Analysis of Experience Under Supplementary Medical Insurance Program According to Payment-Record Data

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ANALYSIS OF EXPERIENCE UNDER SUPPLEMENTARY MEDICAL INSURANCE PROGRAM ACCORDING TO PAYMENT-RECORD DATA

A. Introduction

This Actuarial Study analyzes the results of the detailed tabulations of Supplementary Medical Insurance payment records in the 0.1% Actuarial Sample which are based on payment records processed through October 31, 1969. It should be recognized that there is a considerable filing and administrative lag present so that conclusive results can be drawn at this time only for the first two calendar years of the program (July 1966 through December 1967). Reasonably valid results are available for the 1968 experience, if it is recognized that it is about 95% complete in the data presented here.

Since the sample is a 0.1% one, approximate figures for the universe can be expressed by merely adding three zeros to any of the sample figures. Actually, the sample seems to be understated by about 2% to 5% relatively insofar as benefit disbursements are concerned, of which about 0.7% is due to underrepresentation of persons in the sample, and the remainder is due to a lower average per capita claims cost in the sample than in the universe.

In addition, certain other subsidiary studies of payment-records data are presented. These include analyses of the representativeness of the sample, of the relevance of the payment-records data to the determination of the SMI premium rate, of the interrelationship of benefit receipts in 1966 and 1967, and of the various sources through which SMI benefits are paid.

B. Description of Basic Data

Payment records are prepared for all SMI benefit reimbursements except for (1) those to institutional providers of service (namely, hospitals, extended care facilities, and home health agencies) for all non-physician services, (2) beginning April 1968, those to radiologists and pathologists for services to hospital inpatients where the Medicare reimbursement is made to the hospital under the combined-billing procedure, and (3) those to direct-dealing group practice prepayment plans, which are reimbursed on a reasonable-cost basis. Such institutions are reimbursed only for their own costs, and not for any costs for institution-based physicians. Also, a payment record is not prepared for services that only go toward meeting the $50 deductible; if the services both go to meet the deductible and result in a benefit payment, a payment record is prepared for the total services so involved.

A payment record relates to the services provided by only one physician (or other provider of services, such as an independent laboratory, an ambulance service, or a rentor of medical equipment) and can be for one or more services, just as long as they were furnished in the same calendar year. Certain items, such as the average reimbursement per payment record, therefore, are significantly affected by whether the claimant (the provider in assignment cases and the enrollee in other cases) accumulates bills or whether he sends them in one at a time.

Special mention should be made of the procedure for payment records in carryover-deductible cases. Under such provision, any covered expenses in the last quarter of a year that go toward satisfying the deductible for that year also can be used to meet the deductible for the next year.

When the program began in the second half of 1966, the $50 deductible was applied to only a 6-month period. This resulted in an abnormally large amount of deductible being applied, which showed up in claims payments in 1967, as a result of the carryover provision. To facilitate comparisons between 1967 and later years, for cost-analysis purposes, it is convenient to transfer the additional benefit costs arising in such subsequent year as a result of the carryover-deductible provision to the previous year. This has a significant increasing effect for the first year of operation (1966) and a corresponding decreasing effect for the second year, but for subsequent years there is relatively

little effect because of the offsetting effect involved (e.g., for 1968, the effect of the 1967 carryover deductible is about the same as the effect of the 1968 carryover deductible on 1969 costs). The total accrued cost of the SMI program for any period of years accordingly includes the amount of carryover deductible transferred for the last year of the period from the following year.

Although for cost-analysis purposes the transfer of benefit payments arising from the carryover deductible provision from one year to the previous one, this is not possible for the payment-record data since they do not indicate how the deductible was satisfied. The Office of the Actuary has special tabulations prepared as to the operations of this provision, and the results thereof will be published in a forthcoming Actuarial Note.

The available data indicate that, in the first two years of the program, about 94% of the costs of the SMI program were paid on the basis of payment records. However, this proportion is lower currently (i.e., after March 1968) because of the transfer of the non-physician component of outpatient diagnostic services from HI to SMI, and because of the payment for the physician component of inpatient pathology and radiology services through HI initially for some hospitals (but eventually being paid by SMI), neither of which involve payment records (although the latter formerly did).

C. Representativeness of Sample

The question might well be raised that, since the Actuarial Sample is only a 0.1% sample, how representative is it, and what random fluctuations are apt to occur?

The Sample has been chosen so as to include all persons with Social Security Numbers ending in 595. Offhand, in theory, this would appear to produce exactly a 0.1% sample--in other words, a 1-in-1,000 sample. From a purely theoretical standpoint, as a result of the actual method of determining Social Security Numbers, this is not quite the case because no numbers are issued that end with 0000. Accordingly, if all numbers were issued, the Actuarial Sample would, on the basis of each 10,000 number possibilities, be 10 cases out of every 9,999 possibilities, or in reality a 0.10001% sample.

Far overshadowing this small difference, however, is the fact that numbers are issued beginning with the smallest ones first. A recent tabulation of account numbers issued to persons who, at any time, had had SMI coverage showed that the number in the Actuarial Sample (19,071) represented only 0.099297% of the total numbers (19,205,977), instead of exactly 0.1%. In other words, the Actuarial Sample was under-represented by about 0.7%, and this correction factor should be used in inflating numbers of persons in the Actuarial Sample. Further details on this matter are contained in Actuarial Note No. 62.

An even more important element in regard to the representativeness and random-fluctuation characteristics of the Actuarial Sample is the medical experience of the group involved as compared with the universe--both as to average number of medical services per capita and as to average per unit cost of such services. At this time, no adequate control data are available for the Actuarial Sample as compared with the universe. There is, however, a good set of data from the Office of Research and Statistics (ORS) 5% Sample, which consists of all individuals having Social Security Numbers ending in 05, 20, 45, 70, and 95. From the ORS 5% Sample, there can be obtained data on numbers of payment records and reimbursement amounts thereon, and these can be compared with data from the Actuarial Sample, both for comparable time periods.

First, there should be analyzed the relative representativeness of the ORS 5% Sample as compared with the Actuarial Sample insofar as number of individuals are concerned. The study of all

account numbers issued to persons who had SMI coverage at any time mentioned previously, indicated that the ORS 5% Sample was somewhat over-represented, since the number involved therein (961,440) was 5.006% of the universe, rather than the expected 5% (or the slightly-adjusted 5.0005% when account is taken that there are no Social Security Numbers ending in 0000).

In comparing the number of Social Security Numbers in the Actuarial Sample with those in the ORS 5% Sample, if all account numbers were issued, it would be expected that the former would be exactly 2% of the latter. Such is not the case, however, according to the previously-mentioned study, since the ratio is only 1.984%. This adjustment factor must be used in making any comparison of numbers of persons (or numbers of payment records and reimbursement amounts) as between the two samples.

Table I compares payment-record data in the Actuarial Sample and in the ORS 5% Sample for all payment records posted through October 11, 1969 with subdivision according to the year for which the payment record was applicable. It should be noted that these data, unlike the general tabulations of payment-record data for the Actuarial Sample, are on a "posted" basis, rather than on a "processed" basis. It is believed that for purely analytical purposes--rather than merely comparative purposes--the "processed" basis is superior to the "posted" basis, because significant numbers of valid payment records (particularly for the early periods of operation) were processed and returned to the carriers for minor corrections before posting, but were never returned and subsequently posted; this factor far more than offsets the reverse effect that a few of the payment records were invalid or contained small errors.

