APPENDICES

APPENDIX A. STATEMENT OF ACTUARIAL ASSUMPTIONS AND BASES EMPLOYED IN DETERMINING THE ADEQUATE ACTUARIAL RATES AND THE STANDARD PREMIUM RATE FOR FISCAL YEAR 1974[1]

This is a statement of actuarial assumptions and bases employed in determining the adequate actuarial rates and the standard monthly premium rate for the supplementary medical insurance program for the period July 1973 through June 1974. The adequate actuarial rate for enrollees age 65 and over is $6.30. The adequate actuarial rate for disabled enrollees is $14.50. The standard premium rate for both types of enrollees is $6.30.

I. ADEQUATE ACTUARIAL RATE FOR ENROLLEES AGE 65 AND OLDER

The determination of an adequate actuarial rate for the aged has been made on the basis of the actual operating experience under the program, projected through the year beginning July 1973. Virtually complete operating experience figures through July 30, 1972, are now available as to the cash income and disbursements under the program, and some data is available for the early months of fiscal 1973. The adequate actuarial rate, however, must be sufficient to cover benefits and related administrative costs for all services performed during the period from July 1973 through June 1974 (fiscal 1974). Experience on such a basis (hereafter called an "incurred" basis) is available for most components of the program through calendar 1971; that for the other components must be estimated.

Analysis of Supplementary Medical Insurance Trust Fund

The balance of the SMI Trust Fund at the end of each of the last three fiscal years, the liability outstanding for benefits and related administrative costs for services performed prior to the end of that fiscal year but not yet paid for at the end of that fiscal year ("liability for incurred but unpaid services"), and the monthly premium rate in effect for each of these fiscal years are as follows:

Period ending June 30	Monthly premium rate	Fund at end of period (millions)	Liability for incurred but unpaid services (millions)
1970	$4.00	$57	$753
1971	5.30	290	786
1972	5.60	481	844

Due to past deficiencies in the premium rate, the fund on June 30, 1972, was about 57 percent of the liability outstanding. The liabilities outstanding on June 30, 1972, for incurred but unpaid services, are estimated to have been $844 million, while the balance in the trust fund on the same date amounted to $481 million.

It is expected that the trust fund balance will increase during fiscal year 1973. By the end of June 1973 the trust fund balance is estimated to be about $570 million, about 66 percent of the liability for incurred but unpaid services then outstanding.

[1] This statement by the Secretary of Health, Education, and Welfare appeared in the Federal Registry of January 3, 1973, to set forth the actuarial basis of the adequate actuarial rates and standard premium rate promulgated for fiscal year 1974.

Analysis of past experience

Estimates of the basic premium necessary to finance both benefit payments and administrative expenses are shown below, on both a cash and an incurred basis. Cash figures must be adjusted for the estimated increase in liability for incurred but unpaid services. Monthly premium rates on both cash and incurred bases are compared below for the three most recent fiscal years wth the premium rate actually charged.

Fiscal year ending June 30	Premium rate charged	Premium rate required for benefits and administrative expenses	
		Cash basis	Incurred basis
1970	$4.00	$4.47	$4.56
1971	5.30	4.82	4.92
1972	5.60	5.28	5.40

Basic estimates for future experience on an incurred basis

In estimating the cost of the program for July 1973 through June 1974, it is first necessary to project incurred results for fiscal year 1973, and then to continue the projection for one more year. The assumptions used for the purpose of these projections are shown below:

AVERAGE INCREASE ASSUMED OVER PREVIOUS YEAR

[In percent]

Calendar year	Physicians' services		Institutional services	
	Fees[1]	Number and mix[2]	Unit costs	Number and mix[2]
1972	2.5	2.5	12.0	10.0
1973	2.5	3.0	11.5	10.0
1974	2.5	3.5	11.0	10.0

[1] As charged by physicians.
[2] Increase in the number of services received per capita and greater relative use of more expensive services.

The Price Commission has promulgated a guideline for physicians' services, which on the average limits the increase in the price a physician receives for any service to 2½ percent per year. The Price Commission has also determined that the reasonable charge for any procedure for any physician will also be increased by no more than 2½ percent per year.

Administrative expenses incurred for the aged and disabled in fiscal 1974 will be 13 percent of incurred benefits paid under both programs, based on the amounts in the fiscal 1974 budget, adjusted to an incurred basis.

On the basis of the foregoing assumptions it is now estimated that the adequate actuarial rate necessary so that income would cover both benefit payments and administrative expenses for aged enrollees on an incurred basis is $5.77 for fiscal year 1973, and $6.32 for fiscal 1974. Both amounts recognize a change in the deductible from $50 to $60 beginning January 1, 1973, and the fiscal year 1974 rate recognized the addition of chiropractors' and certain other services.

Calculation of actuarially adequate rate

The $6.32 rate for fiscal year 1974 is decreased by $.07 to allow for interest earnings on the trust fund, and increased by $.05 to provide a margin for contingencies. If all assumptions as to fiscal year 1974 were to be exactly met, the margin for contingencies would be sufficient to reduce the unfunded liability for incurred but unpaid services by approximately $25 million.

II. ADEQUATE ACTUARIAL RATE FOR THE DISABLED

An adequate actuarial rate for disabled enrollees must take into account (i) enrollees eligible because they have been entitled to Disability Insurance for

not less than 24 months, and (ii) enrollees meeting the chronic kidney disease provision.

