Male	3 3 (3 8)	3 0 (3 5)	3 5 (4 0)	3 2 (3 7)
Female	3 9 (4 4)	3 7 (4 2)	4 2 (4 7)	3 9 (4 4)
Kaiser Northern California[3]				
All members, both sexes	3 8	3 8		
Health Insurance Plan of Greater New York[4]				
All members, both sexes	3 5	3 5	3 9	3 9
Medicaid	2 0	2 1	2 2	2 3
Non Medicaid	3 6	3 6	4 1	4 0
United States[5]				
All races	3 3	3 6		
Male	2 9	3 3		
Female	3 6	4 3		
White	3 3	3 8		
Male	3 0	3 3		
Female	3 7	4 3		
West, white	3 6	4 3		
Male	3 1	3 7		
Female	4 1	5 0		

[1] Data refer to persons under age 65
[2] Figures in parentheses include estimated per capita number of radiologists' services
[3] Personal communication, excludes radiologists services
[4] Personal communication, includes radiologists' services
[5] Data are for 1969 and 1971, includes radiologists services Unpublished data from the Health Interview Survey, National Center for Health Statistics

COMMENTS

The apparent stabilization of GHP members' physician utilization rate at about 3 6 visits per member per year (or 3 4 office visits) seems somewhat surprising in comparison with the utilization rates of some other groups for whom data are available For purposes of comparison, these have been brought together in table 8 Such comparisons have to be regarded with caution because the data are never strictly comparable The demographic characteristics of the groups differ, the definition of what constitutes a physician visit is not always the same, and methods of data collection vary Nevertheless, they are adequate for a rough comparison

To choose some figures from the table, the 1972 GHP office-visit utilization rate was somewhat lower than that of members of Kaiser-Northern California and only slightly higher than that of members of the Health Insurance Plan of Greater New York (HIP), the national rate for all races, and the national rate for whites[6] It was considerably lower, however, than the national rate for whites in the West Considering the fact that the GHP group was almost entirely white and on the average probably represented a somewhat higher socioeconomic group than these other groups, its physician utilization rate seems low. The question arises, therefore, as to the explanation of this relatively low rate

One possibility is the presence of constraints on the supply side, such as long waiting times for an appointment or in the office There is no evidence that this was the case If anything, judging by Palo Alto Medical Clinic (PAMC) data, the number of patient visits per PAMC physician was low, compared with the number for other physicians, and declined slightly in the period 1968–72

Another factor that obviously springs to mind is price Between 1968 and 1972, PAMC fees for the two most common office visits, which between them accounted for 74 percent of all office visits,

[6] The GHP and Kaiser-Northern California figures exclude radiologists' services, the HIP and national figures include them To make the GHP data comparable with the others, figures including the estimated per capita number of radiologists' services are shown in table 8

rose 25–30 percent for all physicians and 14–18 percent for pediatricians Fees for an annual examination rose 60 percent for adults and 25–60 percent for children, fees for physician hospital visits 25 percent, and fees for surgery 20–44 percent In terms of out-of-pocket costs, however, these increases seem hardly enough to hold down the demand for physician services The average PAMC fee for a routine office visit in all PAMC departments except pediatrics rose from $10 to $13 between 1968 and 1972 Thus the copayment rose from $2 50 to $3 35—by 85 cents Pediatric fees for a routine office visit rose from $8 50 to $10, with the copayment increasing from $2 13 to $2 50—by 37 cents While these increases in out-of-pocket costs probably held back some GHP members from seeing a physician, it is unlikely to have been a major factor

One other explanation is possible GHP members may have obtained some physician services from out-of-plan physicians, especially after coinsurance was introduced Such use would explain the relatively low GHP physician utilization rate in 1972, compared with some of the national figures, which relate to all physician visits No data on out-of-plan use of physician services are available for either the original coinsurance study population or the followup study population, but such data are available for another group of Stanford University GHP members from another study currently being completed by the authors This group consists of 890 single or family subscribers, totaling 2,139 members, who were covered by the plan from July 1, 1973, through June 30, 1974, and who were followed by household interviews at 3-month intervals during this period, mainly to obtain data on out-of-plan use of physician services This group differs from the GHP populations used in the present study in some of its demographic characteristics, but the differences are minor and there is no reason to believe that, with respect to out-of-plan use of physician services, the behavior of its members differed radically from what would have been found for the population covered in the present study