Table I indicates that the individuals in the Actuarial Sample used somewhat fewer medical services (as evidenced by payment records) than did those in the ORS 5% Sample. As evidenced by payment reimbursement amounts on the payment records, this under-representation of the Actuarial Sample amounted to about 2% in 1966, 3% in 1967, and 5% in 1968. The limited experience for 1969 shows a much smaller over-representation.

Table II presents adjustment factors that can be used to inflate data from the Actuarial Sample to values that may be representative of the entire universe of SMI enrollees. These factors are necessarily based, in part, on the assumption that the medical experience of the enrollees who are included in the ORS 5% Sample are exactly representative of the universe.

Table I

COMPARISON OF PAYMENT-RECORD DATA IN ACTUARIAL SAMPLE AND IN ORS 5% SAMPLE, ALL PAYMENT RECORDS POSTED THROUGH OCTOBER 2, 1969

Year	Actuarial Sample	ORS 5% Sample	Expected Value for Actuarial Sample Based on ORS 5% Sample[a/]	Ratio of Expected to Actual for Actuarial Sample
		Number of Payment Records		
1966	8,693	448,107	8,890	1.023
1967	26,936	1,375,293	27,286	1.013
1968	28,724	1,485,601	29,474	1.026
1969	10,849	565,281	11,215	1.034
		Reimbursement Amounts on Payment Records (in thousands)		
1966	$ 420.2	$21,635	$ 429.2	1.021
1967	1,182.1	61,434	1,218.9	1.031
1968	1,340.8	70,815	1,405.0	1.048
1969	556.2	28,564	566.7	1.019
		Average Reimbursement Amount per Payment Record		
1966	$48.34	$48.28	$48.28	.999
1967	43.88	44.67	44.67	1.018
1968	46.68	47.67	47.67	1.021
1969	51.27	50.53	50.53	.986

a/ For number of payment records and reimbursement amounts, this column is merely 1.984% of the previous column since this is the ratio of the number of persons in the Actuarial Sample to the number in the ORS 5% sample.

Table II

ADJUSTMENT FACTORS TO INFLATE ACTUARIAL-SAMPLE DATA TO UNIVERSE VALUES, AS DERIVED FROM ORS SAMPLE DATA BEING THE BASE

Year	Population Factor[a]	Operating Experience Factor[b]	Total Adjustment Factor[c]
	Number of Payment Records		
1966	1007.1	1.023	1,030.3
1967	1007.1	1.013	1,020.2
1968	1007.1	1.026	1,033.3
	Reimbursement Amounts on Payment Records		
1966	1007.1	1.021	1,028.2
1967	1007.1	1.031	1,038.3
1968	1007.1	1.048	1,055.4
	Average Reimbursement per Payment Record		
1966	--	.999	.999
1967	--	1.018	1.018
1968	--	1.021	1.021

a/ Based on the ratio of the number of persons in the universe to the number in the Actuarial Sample (see text).

b/ From Table I.

c/ Based on the product of the two preceding columns.

D. Analysis of Data in the Aggregate

Table 1 presents data on the number of payment records for 1968 and earlier processed in the latest processing period, according to month of last expense shown on the payment record. The payment records processed represented a net of virtually no 1966 payment records. Slightly less than ½% of the 1967 payment records submitted to date were processed during the 4-month period. About 7% of the 1968 payment records were processed in the current period (as compared with corresponding figures of 16% and 34% in the two preceding 3-month processing periods).

The numbers of payment records by month (when assigned to the month of last service reported on the payment record) that were processed to date, for each year separately, tend to increase steadily and rapidly from January to December. This trend is, of course, due to the accumulation of bills for services rendered in previous months. Thus, for 1966, there were about 800 payment records for July being the month of last expense, while in successive months this number increased--to about 1,675 for November and 2,555 for December. For 1967, the increase was from 1,521 for January to 3,036 for November and 3,804 for December. The trend for 1968, shown in Table 1, is similar, even though the data for the later months are not yet as complete as for the earlier months.

Table 2 makes a similar analysis, but it deals instead with aggregate reimbursement amounts. For each month or period, the percentage of amounts processed during the period is generally within 1 or 2% of the percentage of payment records processed. Where they do differ, the percentage of amounts processed during the period is generally lower than the percentage of bills, indicating that large bills are processed more quickly than smaller bills. The same trend by month of the year occurs as is the case when analysis is made by number of payment records.

It is of interest to compare the total annual reimbursements on payment records as shown by this tabulation of the Actuarial Sample with the estimated total benefit payments under the SMI program on an incurred basis, based on data published in the 1969 SMI Trustees Report (House Document No. 91-47). Such comparison

Table 1

NUMBER OF PAYMENT RECORDS PROCESSED IN PERIOD,
6/27/69 THROUGH 10/31/69, ACTUARIAL SAMPLE

Month of Last Expense	(1) Processed Previously	(2) Processed in Period	(3) Processed to Date	(4) Col. (2) as % of Col. (3)
July-Dec. 1966	8,898	23	8,921	a/
Jan.-Dec. 1967	27,216	133	27,349	a/
Jan.-Dec. 1968	27,084	2,069	29,153	7
January 1968	1,637	47	1,684	3
February 1968	1,725	25	1,750	1
March 1968	1,969	33	2,002	2
April 1968	1,953	46	1,999	2
May 1968	2,130	52	2,182	2
June 1968	2,075	68	2,143	3
July 1968	2,277	75	2,352	3
August 1968	2,242	85	2,327	4
September 1968	2,482	144	2,626	5
October 1968	2,629	390	3,019	13
November 1968	2,413	403	2,816	14
December 1968	3,552	701	4,253	16

a/ Less than 0.5%.

Table 2

AGGREGATE REIMBURSEMENT AMOUNTS ON PAYMENT RECORDS PROCESSED IN PERIOD, 6/27/69 THROUGH 10/31/69, ACTUARIAL SAMPLE

Month of Last Expense	(1) Processed Previously	(2) Processed in Period	(3) Processed to Date	(4) Col. (2) as % of Col. (3)
July-Dec. 1966	$438,777	231	$439,008	a/
Jan.-Dec. 1967	1,199,600	4,052	1,203,652	a/
Jan.-Dec. 1968	1,259,570	98,602	1,358,172	7
January 1968	63,336	1,551	64,887	2
February 1968	79,851	1,242	81,093	2
March 1968	89,394	1,026	90,420	1
April 1968	91,134	1,594	92,728	2
May 1968	110,019	2,075	112,094	2
June 1968	103,845	2,824	106,669	3
July 1968	112,477	2,310	114,787	2
August 1968	101,521	4,578	106,099	4
September 1968	116,408	9,316	125,724	7
October 1968	118,034	21,902	139,936	16
November 1968	102,380	19,870	122,250	16
December 1968	171,171	30,314	201,485	15

a/ Less than 0.5%.

is presented in Table 2a. The ratios developed in the last column of the table are less than 1.000, because of the benefit payments not on payment records, the underrepresentation of the Actuarial Sample, and (especially for 1968) the claims incurred but not yet reported or adjudicated and tabulated.