Experience with respect to (i) was estimated from the 1967 survey of the disabled as the basic data source. Estimates of the experience with respect to (ii) was based on several sources, including a report of a Committee on Chronic Kidney Disease (1967).

It should be noted that no adequate statistics were available for either portion of the estimate. Further, the actual cost of the care provided to patients suffering from chronic kidney disease will be determined largely by the regulations promulgated by the Secretary to implement the law. The adequate actuarial rate assumes that the program will pay only for services at the level of the most cost-effective care now provided to patients suffering from chronic kidney disease. Eventually program experience will become available, and the errors of estimation will be reduced.

The resulting adequate actuarial rate, recognizing the relative number of enrollees in each of the two groups, the $60 deductible and 20 percent coinsurance, the provision of the law that the rate is computed on an incurred basis, and with a 5 percent margin for contingencies, is $14.50.

III. STANDARD MONTHLY PREMIUM RATE FOR ALL ENROLLEES

The law provides that the standard monthly premium rate, promulgated in December to apply for both aged and disabled enrollees under the supplementary medical insurance program, shall be the adequate actuarial rate for enrollees age 65 and older; but not greater than the standard monthly premium rate for the fiscal year in which the promulgation is made, increased by the percent that the old-age, survivors, and disability insurance benefit level increased between June 1st of the year in which the promulgation is made and June 1st of the succeeding year (according to the law in effect at the time of promulgation).

The standard monthly premium rate promulgated in December 1971 for fiscal year 1973 was $5.80. The OASDI benefit table was increased by 20 percent in September 1972. Since 120 percent of $5.80 ($6.96) exceeds the adequate actuarial rate ($6.30), the limitation does not apply and the standard monthly premium rate is $6.30.

APPENDIX B. ACTUARIAL METHODOLOGY AND PRINCIPAL ASSUMPTIONS FOR COST ESTIMATES FOR THE SUPPLEMENTARY MEDICAL INSURANCE PROGRAM

(1) ACTUARIAL ESTIMATES REQUIRED

Actuarial cost estimates of the SMI program are required for two purposes. First, the cost estimates form the base for the determination of the adequate actuarial rates and for the promulgation of the premium rates to be charged enrollees—on which the financing of the program is based. Second, they are needed for projecting the transactions of the trust fund and the accrued surplus (or deficit) of the program.

The estimates needed, although for the same program, take different forms. In order to determine adequate actuarial rates, cost estimates are needed on an incurred basis, and expressed per enrollee. The transactions related to the trust fund relate to the aggregate cash flow of the program. The accumulated surplus of the program is found by comparing the balance in the trust fund on any date with the assets and liabilities then outstanding, which form the difference between the cash and incurred status of the program.

The important difference between cash and incurred estimates is that in the former a transaction is assigned to the fiscal year in which an entry therefor is made to the trust fund account by the Secretary of the Treasury as Managing Trustee, and in the latter a benefit or premium payment is assigned to the fiscal year in which the service is performed or the premium falls due. Because there is a considerable time lag between the date a covered service is performed and the date that the corresponding cash transaction is charged against the trust fund, cash and incurred disbursement estimates can differ widely for any fiscal year. The principal reasons for this delay are the time taken by enrollees and providers to submit correctly documented claims, by carriers in processing and paying the amounts due, and by delays between payments and Treasury entries to the trust fund. In addition, the full payment for institutional services is not decided until the final cost settlement, which may be several years after the services were performed.

(2) ESTABLISHING A SUITABLE BASE FOR PROJECTIONS

(*a*) *Primary reliance on program data*

The actuarial cost estimates are based to the extent possible on accounting data from the program, and on such statistical information as can be derived from or reconciled with accounting data. Unconfirmed statistical data from the program is useful also, although less reliable.

Data from outside the program is less useful. There are many important but poorly understood factors that affect the level of services that will be sought and performed for a particular group of persons under a specific insurance program. Only in the absence of any program data, as in the case of new groups of beneficiaries or new types of benefits—is data from outside of the program relied upon to any significant extent.

(*b*) *Establishing an incurred base*

Establishing an incurred base from which to project the future cost of the program requires reconstructing the incurred experience by adjusting the data for a number of sources of serious bias. A substantial part of the data for recent years is missing, due both to delays in receiving data and because statistical data are not tied to accounting procedures to insure accuracy. In addition, processing and classification errors are inevitable in any large scale data processing operation and overall corrections must be made. Finally, where reliance is made on sample data, corrections must be made for any sample bias present.

This reconstruction must be made separately for each payment route (through carriers [1], through intermediaries, through combined billing, etc.)—each of which involves a different set of lags in payment and receipt of data, other biases, and other peculiarities. Each requires a different set of adjustments to obtain reliable estimates of the actual incurred cost. Also, administrative policy, which may effect both the amount paid and the promptness of payment, is normally directed to a particular payment route (e.g. the reasonable charge screens apply only to benefits processed by carriers). Finally, the currency and quality of the basic data—and consequently the accuracy of estimates made from it—varies substantially by source of data.

The reconstruction of incurred experience is most readily done by calendar years since the data system is organized to facilitate administration of the calendar year deductible. The incurred experience is reconstructed for each payment route through the most recent calendar year for which the data are sufficiently complete to permit a reasonable estimate of the total. Due to the delays in receiving data, projections must be made of the incurred experience in the most recent periods, as well as of future experience.