According to data from this other study, 34 percent of all GHP members covered by the plan during the period July 1973–June 1974 reported some out-of-plan physician services Overall, the per capita number of such services came to 1 8 visits Adding this number to the per capita number of in-plan physician visits (3 6 visits, or 4 1 visits including radiologists' services) brings the GHP figure well above the figures for the various national population groups shown in table 8

To evaluate how this rather substantial use of out-of-plant physician services reflects the possible effect of coinsurance, it must be examined by type of insurance status of the service as in table 9, where out-of-plan physician services are broken down into four insurance status categories The first group, services not covered by the plan, consists of such services as psychiatric care, eye examinations, and cosmetic surgery The second group, services covered by the plan and reimbursed by the plan, is composed mainly of emergency services and services obtained by plan members when they were out of the area and too far from the provider

Examples of the third category, services excluded from coverage by the plan because they are covered by other insurance, are services paid for by workmen's compensation, services obtained under a student health plan, services paid for by another person's insurance policy (in case of accidents, for example, and annual examinations paid for by an employer) Finally, the fourth group, services covered by the plan and not reimbursed by the plan, consists of services GHP members could have obtained from plan physicians under the terms of the plan but elected to obtain from out-of-plan physicians

As table 9 shows, by far the largest percentage of out-of-plan physician services—63 percent—were services not covered by the plan They represented 1 1 visits per member per year out of the total of 1 8 out-of-plan physician visits More than half these visits were for psychiatric care The second and third groups together ac-

TABLE 9.—Percentage distribution of out-of-plan physician visits and per capita number of visits, by type of insurance coverage, July 1973–June 1974

Type of insurance coverage	Percentage distribution of visits [1]	Per capita number of visits
Total	100 0	1 8
Not covered by plan	62 5	1 1
Covered and reimbursed by plan	5 3	1
Excluded from coverage because covered by other insurance	10 5	2
Covered and not reimbursed by plan	21 7	4

[1] Based on 3,787 visits

counted for 16 percent of all out-of-plan physician services, or 0 3 visits per member per year The final category, services covered by the plan and not reimbursed, came to 22 percent of all out-of-plan physician visits and to 0 4 visits per member per year

It is only this last category that may have increased as the direct result of coinsurance It seems unlikely, however, that it increased substantially, considering its relatively low level In addition, it is of interest to note that data from this same study show that out-of-plan use of physician services by a group of 926 Stanford University employees (or a total of 2,061 persons) enrolled in a Kaiser plan with much the same benefit package but no coinsurance was similar to that of the GHP group Like the GHP members, they were plan members in the period July 1, 1973–June 30, 1974, and were contacted at 3-month intervals for information on out-of-plan use of medical services Although only 26 percent reported out-of-plan physician services, the per capita number of such visits came to 1 7, only slightly less than that of GHP members Moreover, 26 percent of such visits, or 0 4 visits per member per year—a figure identical with that for the GHP group—were for services they could have obtained from plan physicians under the plan's terms If this represents "normal" or average out-of-plan use in the absence of coinsurance (if there is such a thing), GHP out-of-plan use cannot have increased substantially as a result of coinsurance

To sum up, the study shows that the impact of coinsurance on the demand for physician services was not a temporary phenomenon, a kind of shock effect, that wore off with the passage of time It not only reduced the demand for physician services under the plan immediately after its imposition but seems to have led to a stabilization of demand for in-plan services at a level considerably below the pre-coinsurance level What data there are suggest that the decrease in in-plan utilization of physician services was not compensated for by an increase in the use of out-of-plan physicians for covered services

The fact that coinsurance had a lasting effect on demand is, in the authors' opinion, an important finding Perhaps equally important for all concerned with prepaid medical care and national health insurance is the effect it appears to have had on enrollment Both this study and the earlier coinsurance study suggest strongly that, although a plan with a 25-percent coinsurance may be suitable for middle- and upper-income families, it may not meet the needs of lower-income families To quote from the earlier study, for such families a 25-percent coinsurance provision

> may impose too much of a financial barrier, as the study data suggest—particularly the figures showing the high percentage of male members of the nonprofessional group without a physician visit in 1968 Other supporting evidence from the GHP study are the substantial reduction in annual physical examinations and the low rate of annual physical examinations of adult male nonprofessionals after coinsurance was introduced [9]