Table 3 shows the average reimbursement amount per payment record according to month of last expense and according to period of processing. The average reimbursement amount for all 1966-68 payment records processed to date is $46, about the same as the average for those processed in the latest period. Within most periods, the average reimbursement amount for payment records processed has remained about the same, the averages for 1966, 1967, and 1968 being $49, $44, and $47, respectively. In view of the known upward trend in physician fees in this period, it is surprising that the average reimbursement per payment record should remain so level. Possibly, this is due to more small bills being submitted, or to subdivision or itemization of charges. When analysis is made by month of last expense, relatively little trend in the average reimbursement amount appears per payment record. The first month of the year tends to be slightly low (due to the effect of the $50 initial deductible), but otherwise no significant differences appear.

Table 4 compares the aggregate reimbursement amounts with the aggregate reasonable charges shown on the payment records, according to year of expense, for 1966-68. The aggregate reported reasonable charges shown have been adjusted to include (a) the full amount of the outpatient psychiatric charges up to the $500 maximum "insurable" cost (outpatient psychiatric care is subject to 50% coinsurance--instead of 20%--and has a $250 maximum annual reimbursement) and (b) charges that go to meet the deductible, but that do not do so completely and thus are not on any payment record. For example, if a payment record shows that it includes reasonable charges of $60 and that this satisfied $20 of the deductible and resulted in benefit payments of $32, then an additional $30 is included as reasonable charges not reported on any payment record. Of course, if a payment record shows either that the entire $50 deductible is satisfied by the services reported on it or that the deductible had previously been satisfied, then no such adjustment is made. As used here, the term "outpatient psychiatric" refers to all psychiatric services to persons who are not inpatients in hospitals.

Table 2a

COMPARISON OF TOTAL REIMBURSEMENTS REPORTED ON PAYMENT RECORDS IN ACTUARIAL SAMPLE WITH ESTIMATED TOTAL SMI BENEFIT PAYMENTS ON AN ACCRUAL BASIS

Calendar Year	(1) Adjusted Reimbursements on Payment Records in Actuarial Sample[a]	(2) Total Incurred Benefit Payments (in millions) Unadjusted[b]	(3) Adjusted[c]	(4) 1000 x (1) / (3)
1966	$451,388	$535	$485	.931
1967	1,249,752	1,289	1,322	.945
1968	1,433,415	1,536	1,536	.933

a/ Adjustment is made so as to inflate properly the crude Actuarial Sample data shown in column (3) of Table 2, by using the adjustment factors of the last column of Table II.

b/ By "unadjusted" is meant that all benefit payments made in the following year as a result of the carryover-deductible provision are assigned to the current year. These data are from Table 6 of the 1969 SMI Trustees Report (House Document No. 91-47).

c/ By "adjusted" is meant that all benefit payments made as a result of the carryover-deductible provision are assigned to the year for which the covered expense actually occurred. The adjustment is made on the basis that payments made in 1967 because of the 1966 carryover deductible amounted to an estimated $50 million, while such payments made in 1968 because of the 1967 carryover deductible amounted to an estimated $17 million (and the same amount for payments made in 1969 because of the 1968 carryover deductible).

Table 3

AVERAGE REIMBURSEMENT AMOUNT PER BILL IN PAYMENT RECORDS PROCESSED IN PERIOD, 6/27/69 THROUGH 10/31/69, ACTUARIAL SAMPLE

Month of Last Expense	(1) Processed Previously	(2) Processed in Period	(3) Processed to Date	(4) Col. (2) as % of Col. (3)
July-Dec. 1966	$49	a/	$49	a/
Jan.-Dec. 1967	44	$30	44	$668
Jan.-Dec. 1968	47	48	47	102
January 1968	39	33	39	85
February 1968	46	50	46	109
March 1968	45	31	45	69
April 1968	47	35	46	76
May 1968	52	40	51	78
June 1968	50	42	50	84
July 1968	49	31	49	63
August 1968	45	54	46	117
September 1968	47	65	48	135
October 1968	45	56	46	122
November 1968	42	49	43	114
December 1968	48	43	47	91

a/ Not meaningful.

Table 4

COMPARISON OF AGGREGATE REIMBURSEMENT AMOUNTS WITH AGGREGATE REASONABLE CHARGES ON PAYMENT RECORDS PROCESSED THROUGH 10/31/69, ACTUARIAL SAMPLE

Period of Expense	(1) Aggregate Reimbursement Amounts	(2) Aggregate Reasonable Charges[a/]	(3) Col. (1) as % of Col. (2)
July-Dec. 1966	$439,008	$685,877	64%
Jan.-Dec. 1967	1,203,652	1,768,795	68
Jan.-Dec. 1968	1,358,172	1,991,430	68
Total	3,000,832	4,446,102	67

a/ Including full amount of outpatient psychiatric charges. Also includes charges not shown on payment records for persons who have satisfied the deductible and who have some reimbursement made on a payment record.

Outpatient psychiatric expenses reported on payment records in the Actuarial Sample, on a reasonable-charge basis amounted to $1,532 for 1966, $2,609 for 1967, and $2,884 for 1968 (again, the 1968 figure being somewhat understated, because of the incompleteness of the data). The maximum reimbursement for such expenses was 50% (since some of them might have been used to meet the deductible). Taking these psychiatric expenses on this "maximum" basis, the reimbursement for them was 0.017% of total reimbursements on payment records for 1966, and 0.011% for 1967 and 0.011% for 1968. These proportions are rather surprisingly low, part of which may be due to misreporting of such services (so as to avoid the higher cost-sharing).

Aggregate reimbursement amounts represented 64% of aggregate reasonable charges in 1966 and 68% in both 1967 and 1968 (thus indicating the effect of the $50 deductible and the 20% coinsurance). The lower ratio for 1966 than for 1967-68 is due to the more powerful effect of the $50 deductible in the former year (when it was applicable for only a 6-month period). The somewhat less powerful effect of the carryover deductible in 1968 than in 1967 is apparently balanced by the higher 1968 costs for those whose covered charges exceed the $50 deductible and by the resulting effect of the elimination, after March 1968, of cost-sharing payments for the physician component of inpatient radiology and pathology services. When the latter are reported on payment records (which occurs in about 40% of the cases, the remaining 60% being reported on a direct-billing basis in an aggregate manner through hospitals), they increase the ratio of reimbursement amounts to reasonable charges, since for them the ratio is 100%, while for other services the ratio cannot exceed 80% (and is often less because of the effect of the $50 initial deductible).

Table 4a gives the ratios of aggregate reimbursement amounts to aggregate reasonable charges according to month (the month of last expense included in the payment record) for 1966-68 and the first 9 months of 1969 (for which the data are at least 50% complete, so that the resulting ratios have considerable validity). For 1968, the reimbursement ratio was only 62% for January and then rose to 65% for the next 3 months

Table 4a

RATIOS OF AGGREGATE REIMBURSEMENT AMOUNTS TO AGGREGATE REASONABLE CHARGES ON PAYMENT RECORDS PROCESSED THROUGH 10/31/69, BY MONTH OF LAST EXPENSE, ACTUARIAL SAMPLE

Month of Last Expense	1966	1967	1968	1969
January	--	64%	62%	64%
February	--	64	64	65
March	--	66	65	66
April	--	66	66	66
May	--	68	68	68
June	--	68	68	69
July	61%	69	70	68
August	63	69	70	69
September	66	69	70	69
October	64	69	70	
November	65	70	70	
December	64	69	69	
Year	64	68	68	

and to about 69% for the next 8 months. This same trend was present for 1967. For 1966, the first two months (July and August) were low, followed by a higher plateau for the last four months. Such trend is, of course, the result of the operation of the $50 deductible, which has its most powerful effect in the early months of the year.