Payments are considered to be incurred when the service which makes payment due is performed. The increased reimbursements made in any year due to carryover of deductible from the prior year are thus assumed to be incurred in the year in which payable and not the year the service was performed, since if no further services had been performed or if enrollment had been terminated no payment would have been made.

The reconstruction of the incurred experience is accomplished principally by tying the incurred data to an accounting base by reconciling incurred data with cash flow by payment route. The total cash experience is complete by definition for any past fiscal year, but must be broken down by payment route (and whether interim or final).

It should be noted that the lag in the collection of data as well as the fact that only a sample is available on an incurred basis of payments to physicians limit the accuracy with which the base year can be estimated. Any inadequacies in the base year data are compounded as the experience is projected to future years.

(*c*) *Analysis of data by payment route*

(1) *Benefits paid through carriers (on payment records).*—All services reimbursed on the basis of reasonable charges are paid by carriers (Blue Shield plans and commercial insurance companies chosen to act as agents for the

[1] The intermediaries who assist the Social Security Administration in paying claims are referred to as "intermediaries" if reimbursement is to be made on the basis of "reasonable costs" (i.e., to institutions) and "carriers" if reimbursement is made on the basis of "reasonable charges."

program). Approximately 89 percent of benefits are paid by carriers; and carriers are required to submit payment records covering all payments made. An actuarial sample of 0.1 percent of these payment records is tabulated by date of service rendered, which permits analysis of the program on an incurred basis. A number of corrections must be made to this data to eliminate biases resulting from the processing system and sampling procedure.

There is a substantial lag between the date on which services are performed, and the date on which payment records are posted to the samples. Payments lag from several months to a year or more behind services performed. There may be a further delay before payment records are submitted and a few are never submitted.[1] Finally, editing and processing of payment records by the Social Security Administration is required before tabulation, and if the edit produces any inconsistencies, a very long delay may result from returning the payment records to the carriers for correction.[2] Errors are often detected in the tabulations and delays of several months may be required to obtain corrections.

Thus, in order to estimate the level of benefits incurred for any period, adjustments must be made for payment records covering services that have been performed but for which payment records have not been tabulated by the Social Security Administration. These "incurred but unreported" payment records must be added to those received for the period in question.

Further correction must be made to the sample data for the diffrence between the mean cost of enrollees in the sample and the average cost for all enrollees. This difference is due to statistical fluctuations from year to year, and to selection of a sample whose members are not fully representative of all enrollees by health and geographical distribution.

The appropriate corrections are made through controls to accounting data. Table B1 shows the cash paid and reconstructed reimbursement incurred for services for which payment records are submitted by calendar year—both in total and per capita.

(2) *Institutional services reimbursed by intermediaries.*—Payments by intermediaries to hospitals for outpatient hospital services, to hospitals for covered services for beneficiaries who have exhausted their HI program benefits, to skilled nursing facilities for outpatient services, and to home health agencies for services not covered by the HI program are on an interim basis and adjusted by a subsequent settlement with the institution on the basis of an audited cost report. As in the case of benefits under the HI program, interim bills are submitted to support claims for interim payments. A 0.1 percent sample of these bills is tabulated by date of service, adjustments made for the lags in receiving bills, and an estimate made of the interim payments incurred. It is estimated that statistical data has not been received for around 9 percent of the benefit paid; consequently, additional adjustments are required to counter this bias in the incurred data.

Finally, allowance must be made for the final cost settlements made with the institutions to bring interim payments up to full reimbursable costs. A study of a very small sample of cost settlements made through June 1972 indicate that the interim payments must be increased by around 27 percent in order to reflect the level of total incurred costs. Table B2 summarizes the cash and reconstructed incurred experience for the institutional services by calendar year.

(3) *Inpatient radiology and pathology paid initially through the hospital insurance program.*—As a result of the 1967 Amendments, hospital-based radiologists and pathologists have the option of concluding agreements with a hospital under which the hospital bills for their services. Where these agreements are in effect, payment is made initially from the hospital insurance trust fund by the hospital insurance intermediary. The HI trust fund is subsequently reimbursed from the SMI trust fund. Interim payments to hospitals are made on the basis of intermediary estimates, in theory based on the estimated average cost for all inpatient professional radiology and pathology services reimbursed by

[1] Beginning with 1972 nearly all payment records submitted are reconciled with cash payments, so that incomplete data is no longer a problem.

[2] In the first years of the program, many payment records that were returned to carriers were never resubmitted, probably because some carriers did not maintain adequate documentation with which to meet Social Security Administration specifications. Actuarial samples were maintained for all records processed as well as for those approved by the edit checks to overcome this problem. Currently, the proportion never returned is very small, as determined by actuarial controls.

the HI program for that hospital. The actual liability, however, depends on subsequent cost settlements with the hospitals. No data as to the current cost of these services is available. Consequently, estimates of the liability of the program for these services must be based on cost settlement data. Presently there is little information on which to judge the completeness of this data. This inadequacy in the data available from the program gives rise to the possibility of substantial errors in estimating this component of the cost of the program.