In the present study, the enrollment figures suggest that the plan may have lost much of its attraction for nonprofessional staff. As pointed out above and shown in table 1, nonprofessional staff declined from about one-third of all GHP subscribers in 1966 and 1968 to less than one-fourth in 1972 Similarly, though the number of faculty subscribers declined 18 percent between 1966 and 1972 and that of other professional staff stayed the same, the number of nonprofessional staff subscribers declined 36 percent Neither a decline in Stanford University employment nor a major shift in the distribution of employees among the three occupational groups had occurred that might explain this decline in enrollment by nonprofessional staff

Additional evidence supporting the inference that GHP may have become relatively unattractive to nonprofessional staff comes from the authors' other study referred to above This evidence includes, in addition to data on GHP, data on Stanford University's other prepaid plan, a Kaiser plan (offered since 1969) with no copayment and slightly lower premiums for both single and family subscribers [10] Of the 3,077 Stanford University employees who were enrolled in the

[9] Anne A Scitovsky and Nelda M Snyder, *op cit*, page 17

[10] Unfortunately, no enrollment data by occupation are available for Stanford University's third basic health plan, a Blue Cross hospital medical plan, offered in various forms since the 1950's This plan provides comprehensive medical and hospital services for subscribers but does not cover outpatient services for dependents According to Stanford University sources, since 1969 (when the Kaiser plan was first offered), about half of all Stanford subscribers to the three plans have been enrolled in the Blue Cross plan, with the other half about evenly divided between GHP and the Kaiser plan

two prepaid plans on July 1, 1973, about one-half (52 percent) were enrolled in the Kaiser plan Of the 1,362 nonprofessional staff who were covered by the two plans at that time, however, 74 percent were members of the Kaiser plan This proportion can be compared with the 17 percent of the total number of faculty and 52 percent of the total number of other professional staff enrollees in the two plans Similarly, while 76 percent of the 1,225 new enrollees in the two plans between 1969 and 1973 joined the Kaiser plan, 82 percent of the new nonprofessional staff enrollees did so, compared with 48 percent of the new faculty and 74 percent of the new other professional staff enrollees One can hardly escape the conclusion that a prepaid plan with a relatively heavy copayment for physician services does not attract lower-income families

Notes and Brief Reports

Cash Benefits for Short-Term Sickness, 1975*

Despite a slight reduction in the amount of benefits paid by voluntary private group insurance, total cash benefits for short-term sickness rose in 1975 by 9 percent to $8,700 million This increase was almost as great as that for the year before, although the major benefit sources producing the gains were different in each year In 1974 the 19-percent increase in benefits paid by voluntary insurance plans to workers in private industry stood out Sick-leave payments also made a substantial contribution to the 1974 benefit total, but they were even more important in 1975 Of particular significance was the sick leave paid to government workers, which rose 14 percent

Income loss from sickness rose at a much higher annual rate in 1975 (almost 9 percent) than it did in 1974 (3 percent) The 1975 total loss, $23 7 billion, includes work-time loss resulting from the first 6 months of illness of long duration, as well as from nonoccupational disabilities lasting less than 6 months It encompasses, in addition, not only income actually lost but income that would have been lost if it were not for sick leave or wage-continuation programs Formal sick leave is counted as an offset to this potential loss and is added to the benefit totals

The cash benefits and income loss attributable to non-work-connected disability rose at similar rates during 1975 As a consequence, the benefit-loss ratio—the measure that relates the two factors—increased only slightly, from 36 6 percent in 1974 to 36 8 percent in 1975

WORKERS COVERED

About 49 million wage and salary workers, or 63 percent of the entire labor force, were protected against income loss due to temporary disability in 1975 Virtually all Federal Government workers and 9 out of 10 State and local government employees are estimated to be under sick-leave plans As table 1 shows, the rate of coverage was much lower for those in private industry—57 percent With workers in areas covered by mandatory temporary disability insurance (TDI) excluded, 44 percent of the other workers in private industry were afforded protection on a voluntary basis

These data pertain to protection provided to workers through their place of employment (In addition, some workers purchase individual insurance policies that provide cash benefits during disability) Two major forms of sickness benefits are considered here insurance plans (including self-insurance) and sick leave or wage-continuation programs An estimated 31 million workers in private industry were covered by insured or self-insured plans that generally replace one-half to two-thirds of wages after a waiting period ranging from 3 days to a week This estimate

* By Daniel N Price, Division of Retirement and Survivors Studies, Office of Research and Statistics For detailed treatment of this subject, see the *Social Security Bulletin*, July 1976, pages 22–34