In considering the foregoing comparisons of aggregate reimbursement amounts to aggregate reasonable charges, it should be kept in mind that the ratios indicate the proportion of covered charges paid by the program for only those who have sufficient such charges to be entitled to benefits (and not for all persons enrolled in the program who have any covered charges during the year--i.e. including those who do not satisfy the $50 deductible, for whom, of course, the proportion is zero and whose inclusion would lower the overall proportion).

Table 5 compares the aggregate reimbursement amounts for calendar years with the average enrollment, so as to yield the average reimbursement per capita. Such average reimbursement was $4.13 for 1966, $5.61 for 1967, and $6.13 for 1968 (the latter figure being low, because not quite all the data for that year have yet been reported). For the sake of accuracy, it is necessary to make the analysis by calendar years, since each payment record refers to services in a particular calendar year. Data for the period July 1966 through March 1968, when the standard permium rate was $3, would not be precise, because many payment records with month of last expense in 1968 after March include expenses incurred earlier in the year.

Corresponding average reimbursement amounts per capita by month of last service reported on the payment records are shown in Table 5a. As would be expected, the average is lowest in the early months of each year and rises to a definite maximum for December. This trend results from the effect of accumulating bills for services rendered in previous months. Quite obviously, a completely different trend would be shown if the tabulation were based on first month of expense, instead of last month.

One final point may be mentioned about these aggregate data obtained from SMI payment records. Before the special treatment of not having any cost-sharing payments by the enrollee for the physician component of inpatient radiology and pathology went into effect in April 1968, the cost-sharing after the $50 deductible was satisfied was 20% in all instances. For subsequent periods, an <u>average effective cost-sharing percentage</u> can be derived taking this factor into account. For the period April 1968 through June 1969, this averages out at 19.4%.

Table 5

COMPARISON OF AGGREGATE REIMBURSEMENT AMOUNTS ON PAYMENT RECORDS PROCESSED THROUGH 10/31/69 WITH POPULATION PROTECTED, ACTUARIAL SAMPLE
(Enrollment and reimbursement amounts in thousands)

Period of Expense	Average Population Protected During Period	Aggregate Reimbursement Amounts	Average Monthly Reimbursement Per Capita
July 1966-December 1966	17,725	$439,008	$4.13
January 1967-December 1967	17,874	1,203,652	5.61
January 1968-December 1968	18,471	1,358,172	6.13
July 1966-December 1968	18,083	3,000,832	5.53

Table 5a

AVERAGE MONTHLY REIMBURSEMENTS PER CAPITA BASED ON PAYMENT RECORDS PROCESSED THROUGH 10/31/69, BY MONTH OF LAST EXPENSE

Month of Last Expense	1966	1967	1968
January	--	$3.57	$3.59
February	--	3.84	4.49
March	--	4.89	5.00
April	--	4.82	5.12
May	--	5.12	6.19
June	--	5.69	5.88
July	$2.14	5.00	6.10
August	2.89	4.96	5.64
September	4.04	5.44	6.67
October	4.42	7.40	7.42
November	4.63	7.07	6.48
December	6.65	9.41	10.68
Year	4.13	5.61	6.13

E. Relevance of Payment Record Data to Necessary Premium Rate

The fact that the per capita average for all periods was below the $6 income from the premium rate and from the matching government contribution that were in effect during July 1966-March 1968 and the $8 income thereafter is not necessarily indicative of the adequacy of the premium rates. The following considerations must also be takin into account in judging the adequacy of the premium rate:

(1) A considerable number of payment records covering benefits that have already been paid have not been submitted by the carriers.

(2) Carriers have received claims which have not been adjudicated yet.

(3) There are substantial amounts of potential claims outstanding for services rendered, for which no claim has yet been submitted to carriers. Some of these will be filed for in connection with future claims.

(4) The .1% sample is subject to statistical fluctuations.

(5) Benefit payments not included on payment records are 5.6% of total benefit payments in 1966, 6.5% in 1967, and a higher proportion thereafter.

(6) Administrative expenses must also be paid out of the premium rate and the matching government contribution.

The first three items will have a pronounced effect on later months and only a slight effect (if any) on earlier months. However, there is the possibility that payment records will never be received for some claims that have actually been paid in the past (due to carrier negligence and the absence of fully adequate administrative control on the completeness of payment-record submissions). This is an especially worrisome problem for 1966 and early 1967.

F. Distribution of SMI Benefit Payments by Sources Through Which Paid

As indicated previously, the vast majority of SMI benefit payments are made through payment records. This section will analyze the various sources of such benefit payments, indicating the relative importance of the payment records in this area.

Table 6 shows, for 3-month periods since the program began, the distribution of SMI benefit payments by agency making them. These data are for the total operations of the program, on a 100% basis, from accounting data. They are thus on a cash-payment basis, and not on an accrual or incurred-cost basis (which is preferable for analytical purposes, but such data are unobtainable).

Payment records are submitted for all benefit payments made by carriers and by the Railroad Retirement Board (RRB), which serves as the carrier for its beneficiaries. The RRB payment records represent about 4% of the total payment records, which is about the same proportion that RRB beneficiaries are of total beneficiaries.

Intermediaries under the HI program also pay certain SMI benefits (such as for outpatient hospital services, the physician component of inpatient radiology and pathology services for hospitals which use the direct-billing method, and home health services), but they do not use payment records to submit the information to the Social Security Administration. Similarly, payment records are not used for the reimbursement information with respect to direct-dealing group practice prepayment plans (GPPP).

Table 6a presents the percentage distribution of SMI benefit payments by method of payment for 3-month periods. Until the new procedure for paying the physician component of inpatient radiology and pathology services in direct-billing hospitals through the HI program at first, with reimbursement then from the SMI program, the proportion of benefit payments on payment records was about 94¼%. During the same period, benefits paid through HI intermediaries were about 3½% of the total, and those to GPPP were about 2¼%. This is shown by the

Table 6

DISTRIBUTION OF SMI BENEFIT PAYMENTS BY AGENCY
(in thousands)

Period	Carriers	RRB	Intermediaries	GPPP	Total
July-September 1966	$16,008	$280	$155	$2,897	$19,340
October-December 1966	102,389	1,560	2,524	3,441	109,914
January-March 1967	216,174	10,930	5,433	3,692	236,229
April-June 1967	274,449	11,400	9,376	5,334	300,559
July-September 1967	285,072	12,920	12,752	6,383	317,127
October-December 1967	292,701	13,555	13,923	7,080	327,259
January-March 1968	332,131	13,100	12,857	8,267	366,355
April-June 1968	339,405	13,750	29,603[a]	8,757	391,515
July-September 1968	347,090	15,065	35,482[a]	7,748	405,385
October-December 1968	344,332	14,712	39,440[a]	7,976	406,460
January-March 1969	377,925	12,900	40,775[a]	11,914	443,514
April-June 1969	378,877	16,650	45,945[a]	10,092	451,564
1966	118,397	1,840	2,679	6,338	129,254
1967	1,068,396	48,805	41,484	22,489	1,181,174
1968	1,362,958	56,627	117,382	32,748	1,569,715
1st Half, 1969	756,802	29,550	86,720	22,006	895,078
July 1966-June 1968	1,858,329	77,495	70,603[b]	45,851	2,052,278[b]

a/ Including $5,340,000 per month in 1968 and $6,170,000 per month in 1969 to allow for physician component of inpatient radiology and pathology services in hospitals with combined-billing procedure, which amounts have been transferred from the SMI Trust Fund to the HI Trust Fund (as of September 30, 1969).

b/ Not including the amounts described in footnote a.