(4) *Institutions reimbursed directly by the Social Security Administration.*—The same basic procedures used by the intermediaries are also followed by the Social Security Administration to reimburse institutions that have elected to be paid directly by the Social Security Administration for SMI services rather than through intermediaries. Although data from this source might be analyzed separately, the amount involved has been too small to merit separate attention. Consequently, direct institutional reimbursements are analyzed jointly with other institutional benefits.

(5) *Group practice plans dealing directly with the Social Security Administration.*—Group practice plans that deal directly with the Social Security Administration are reimbursed on a cost basis. They are financed on an interim payment basis designed to keep current the reimbursements for services performed. Analysis of retroactive cost settlements made to these plans through June 1972, however, suggests that these interim payments should be increased by about 8 percent to reflect the level of accrued costs. Table B3 shows the reconstructed incurred per capita payments.

TABLE B1.—BENEFITS PAID FOR SERVICES ON PAYMENT RECORDS

Calendar year	Average enrollment (millions)	Incurred		Cash	
		Total (millions)	Per capita	Total (millions)	Per capita
1966	17.7	$473.6	$26.73	$120.9	$6.82
1967	17.9	1322.4	73.92	1134.2	63.40
1968	18.5	1445.8	78.01	1425.9	76.93
1969	19.1	1619.7	84.80	1599.8	83.75
1970	19.5	1746.1	89.34	1702.5	87.11
1971	19.9	1948.7	97.92	1867.7	93.85

TABLE B2.—BENEFITS PAID FOR INSTITUTIONAL SERVICES

Calendar year	Average enrollment (millions)	Incurred		Cash			
		Total (millions)	Per capita	Interim (millions)	Final (millions)	Total (millions)	Per capita
1966	17.7	$22.0	$1.24	$2.7	$0	$2.7	$0.15
1967	17.9	67.5	3.77	42.0	0.3	42.3	2.36
1968	18.5	100.0	5.40	71.6	2.1	73.7	3.98
1969	19.1	134.4	7.04	102.6	9.9	112.5	5.89
1970	19.5	135.2	6.92	108.0	39.6	147.6	7.57
1971	19.9	173.7	8.73	123.9	68.5	192.4	9.67

TABLE B3.—SUMMARY OF INCURRED BENEFITS PER CAPITA

Calendar year	All services	Physician services [1]	Inpatient radiology and pathology [2]	Group practice plan	Home health agencies	Hospital and clinics
1966	$28.36	$25.76	$0.97	$0.39	$0.46	$0.78
1967	78.85	71.44	2.48	1.16	1.30	2.47
1968	85.95	75.50	3.72	1.34	1.69	3.70
1969	94.99	81.68	4.85	1.44	1.96	5.06
1970	99.90	85.96	5.69	1.34	1.01	5.90
1971	110.60	94.09	6.35	1.45	1.11	7.60

[1] Includes all services on payment records other than for inpatient radiology and pathology.
[2] Includes services on payment records and those using combined billing.

(3) PROJECTION OF COSTS FOR AGED ENROLLEES

(a) Basis of projection

Projection of future costs requires ascertaining stable relationships among the payments for services in past periods and projecting these into the future. The pattern of services rendered changes relatively slowly and in similar ways from year to year. Abrupt changes in payments under the program are caused primarily by administrative policy. The most important among other influences on costs are price increases, especially the average increase in physician fees (as affected by administrative policy) and in the average reasonable cost for the institutional services. Most other relationships are stable, or apply only to a small portion of covered services. To obtain these relationships, the reasonable charges (or costs) of services rendered must be reconstructed by payment route from the reimbursements incurred and the effect of administrative policy and price changes on the increases in the per capita amounts must be eliminated. Projections can then be made with specific assumptions as to price increases and administrative policy judged most likely to occur, assuming that most other relationships remain stable.

(b) Trends in reasonable charges and costs incurred

(1) *Reasonable charges and costs incurred per capita through 1971.*—After allowing for the effect of the coinsurance and deductible (including the tendency not to submit claims for all services for which reimbursement would be paid), the reasonable charges and costs incurred per capita for periods for which adequate data are available are as shown in table B4. In allowing for the effect of the deductible and coinsurance, inpatient radiology and pathology on payment records are separated from other services on payment records. To facilitate projections, institutional services are divided into those for home health agencies and those for hospital and clinic services. Projections are made separately for each of these broad categories of services.

TABLE B4.—INCURRED REASONABLE CHARGES OR COSTS PER CAPITA FOR THE AGED: PAST EXPERIENCE

Calendar year	All services	Physician services [1]	Inpatient radiology and pathology	Group practice plans	Home health agencies	Hospital services
1966	$57.04	$51.11	$2.65	$0.78	$0.92	$1.58
1967	128.35	117.44	2.89	1.88	2.12	4.02
1968	138.81	124.60	3.18	2.20	2.77	6.06
1969	150.70	132.17	4.85	2.32	3.17	8.19
1970	157.36	138.41	5.69	2.15	1.62	9.49
1971	170.80	148.42	6.35	2.29	1.75	12.00

[1] Includes all services paid on the basis of reasonable charges except those for inpatient radiology and pathology.

(2) *Past effects of administrative policy.*—Administrative policy has had a substantial impact on amounts paid by carriers—especially as to payment for services not covered by the program (e.g. eye glasses, services for patients not enrolled, etc.) and the reasonable charge screen. Establishing the trends that have been experienced in recognized charges requires allowances for the effect of any changes in policy that have occurred in the past. Similarly, projections require assumptions as to the policies most likely to be followed in the future.

(a) Payment for uncovered services

Currently, 10½ percent of the amounts claimed are denied by carriers as services not covered by the program (e.g. routine physical exams, eye glasses, patient not enrolled, etc.). The level of denied claims has risen gradually from around 2–3 percent in the first year of the program, and reached the present level in 1970. Thus if the pattern of claims submitted has not changed, around 8 percent of payments during the early years of the program were made for uncovered services, and such payments have been gradually reduced. Such payments were probably somewhat in excess of 8 percent initially; however, since many claimants have learned through denials not to submit certain types of claims, and are not currently contributing to the 10½ percent that are denied. The effect has been to inflate payments in the early years by around 10 percent and reduce

the rate of increase experienced in the cost per capita of physicians and miscellaneous services.

(*b*) *Reasonable charge screens*

The "reasonable charge" for any service covered by the program is the lower of the "customary charge" by the particular physician for the type of service in question and the "prevailing charge" by physicians in the geographical area for that type of service. Reimbursement under the program is based on the lower of the reasonable and actual charge.

The policy of the Social Security Administration in implementing the requirement for paying at most reasonable charges has consisted of the following components:

(*i*) A reasonable charge is determined for *each* service reimbursed by carriers.[1]

(*ii*) The "customary charge" for a physician for any type of service is defined to be the median charge used by that physician for that type of service for enrollees in the program during the calendar year preceding the fiscal year in which the claim is processed. Thus there is on the average a delay of 1½ years in recognizing any increase in customary charges and such charges are determined solely from services performed for enrollees in the program.[2]

(*iii*) The "prevailing charge" for any type of service in a geographical area is defined to be the 75th percentile of the customary fees for that service by the physicians in that area.[3]

(*iv*) Decisions as to how to group services rendered in combination or to patients with complications (a large proportion of services for persons over age 65) and as to the number of observations required to form a distribution for purposes of determining a customary or a prevailing charge—are left to the individual carriers.

(*v*) Payment is made on the basis of the paper submitted by the physician or enrollee. The burden of proof is placed on physicians or patients in appealing any disagreement over the classification of services for reasonable charge determinations.

Due to the large number of services that are infrequently performed, there are many covered services for which there is no customary or prevailing charge. Use of relative value scales permits use of estimates for many of these, but there are many that can not be established in this way. Further, many physicians charge less than the customary charge for some patients. For both these reasons, 20 to 30 percent of charges are not affected by the screens. Also, the effect of the fee screen must be analyzed jointly with the impact of the economic stabilization program, as discussed subsequently, and the new limitation on increases in prevailing charges specified in the 1972 Amendments.

The increases that have taken place in reimbursements per capita under the program can only be understood after an analysis of the effect of changes in fee screen policy. In the early years of the program, each carrier was required to determine much of its own policy with regard to reasonable charges, following very general guidelines. The policies followed ranged from use of Blue Shield fee schedules to reducing payment only when a joint insurance company—medical society review committee agreed that a charge was out of line.

In 1969, the Social Security Administration instructed the carriers to adopt policies similar to those now followed but with the prevailing fee set at the 83rd percentile of customary charges. Data from the program indicate that these policies were introduced gradually over three years. The level of prevailing fees was reduced to the 75th percentile of customary charge distributions in early 1971 (conforming with pending legislation). Also, introduction of fee screens based on 1969 data was delayed until early 1971. The data, however, indicate delays between policy changes and actual implementation that most likely varied substantially by carrier.

During fiscal 1972, reductions due to the screens averaged 11½ percent, the approximate level that theoretically should have occurred. The delay in recognition of customary fees caused a reduction of perhaps 6 percent (charges for covered services rose approximately 8 percent between calendar 1970 and fiscal 1972 and customary fees had been established for perhaps 70 to 80 percent of

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[1] This policy contrasts with that followed by insurance companies operating under similar contractual language, who in general examined only unusually large bills or bills from particular physicians.

[2] The delay in recognition of customary charges was explicitly authorized by the 1972 Amendments.

[3] Use of the 75th percentile for defining prevailing fees was mandated by the 1972 Amendments.

covered services). Reasonable charges were reduced by an additional 5½ percent by prevailing charge screens.

(3) *Price increases.*—Data concerning the trends in the average price of health care are available for some of the types of services covered by the program and estimates of the trends of the others can be based on data for similar types of services. Weighted average price increases are estimated for broad categories of services.

(4) *Residual factors.*—In addition to administrative policy and price increases, the cost per capita for each type of covered service is affected by a number of other factors. For example, total physician charges for covered services increase due to (a) changes in the mix of services rendered (reflecting trends to use new, more complex, and more expensive techniques) and pattern of specialists (reflecting increased specialization); (b) changes in the level of use of physician services, including chance fluctuations in health (e.g. epidemics); (c) changes in the manner in which physicians bill for their services; (d) any change in the composition of the enrollment by age, sex, geographical distribution—or other significant actuarial variables, and (e) any difference between the actual and estimated increase in reasonable charges (i.e. any error in actuarial estimates of price increases and of the effect of the fee screens). No data bearing directly on any of these components is available. The overall effect appears to be relatively stable from year to year, however, and can be estimated as a residual through examination of historical data.