Table 6a

PERCENTAGE DISTRIBUTION OF SMI BENEFITS BY METHOD OF PAYMENT

Period	Payment Records	Through Intermediaries	To GPPP	Total
July-September 1966	84.2%	.8%	15.0%	100.0%
October-December 1966	94.6	2.3	3.1	100.0
January-March 1967	96.1	2.3	1.6	100.0
April-June 1967	95.1	3.1	1.8	100.0
July-September 1967	94.0	4.0	2.0	100.0
October-December 1967	93.6	4.2	2.2	100.0
January-March 1968	94.2	3.5	2.3	100.0
April-June 1968	90.2	7.6	2.2	100.0
July-September 1968	89.3	8.8	1.9	100.0
October-December 1968	88.3	9.7	2.0	100.0
January-March 1969	88.1	9.2	2.7	100.0
April-June 1969	87.6	10.2	2.2	100.0
1966	93.0	2.1	4.9	100.0
1967	94.6	3.5	1.9	100.0
1968	90.4	7.5	2.1	100.0
1st Half, 1969	87.9	9.7	2.4	100.0
July 1966-June 1968[a/]	94.3	3.5	2.2	100.0

a/ This distribution is exclusive of the payments described in footnote a of Table 6.

last line of the table, which relates to the 2-year period ending June 1968, but for which--properly for this analysis--the aforementioned benefits for radiology and pathology services in the last 3 months (when this procedure first began) are excluded.

Following the institution of the new procedures with respect to the aforementioned radiology and pathology services, the proportion of SMI benefits on payment records naturally decreased, and the proportion paid through HI intermediaries rose. By mid-1969, the payment-record proportion had decreased to about 87½%, and the intermediary proportion had increased to about 10¼%. The GPPP proportion remained at about 2¼%.

G. Distribution of SMI Benefits in 1966 and 1967, by Size

This section presents the results of a study from the Actuarial Sample of payment records (based on all such records processed through July 1969), showing the distribution of total benefit payments to individual enrollees by size for 1966 (i.e., the first 6 months of operation) and for 1967. It will be recalled that payment records do not include all SMI benefit payments, since excluded are such items as home-health-agency-benefits, group-practice-prepayment-plan benefits, and non-physician component of outpatient-hospital benefits (but these represented only about 6% of total benefit payments in 1966-67). Also, the Actuarial Sample appears to contain about a 3-4% understatement by amount of benefits. This memorandum will also make certain comparisons of these data from the Actuarial Sample with the corresponding data from the Current Medicare Survey, which is conducted under the auspices of the Office of Research and Statistics.

Table 7 gives the distribution of enrollees in the Actuarial Sample by amount of benefits in 1966 and in 1967. The figures can be considered to represent the total population if they are read in thousands (but bearing in mind the limitations mentioned previously). In the following discussion of size-of-benefit data, the statements will be made solely on the basis of the data from the tabulations of payment records; quite obviously, the results therefrom understate slightly the benefits actually received by many persons because of the exclusion of non-payment-record data (as discussed previously), but nonetheless, the analysis has considerable interest and value. About 17.9% of the enrollees received some benefits for 1966, while for 1967, the corresponding figure was 34.3%.

The Actuarial Sample data indicate that of those who received benefits in 1966 about 65% had payments of less than $100, and 25% had payments of less than $20. On the other hand, 5½% had payments of $500 or more in 1966, and 1% had payments of more than $1,000 (the highest payment was $1,637, which was rather surprising, since it might have been expected that it would be much larger). For 1967, the proportion of beneficiaries with payments of less than $100 decreased to 53%,

Table 7

DISTRIBUTION OF ENROLLEES WITH SMI BENEFITS PAID ON THE BASIS OF PAYMENT RECORDS FOR 1966 AND 1967, BY AMOUNT OF BENEFITS, ACTUARIAL SAMPLE

Reimbursement Amount	Number of Enrollees 1966	1967
$10 and under	447	538
$10.01 to $20	348	526
$20.01 to $30	245	398
$30.01 to $40	225	371
$40.01 to $50	186	303
$50.01 to $60	158	309
$60.01 to $70	120	247
$70.01 to $80	122	271
$80.01 to $90	106	203
$90.01 to $100	95	215
$100 and under	2,052	3,381
$100.01 to $200	444	1,186
$200.01 to $300	228	539
$300.01 to $400	160	397
$400.01 to $500	102	250
$500.01 to $600	50	180
$600.01 to $700	48	130
$700.01 to $800	22	96
$800.01 to $900	13	48
$900.01 to $1,000	8	39
Over $1,000	28	112
Total	3,155	6,358

Note: Above data are based on all payment records posted through August 7, 1969.

while for the "under $20" category, it was only 17%. On the other hand, 9½% had payments of more than $500 in 1967 and 2% had payments of more than $1,000 (the highest payment was $3,712). The average benefit payment per enrollee who received benefits was about $134 in 1966 and $186 in 1967.

When expanded to the universe, these data indicate that about 3.2 million enrollees (out of an average monthly enrollment of about 17.7 million) received SMI benefits for services rendered in 1966, while the corresponding figure for 1967 was 6.4 million. These figures should be adjusted upward to 3.3 million and 6.6 million, respectively, to take into account the two factors mentioned in the first paragraph.

The Current Medicare Survey indicated a total of 4.06 million enrollees who satisfied the $50 deductible in 1966 (CMS Report No. 1). The significant difference (about 20%) between this figure and that of 3.3 million derived from the Actuarial Sample can probably be largely explained by the element of non-filing of small claims.

The total amount of benefit payments for 1966 shown by this tabulation of the Actuarial Sample was $423 million. When this figure is adjusted for possible payment records to be received later, for benefit payments not included in payments records, and for under-representation of the Actuarial Sample, it becomes $485 million. This may be compared with the $490 million shown by the CMS--a close correspondence. If the persons representing the difference between the potential claimants under the CMS and the actual claimants under the Actuarial Sample (about 3/4 million) had an average potential benefit of as much as $20, then only $15 million of benefits would be involved in the "non-filing" difference. Such amount could readily occur, and the difference between the reimbursements under the two estimates would still be explainable, especially considering sampling variations possible.

The same differences occur in comparing the 1967 data from the Actuarial Sample with those from the CMS (as per CMS Report No. 5). The Actuarial Sample indicates that 6.4 million received benefits, while the CMS shows 8.6 million--a differential of 25% for the former as against the latter. The estimated total benefit payments from these two sources are

once again in close agreement--$1,322 million for the Actuarial Sample (after making the adjustments indicated previously) versus $1,358 million. If the apparent 2.4 million non-filers had an average benefit of as much as $20, then only $48 million of additional benefits would be involved. This compares reasonably well with the excess of $36 million of benefits shown by the CMS as against the Actuarial Sample.