(5) *Analysis of increases in reasonable charges and costs per capita.*—Table B5 summarizes the effects of the principal factors which have produced increases in reasonable charges per capita for services paid by carriers, which comprise 89 percent of benefits paid. Price increases are estimated by a weighted average of CPI index components chosen to reflect the distribution of services on payment records. The effect of a price increase is reduced by any increase in fee screen reductions. Similarly, the residual increases are reduced by the effect of reductions in payments for uncovered services. The compound increase due to the recognized fee increase and the residual increase net of the effect of increased denials is the increase in reasonable charges per capita. A similar analysis (not shown) is required for the other types of covered services. The increases that have been experienced in the recognized charges and costs per capita are summarized in Table B6.

TABLE B5.—COMPONENTS OF INCREASES IN REASONABLE CHARGES PER CAPITA FOR PHYSICIAN AND MISCELLANEOUS SERVICES [1]

[In percent]

Year	Actual fees	Effect of screens [2]	Recognized fees	Residual causes	Effect of denials [3]	Net residual	Recognized charges
1967	6.2	−0.6	5.6	7.4	−1.0	6.4	12.0
1968	6.2	−1.1	5.1	3.9	−3.0	.9	6.0
1969	6.6	−1.8	4.8	4.7	−2.5	2.2	7.0
1970	6.5	−4.3	2.2	3.5	−1.0	2.5	4.7
1971	6.2	−1.1	5.1	2.5	−.4	2.1	7.2

[1] Increase over prior year.
[2] Change in reduction due to screen from previous to current year.
[3] Change in denials from previous to current year.

TABLE B6.—INCREASES IN REASONABLE CHARGES AND COSTS INCURRED PER CAPITA FOR THE AGED (AS RECOGNIZED BY THE PROGRAM) [1]

[In percent]

Calendar year	Physician services [2]	Inpatient radiology and pathology	Group practice plans	Home health agencies	Hospital service
1967	12.0	10.0	20.5	15.2	27.2
1968	6.0	12.0	17.0	30.7	50.8
1969	7.0	14.7	5.5	14.4	35.2
1970	4.7	17.3	−7.9	−48.9	15.9
1971	7.2	11.6	6.5	8.0	26.5

[1] Increase over prior year.
[2] Includes all services paid for on the basis of reasonable charges except those for inpatient professional radiology and pathology.

(c) *Projection of future increases in reasonable charges and costs per capita*

The rates of increase assumed in projecting the incurred cost of the program are summarized by broad category of service in table B7, and the resulting reasonable charges and costs per capita in table B8. More detail concerning the assumptions used in projecting physicians and miscellaneous services, which account for most of the increase in costs, is provided in table B9.

Price increases for physician and miscellaneous services are projected under the assumption that the current price controls initiated under the economic stabilization program are continued through fiscal 1974. The Price Commission has restricted physician fee increases to 2½ percent per year after August 1971, and this policy has been continued during "Phase III." In addition, the Price Commission has ruled that the customary and prevailing charges in use during fiscal 1972 were prices, and thus subject to the 2½ percent limitation. The customary charges established for fiscal 1973 recognized only 40 percent of any increase between 1970 and 1971 program data, so as to reduce the recognized increase to 2½ percent from the 6.2 percent average increase in fees that took place. Similarly, customary charges used during fiscal 1974 will recognize only 55 percent of any increase indicated by 1972 data when compared to 1970 data. These controls are assumed to remain in effect through fiscal 1974.

TABLE B7.—PROJECTED INCREASES IN RECOGNIZED CHARGES AND COSTS INCURRED PER CAPITA FOR THE AGED [1]

[In percent]

Calendar year	Physician services [2]	Inpatient radiology and pathology	Group practice plans	Home health agencies	Hospital service
1972	4.8	10.0	4.9	10.0	23.2
1973	[3] 5.9	10.0	5.6	10.0	22.7
1974	[3] 8.4	10.0	7.1	10.0	22.1
1975	[3] 7.5	10.0	7.6	10.0	21.6

[1] Increase over prior year.
[2] Includes all services paid on the basis of reasonable charges except those for inpatient professional radiology and pathology.
[3] These factors recognize additional benefits resulting from 1972 legislation.

TABLE B8.—INCURRED RECOGNIZED CHARGES AND COSTS PER CAPITA FOR THE AGED: PROJECTION

Calendar year	All services	Physician services [1]	Inpatient radiology and pathology	Group practice plans	Home health agencies	Hospitals and clinics
1972	$181.83	$155.75	$6.99	$2.40	$1.92	$14.78
1973	195.47	165.00	7.68	2.53	2.11	18.14
1974	214.42	178.78	8.45	2.71	2.32	22.15
1975	234.14	192.43	9.30	2.92	2.56	26.93

[1] Includes all services paid on the basis of reasonable charges except those for inpatient radiology and pathology.

TABLE B9.—COMPONENTS OF INCREASES IN REASONABLE CHARGES PER CAPITA FOR PHYSICIAN AND MISCELLANEOUS SERVICES [1]

[In percent]

Year	Actual fees	Effect of screens [2]	Recognized fees	Residual causes	Effect of denials [3]	Net residual	Recognized charges
1972	3.2	−0.1	3.1	2.0	−0.3	1.7	4.8
1973	2.5	0	2.5	3.0	0	3.0	5.5
1974	4.0	0	4.0	3.0	0	3.0	7.0
1975	5.5	0	5.5	2.0	0	2.0	7.5

[1] Increase over prior year.
[2] Change in reduction due to screen from previous to current year.
[3] Change in denials from previous to current year.

Since both the screens and the fees charged by physicians are allowed to increase at the same rate under these regulations, the reduction due to the reasonable charge screens should continue to average around 11½ percent. Thus the increase in recognized fees should be approximately 2½ percent per year.

The 1972 amendments limit increases in reasonable charges to the increase in physician costs, as determined by an economic index. Since physician costs have been rising at a rate greater than 2½ percent per year, this provision will not be effective unless the price controls are discontinued, in which event the index will limit the increase in recognized charges.

Increases in charges per capita for physicians and miscellaneous services from causes other than price increases are projected at approximately the same rate as occurred during the last few years adjusted for the impact of the price controls and the coverage of some services by chiropractors and speech therapists as a result of the 1972 amendments. Denied claims are assumed to have no further impact, i.e. it is assumed that no significant payments are now made for uncovered services which will not be paid during the period projected.

Use of physician and miscellaneous services is affected by the amount of cost sharing. Reductions in payment due to the fee screen become in effect additional cost sharing, borne by the provider or the patient—either financially or through reduced services. In the case of assigned claims, the differential between reasonable and actual charges is borne entirely by the physician. The proportion of claims on which physicians accept assignments is to some extent an index of the willingness of physicians to accept enrollees as patients who provide adequate compensation. On the other hand, collection of cost sharing not previously collected (including any excess of actual over customary fees) allows some physicians to reduce the effect of price controls. The rate of acceptance of assignments has decreased slightly recently from around 64 percent of all bills submitted for payment in fiscal 1971 to around 61 percent in fiscal 1972. The cost estimates assume that the assignment rate will continue to decline at the same rate, reflecting only a negligible increase in resistance by physicians to serving beneficiaries.

(d) Benefit payments per capita

The benefits incurred per capita are obtained from the recognized charges and costs by allowing for the effect of the $60 deductible and 20 percent coinsurance rate. The resulting benefits incurred per capita for aged beneficiaries appear in table B10.

TABLE B10.—PROJECTED BENEFITS INCURRED PER CAPITA[1]

	Benefits	Administration	Total
Calendar year:			
1972	$119.30	$15.33	$134.63
1973	126.17	17.35	143.52
1974	141.37	19.79	161.16
1975	156.92	21.97	178.89

[1] For aged beneficiaries only.

(e) Aggregate incurred estimates for fiscal years 1973–1975

Aggregate benefits incurred by the aged in fiscal years 1973 through 1975 are estimated by averaging the incurred rates per capita for calendar years and multiplying by the estimated enrollment during each fiscal year. The aged enrollment is projected to be 96 percent of the population over age 65. The projected aggregate incurred benefits are summarized in table B11.

(f) Aggregate cash estimates for fiscal years 1973–1975

The estimates of aggregate cash benefits paid in fiscal years 1973 through 1975 are obtained by projecting the lag structure between the dates on which services are performed and the dates on which corresponding entries are made to the SMI trust fund account. Separate estimates are prepared for each payment route, which requires that benefits incurred be broken down accordingly.

Estimates of the cash disbursements for benefits by payment route are also prepared by projecting the cash disbursements in the most recent fiscal year,

1972. The two sets of projected estimates of cash expenditures are compared and adjustments made until the projections agree. These adjustments depend on the relative strength and weaknesses of incurred and cash projections. The projected aggregate cash benefits paid are summarized in table B11.

TABLE B11.—PROJECTION OF AGGREGATE INCURRED BENEFITS AND CASH BENEFITS PAID FOR THE AGED IN FISCAL YEARS 1972–75

Fiscal year	Average enrollment (millions)	Benefits incurred		Aggregate benefits paid (millions)
		Per capita	Aggregate (millions)	
1972	20.1	$114.78	$2,307	$2,255
1973	20.4	122.94	2,508	2,445
1974	20.8	133.65	2,780	2,679
1975	21.2	148.82	3,155	3,029

The principal advantage of a cash projection is the currency of the data base. At the time the projections are made the (October or November preceding the publication of the Trustees report), the final results for the preceding fiscal year are known precisely. Data on an incurred basis, however, are only partially available at that time for the preceding calendar year. Consequently, projections on an incurred basis must be adjusted for incomplete data and projected over a longer period of time, in some cases as much as several years. In the circumstances, all incurred items must be controlled to corresponding cash items to insure completeness and currency of the data base.

On the other hand, projections of the cash expenditures can only be made under the assumption that all of the set of complex relationships between cash and incurred expenditures do not change during the projection period or under the assumption that any changes have offsetting impact. In the absence of significant changes in program policy, such changes tend to take place very slowly, so that very accurate projections of the short run cash outlays can be made, using actuarial assumptions appropriate to the periods in which the services were performed. Administrative policy of the SMI program has been frequently changed significantly; however, thus departing from the conditions required for reliable cash projections. Major adjustments must be made in the estimating process to offset the effect of such changes. An additional problem posed for cash projections is the leverage of a fixed (and sometimes changing) deductible.