Table 8 gives a cross-distribution of SMI benefits to individuals on payment records for 1966 benefits versus those for 1967 benefits. There is, of course, the problem that some persons were not eligible for benefits in both years--e.g., attainments of age 65 in 1967 and deaths in 1966--and it was not possible to eliminate these cases. This element represents about 6% or 7% of the total persons covered by SMI in 1966.

Considering those with reimbursements for 1966, 29% did not have a 1967 reimbursement. Conversely, for those with reimbursement for 1967, 65% did not have reimbursement for 1966 (the higher proportion being due to the fact that SMI coverage for 1966 was for only 6 months at most). There was no apparent significant tendency for persons with high SMI benefits in one year to have high benefits in the other year, since there were relatively few such instances; only 1.2% of persons with benefits for both years had over $500 in each year.

More light on the foregoing matter is shed by Table 9, which shows average reimbursement amounts shown on payment records in one year according to average reimbursement amount in the other year. First, considering average reimbursements in 1967, the overall average is $163, and this average differs little with variations in the 1966 reimbursement amount when such amount is $600 or less (including the "no reimbursement in 1966" case). However, for the largest "reimbursement in 1966" cases, there is some tendency for the 1967 average reimbursement amount to be larger, such average increasing to more than $250 for the case of 1966 reimbursement being over $800. This indicates a certain degree of correlation as between high medical expenses in one year and high medical expenses in the next year, although there is not as much of this tendency present as might be expected, especially at the middle ranges of 1966 average reimbursement amount.

Table 8

DISTRIBUTION OF ENROLLEES WITH SMI BENEFITS PAID ON THE BASIS OF PAYMENT RECORDS FOR 1966 OR 1967, BY AMOUNT OF BENEFITS IN EACH YEAR, ACTUARIAL SAMPLE

1966 Reimbursement Amount	1967 Reimbursement Amount								
	None	$.01 to $100	$100.01 to $200	$200.01 to $300	$300.01 to $400	$400.01 to $500	$500.01 to $1,000	Over $1,000	Total
None	--	2,414	681	298	240	143	282	51	4,109
$.01 to $100	515	716	371	148	88	68	115	31	2,052
$100.01 to $200	144	109	60	44	32	11	31	13	444
$200.01 to $300	95	45	22	15	15	10	24	2	228
$300.01 to $400	57	42	17	8	7	9	16	4	160
$400.01 to $500	36	26	8	15	4	4	6	3	102
$500.01 to $1,000	53	25	21	8	8	5	15	6	141
Over $1,000	6	4	6	3	3	--	4	2	28
Total	906	3,381	1,186	539	397	250	493	112	7,264

Note: Above data are based on all payment records posted through August 7, 1969.

Table 9

AVERAGE REIMBURSEMENT AMOUNTS OF ENROLLEES WITH SMI BENEFITS PAID ON THE BASIS OF PAYMENT RECORDS IN ONE YEAR FOR SPECIFIED REIMBURSEMENT AMOUNT IN OTHER YEAR, 1966 AND 1967, ACTUARIAL SAMPLE

Specified Reimbursement Amount	Average Reimbursement Amount in 1967 for Specified Reimbursement Amount in 1966	Average Reimbursement Amount in 1966 for Specified Reimbursement Amount in 1967
None	$163	$158
$10 and under	146	25
$10.01 to $20	162	35
$20.01 to $30	163	27
$30.01 to $40	133	21
$40.01 to $50	142	30
$50.01 to $60	179	44
$60.01 to $70	138	33
$70.01 to $80	134	19
$80.01 to $90	157	26
$90.01 to $100	149	28
$100.01 to $200	187	50
$200.01 to $300	164	63
$300.01 to $400	178	62
$400.01 to $500	164	57
$500.01 to $600	163	74
$600.01 to $700	259	96
$700.01 to $800	169	83
$800.01 to $900	278	48
$900.01 to $1,000	207	53
Over $1,000	291	113
Total	163	58

Note: Above data are based on all payment records posted through August 7, 1969.

Next, considering average reimbursements in 1966, the overall average is only $58 (or only 35% of the 1967 average). This difference is, of course, due to the 1966 benefit period covering at most 6 months with the same $50 initial deductible which applied for the 12 months of the 1967 benefit period. For cases where there was some 1967 reimbursement but not in excess of $100, the average 1966 reimbursement was only about $25. For cases where the 1967 reimbursement averaged over $500, the average 1966 reimbursement was generally about $60-70 (although being as high as $113 for the "over $1,000 1967 reimbursement" category). Curiously, when there was no 1967 reimbursement, the 1966 average reimbursement was very high ($158); this could possibly be explained by the fact that many of these cases were deaths in 1966, with high terminal-illness expenses.

H. Analysis of Detailed Data

This section presents several tables analyzing the detailed data reported on payment records, according to the calendar year in which the services were rendered (not on a "cash" basis, when the benefits were paid). The limitations mentioned previously about the payment-record data should be kept in mind--such as the non-inclusion of data for bills which only go toward satisfying the deductible--even though there is no way of modifying the data to correct for them.

The analysis by number of bills and by average reimbursement per bill has less significance than the analysis by reimbursement amounts, since the former depend to a considerable extent on the action of the person submitting the bill. Frequently, when there are a number of covered services rendered, they could be combined on one bill or, alternatively, be on several separate bills.

Table A presents data according to type of service received. The proportion of the bills that were for services rendered in a hospital decreased from 48% in 1966 to 36% in 1968, while the proportion for services in a physician's office increased from 34% in 1966 to 44% in 1968. The remaining 17% of the bills in 1966 and 19½% in 1968 were for services in other places; in particular, there was an increasing trend for services rendered in extended care facilities and at the home of the patient.

When the data in Table A are considered by reimbursement amounts, the proportions for services rendered in a hospital are significantly higher--72% in 1966, decreasing to 60% in 1968. Similarly, the proportions for services in a physician's office were 20% in 1966 and 27% in 1968. The remainder of the places of service accounted for 9% of the reimbursements in 1966 and 12% in 1968. The heavy concentration, by amount of reimbursements, for inpatient hospital services is to be expected, because payment records will be received for nearly all such services, whereas many services in other places will be entirely excluded by the deductible provision; another factor is the higher expense for surgery, which is indicated by the higher average reimbursement per bill for inpatient hospital services.

The decrease in the proportion of both the number of bills and the reimbursement amounts (particularly for the former) for services rendered in a hospital is due to several factors. From

Table A

ANALYSIS OF PAYMENT RECORDS PROCESSED THROUGH 10/31/69, BY PLACE OF SERVICE, ACTUARIAL SAMPLE

Place of Service	1966	1967	1968
	Percentage Distribution by Number of Bills		
Office	34.5%	41.0	44.1%
Home	5.8	6.5	7.1
Inpatient Hospital	48.5	39.7	36.3
Extended Care Facility	.9	1.2	2.0
Outpatient Hospital	5.7	6.7	4.0
Independent Laboratory	1.3	1.4	1.5
Other	3.3	3.6	4.9
Total	100.0	100.0	100.0
	Percentage Distribution by Reimbursement Amounts		
Office	19.7%	26.4%	27.4%
Home	4.2	5.4	5.7
Inpatient Hospital	71.5	62.8	60.5
Extended Care Facility	.5	.7	1.0
Outpatient Hospital	1.2	1.4	1.3
Independent Laboratory	.5	.5	.5
Other	2.3	2.8	3.6
Total	100.0	100.0	100.0
	Average Reimbursement per Bill		
Office	$28	$29	$29
Home	36	37	38
Inpatient Hospital	73	70	78
Extended Care Facility	28	24	24
Outpatient Hospital	11	9	15
Independent Laboratory	20	15	14
Other	34	34	34
Total	49	44	47

Note: Percentage distributions have been obtained by excluding "unknown" items.

1966 to 1967, the decrease is, in large part, due to the effect of the deductible being more powerful in 1966 (since it applied in a 6-month period, instead of a 12-month one, and thus many small bills did not produce benefit rights, whereas bills for inpatient services--being larger on the average--were not as greatly affected). Part of the decrease from 1967 to 1968 was the elimination (after March 1968) of payment records for inpatient radiology and pathology services in hospitals which adopted a direct-billing method of reimbursement; this had much more effect on numbers of bills than on reimbursement amounts.

The average reimbursement per bill, rather surprisingly, did not vary greatly from year to year, despite the significant rise in physician fees in 1966-68. This was true not only for all places of service combined, but also for each of the separate places. For example, the average reimbursement per bill for services rendered in offices was about $29 in each year. It is possible that this trend was due to a relatively greater (or more frequent) submission of bills for fewer services being included.

Table B analyzes the experience according to type of service. When considered by number of bills, the proportion for medical services increased from 46% for 1966 to 54% for 1968; other sizeable categories were surgery (about 9%), diagnostic X-ray (decreasing from 13% for 1966-67 to 10% for 1968, because of the change in method of reimbursement of inpatient radiology and pathology services), and diagnostic laboratory (decreasing from 16% for 1966-67 to 14% for 1968, for the same reason as diagnostic X-ray).

The distribution for services by type was considerably different by reimbursement amounts than by bills. For 1967-68, about 48% of the reimbursements were for medical services, and 28% were for surgical services; the remaining 24% were more or less equally divided among the other categories, with none having over 6% (Table B). It may be noted for diagnostic X-ray and diagnostic laboratory that, despite the significant decrease in the proportions of bills from 1966-67 to 1968, the proportions of reimbursement amounts did not change much in this period; largely, this was due to the change, effective in April 1968, that eliminated the cost-sharing charges with respect to these services when rendered in a hospital.

The average reimbursement per bill, according to type of service, did not vary greatly in 1966-68 (Table B). In fact,

Table B

ANALYSIS OF PAYMENT RECORDS PROCESSED THROUGH 10/31/69
BY TYPE OF SERVICE, ACTUARIAL SAMPLE

Type of Service	1966	1967	1968
	Percentage Distribution by Number of Bills		
Medical	46.4%	51.0%	54.5%
Surgery	10.4	7.9	8.7
Consultation	2.5	2.4	2.5
Diagnostic X-Ray	13.5	12.7	9.7
Diagnostic Laboratory	16.4	16.8	13.7
Radiation Therapy	.5	.3	.6
Anethesia	3.7	2.8	2.8
Assistance at Surgery	1.0	.8	.9
Charges for Blood	1.2	.8	*
Other	4.4	4.6	6.3
Total	100.0	100.0	100.0
	Percentage Distribution by Reimbursement Amounts		
Medical	40.9%	48.3%	48.6%
Surgery	34.6	28.0	27.9
Consultation	2.6	2.3	2.8
Diagnostic X-Ray	5.5	5.8	5.3
Diagnostic Laboratory	5.8	6.1	5.9
Radiation Therapy	1.0	.6	.7
Anesthesia	3.4	3.2	3.0
Assistance at Surgery	1.3	1.1	1.1
Charges for Blood	1.3	1.1	*
Other	3.6	3.6	4.6
Total	100.0	100.0	100.0
	Average Reimbursement per Bill		
Medical	$43	$42	$41
Surgery	164	156	148
Consultation	50	41	51
Diagnostic X-Ray	20	20	25
Diagnostic Laboratory	17	16	20
Radiation Therapy	91	99	50
Anesthesia	45	49	49
Assistance at Surgery	61	63	57
Charges for Blood	54	59	60
Other	41	35	33
Total	49	44	46

*Less than 0.05%.

Note: Percentage distributions have been obtained by excluding "unknown" items.

for most categories, a decrease was shown--in spite of the general upward trend of physician fees; for example, the average for medical services decreased from $43 to $42 for 1967 and to $41 for 1968. This trend of average reimbursement per bill might be due to more bills being filed for a given amount or number of services.

Table C presents data on the experience according to the method of paying the benefits. When considered by number of bills, the proportion payable directly to the beneficiary was 47% for 1966 and about 40% for 1967-68. On the other hand, the proportion of benefits paid to physicians or other suppliers of services was 31% for 1966, 37% for 1967, and 46% for 1968, thus showing a significant increase in the use of the assignment method. The proportion of bills paid to hospitals was about 18% for 1966-67 and only 12% for 1968; this trend was due to the changed method of reimbursement for certain inpatient radiology and pathology services, as discussed previously (very likely, for 1969, this proportion will be even lower, because the changed procedure was in effect for only part of 1968).

The percentage distribution of benefit payments on payment records when considered by reimbursement amounts was somewhat similar to the distribution by number of bills (see Table C). However, the proportion of reimbursement amounts paid directly to physicians and other suppliers of services was somewhat higher than the proportion of bills, indicating that physicians frequently take assignments when larger amounts are involved. Thus, for 1968, 57% of the reimbursement amounts were direct payments to physicians and other suppliers of services, while only 36% were directly to beneficiaries. The proportions of reimbursement amounts that went directly to hospitals was somewhat over 5% for 1966-67 and was 4% for 1968; these proportions are considerably lower than the proportions by number of bills, because of the relatively low size of the payments in this category.

Tables D-1 and D-2 analyze the payment-records data according to physician specialization or type of supplier. The detailed data have been grouped into a number of categories, but even so--because of the relatively small size of the sample--there can be significant random, accidental fluctuations in the data presented. The three largest categories insofar as reimbursement amounts are concerned are general practice (24% for

Table C

ANALYSIS OF PAYMENT RECORDS PROCESSED THROUGH 10/31/69
BY PAYMENT METHOD, ACTUARIAL SAMPLE

Payment Method	1966	1967	1968
	Percentage Distribution by Number of Bills		
(1) To Beneficiary	46.8%	41.2%	39.8%
(2) To Physician or Supplier	31.4	36.9	46.2
(3) To Hospital[a]	17.4	18.0	11.7
(4) To Both (1) and (2)	2.0	1.9	.8
(5) To Both (1) and (3)	.6	.6	.3
(6) To Group Practice Plan	1.4	.9	.2
(7) To Other Entity	.6	.6	1.0
Total	100.0	100.0	100.0
	Percentage Distribution by Reimbursement Amounts		
(1) To Beneficiary	48.3%	40.7%	36.4%
(2) To Physician or Supplier	41.8	50.1	56.8
(3) To Hospital[a]	5.1	5.5	4.0
(4) To Both (1) and (2)	3.6	2.5	1.1
(5) To Both (1) and (3)	.2	.2	.1
(6) To Group Practice Plan	.6	.3	.1
(7) To Other Entity	.4	.8	1.5
Total	100.0	100.0	100.0
	Average Reimbursement per Bill		
(1) To Beneficiary	$51	$44	$43
(2) To Physician or Supplier	66	60	57
(3) To Hospital[a]	15	13	16
(4) To Both (1) and (2)	89	59	65
(5) To Both (1) and (3)	18	13	11
(6) To Group Practice Plan	21	17	17
(7) To Other Entity	32	54	74
Total	49	44	47

a/ For hospital-based physicians who bill through the hospital.

Note: Percentage distributions have been obtained by excluding "unknown" items.

Table D-1

ANALYSIS OF PAYMENT RECORDS PROCESSED THROUGH 10/3/69,
BY PHYSICIAN SPECIALIZATION OR TYPE OF SUPPLIER, ACTUARIAL SAMPLE

Physician Specialization or Type of Supplier	Percentage Distribution by Number of Bills			Percentage Distribution by Reimbursement Amounts		
	1966	1967	1968	1966	1967	1968
General Practice	24.2%	27.4%	29.6%	19.4%	22.4%	24.0%
General Surgery	8.5	7.3	7.8	16.6	14.1	13.6
Otology, Laryngology, Rhinology	1.2	1.3	1.3	1.8	1.1	.9
Anesthesiology	3.6	2.8	2.6	3.7	3.0	2.7
Cardiovascular	2.0	1.7	1.9	1.0	1.4	1.2
Dermatology	1.2	1.4	1.3	.7	1.1	1.0
Internal Medicine	16.9	17.6	18.4	15.8	17.8	19.4
Gynecology	.8	1.1	1.1	1.2	1.4	1.2
Ophthalmology	3.4	3.5	3.6	6.7	5.2	4.8
Oral Surgery (dentist)	.1	*	*	*	.1	*
Orthopedic Surgery	3.1	2.6	2.1	5.2	5.1	3.9
Pathology	6.7	6.6	3.6	1.7	1.6	.9
Psychiatry, Neurology	1.5	1.2	1.0	1.4	1.3	1.1
Radiology	9.8	9.0	7.3	3.7	3.4	3.8
Urology	2.5	2.6	3.1	6.3	6.1	6.3
Other Physician	5.6	5.8	5.2	7.0	7.7	6.5
Podiatry	--	*	.4	--	*	.3
Medical Supply Firm	.7	1.0	1.8	.6	1.1	1.6
Ambulance Service	1.3	2.0	2.3	.6	.9	1.1
Independent Laboratory	3.8	2.0	1.6	4.1	1.6	.7
Clinic[a]	2.4	3.1	4.0	2.0	3.4	5.0
Group Practice Prepayment Plan[b]	.1	.2	.1	*	*	*
Other Non-Physician	.1	*	*	.2	*	*
Total	100.0	100.0	100.0	100.0	100.0	100.0

*Less than 0.05%.

a/ Only includes clinics with uniform charge regardless of medical procedure.

b/ Only includes non-physician services.

Note: Percentage distributions have been obtained by excluding "unknown" items.

Table D-2

ANALYSIS OF PAYMENT RECORDS PROCESSED THROUGH 10/3/69, BY PHYSICIAN SPECIALIZATION OR TYPE OF SUPPLIER, ACTUARIAL SAMPLE

Physician Specialization or Type of Supplier	Average Reimbursement per Bill		
	1966	1967	1968
General Practice	$41	$37	$38
General Surgery	99	88	82
Otology, Laryngology, Rhinology	74	38	35
Anesthesiology	52	49	49
Cardiovascular	27	37	29
Dermatology	30	38	37
Internal Medicine	48	47	50
Gynecology	73	62	52
Ophthalmology	99	68	63
Oral Surgery (dentist)	*	100	43
Orthopedic Surgery	84	90	87
Pathology	13	11	12
Psychiatry, Neurology	46	53	54
Radiology	19	17	25
Urology	129	109	97
Other Physician	64	61	59
Podiatry	--	*	39
Medical Supply Firm	42	52	42
Ambulance Service	22	22	22
Independent Laboratory	55	37	21
Clinic[a/]	43	51	59
Group Practice Prepayment Plan[b/]	*	13	17
Other Non-Physician	*	*	*
Total	49	44	47

*Average not computed where less than 10 cases.

a/ Only includes clinics with uniform charge regardless of medical procedure.

b/ Only includes non-physician services.

1968), internal medicine (19% for 1968), and general surgery (14% for 1968).

Special interest--because of the effects of the 1967 Amendments--attaches to several categories. Certain non-routine podiatry services were first covered for 1968, but only .3% of all disbursements were payable under this category. The change in the provisions for inpatient radiology and pathology services seems to be reflected in the data for these two categories for 1968 as compared with the earlier years. The proportion of reimbursements for pathology was reduced by about one-half, but no decrease was evident for radiology insofar as reimbursement amounts, although the proportion of bills was reduced by about one-fourth (apparently, the decrease in the proportion of services reported on payment records was offset, insofar as the reimbursement-amounts proportion was concerned, by the elimination of the cost-sharing provisions, so that higher average benefit amounts were payable).

In considering Table D, it should be noted that the item "independent laboratory" relates only to cases where services rendered by such an organization were billed directly to the beneficiary. Thus, there are not included in this item charges for independent laboratory services which were billed to the physician who referred the patient to the independent laboratories--who, in turn, billed the patient for these services in combination with his charges for other services.

Actuarial Studies Available from the Office of the Actuary*

46. Illustrative United States Population Projections--May 1957.

48. Long-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance under 1956 Amendments--August 1958.

49. Methodology Involved in Developing Long-Range Cost Estimates for the Old-Age, Survivors, and Disability Insurance System--May 1959.

50. Analysis of Benefits, OASDI Program, 1960 Amendments--December 1960.

51. Present Values of OASI Benefits in Current Payment Status, 1960, February 1961.

52. Actuarial Cost Estimates for Health Insurance Benefits Bill--July 1961.

53. Medium-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance and Increasing-Earnings Assumption--August 1961.

54. Estimated Amount of Life Insurance in Force as Survivor Benefits under OASI, 1959-60--October 1961.

55. Remarriage Tables Based on Experience under OASDI and U. S. Employees' Compensation System--December 1962.

56. Analysis of Benefits under 26 Selected Private Pension Plans--January 1963.

57. Actuarial Cost Estimates for Hospital Insurance Bill--July 1963.

60. Mortality Experience of Workers Entitled to Old-Age Benefits under OASDI, 1941-1961--August 1965.

61. History of Cost Estimates for Hospital Insurance--December 1966.

62. United States Population Projections for OASDHI Cost Estimates--January 1967.

63. Long-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance System, 1966--January 1967.

Actuarial Studies Available from the Office of the Actuary* (Cont'd)

64. Methods Used in Estimating Long-Range Costs for the Old-Age, Survivors, and Disability Insurance System. (In Preparation)

65. Termination Experience of Disabled-Worker Benefits Under OASDI, 1957-63--March 1969.

66. Present Values of OASI Benefits in Current Payment Status, 1968--April 1969.

67. Present Value of DI Benefits in Current Payment Status, 1968--August 1969.

68. Analysis of Experience under Hospital Insurance Program--September 1969.

69. Long-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance System, 1969--September 1969.

*Numbers not listed are out of print.