(4) COST ESTIMATES FOR THE DISABLED AND PERSONS SUFFERING FROM CHRONIC KIDNEY DISEASE

Estimates for the new groups of beneficiaries are necessarily less reliable than those for the aged. The methodology used to estimate the costs was necessarily improvised to make the best use of such information as was available in proportion to judgments as to its reliability. The projected aggregate incurred and cash expenditures for new groups of enrollees appear in table B12.

TABLE B12.—PROJECTION OF AGGREGATE INCURRED BENEFITS AND CASH BENEFITS PAID FOR DISABLED ENROLLEES AND THOSE WITH CHRONIC KIDNEY DISEASE IN FISCAL YEARS 1974–1975 [1]

Fiscal year	Average Enrollment (thousands)	Benefits incurred		Aggregate benefits paid (millions)
		Per capita	Aggregate (millions)	
A. Disabled enrollees:				
1974	1,675	$267.46	$448	$291
1975	1,791	314.35	563	527
B. Enrollees with chronic kidney disease:				
1974	11	4,818.18	53	33
1975	14	5,000.00	70	68

[1] Coverage begins on July 1, 1973.

(a) *Disabled beneficiaries.*—A survey conducted in 1966 by the Bureau of the Census for the Social Security Administration provided some information as to

the medical costs of the disabled. Although such surveys subtantially underestimate the level of cost that will be experienced under an insurance program, suitable adjustments can be made. Also, the number of disabled beneficiaries will have more than doubled since this survey, due primarily to expansion of the program. The level of medical expenses for the new groups of beneficiaries added may be different from those surveyed.

Cost estimates were prepared under the general assumptions that (i) the biases in the survey of the disabled resembled those in the survey of the aged (ii) the effect of a full insurance program on the use of covered services by beneficiaries would resemble that which occurred for the aged when the original hospital insurance program began, and (iii) the new groups of beneficiaries added through expansion of coverage under the DI program are less severely disabled than those covered in 1966, and hence have lower medical costs.

Due the absence of a reliable base for an estimate, the actual cost for the disabled in any year could differ from the estimates by as much as 15 percent. The assumptions were chosen so that it is judged equally likely that the actual cost is higher or lower than estimated.

(b) *Patients suffering from chronic kidney disease.*—No comprehensive survey was available as to either the number of kidney patients currently treated by any mode of treatment, the number of potential patients not now treated who suffer from comparable conditions, or the average costs of treatment. The cost of treatment varies widely by type of treatment and by the center providing treatment. No precedents exist from which to predict the administrative policies which will implement the benefit provisions. Further, the availability of treatment is expected to have a substantial impact on both the current level of mortality among persons with chronic kidney disease and on technological advance, which in turn affects the rate of decline in mortality rates among kidney patients. Finally, the waiting period between the beginning of dialysis and when benefits begin may have an impact on the pattern of care.

The cost for kidney patients can vary over a very wide range, depending on the administrative policies followed. The cost estimates assume that the program will pay for only the most cost-effetcive pattern of services for patients for whom dialysis or transplants are clearly appropriate treatment to prolong useful life or reduce pain. Specifically, it is assumed that:

(1) The requirement in the kidney provision for a minimum utilization rate for payment and the authority elsewhere in the 1972 Amendments to limit payment if services are unnecessarily expensive, if services are performed in facilities constructed despite an adverse recommendation by a planning authority, or if more expensive than necessary due to unused capacity—will be used to limit payment to the most cost-effective treatment centers and providers.

(2) The requirement for a medical review board to screen the appropriateness of patients for the proposed treatment procedures and the level of care requirements—will be used to restrict payment to the most cost-effective mode of treatment considering the patient's condition and to patients for whom treatment provides a significant improvement in medical condition.

Departures from this pattern could greatly increase the cost, especially if the provisions are used to finance the creation of a number of partially used treatment centers or to pay the deficits of inefficient programs.

The estimates for patients with kidney failure represent only the most likely among a very wide range of possible costs. Future costs, influenced by changes in medical practice, technology, and administrative policy—are even more uncertain. Although the possible errors in these estimates are large relative to the cost of the care of kidney patients, the potential error in estimating the overall program costs are relatively small, since the care of kidney patients is as a whole a small proportion of the total.

(5) ADMINISTRATIVE EXPENSES

Cash projections of administrative expenses are based on estimates of workloads and approved budgets for carriers and the Social Security Administration in each fiscal year. In order to obtain estimates of the incurred expenses, the cash expenditures are divided into those primarily related to maintaining the enrollment and those primarily related to the payment of benefits. The administrative expenses incurred but unpaid are assumed to have the same ratio to benefits incurred but unpaid as claim related administrative expenses have to benefits on a cash basis in the period in which both are paid. Incurred administrative ex-

penses are then obtained by adding the increase in this liability during the period in question to the cash expenditures. The projected administrative expenses incurred and paid in cash are shown in table B13. A comparison of projected administrative expenses and benefits on both cash and incurred bases is provided in table B14 together with historical data.

TABLE B13.—PROJECTED ADMINISTRATIVE EXPENSES INCURRED AND PAID IN FISCAL YEARS 1972-75

	Administrative expenses	
	Incurred	Paid
Fiscal year:		
1972	$298	$288
1973	311	272
1974	455	392
1975	530	451

TABLE B14.—RATIO OF ADMINISTRATIVE EXPENSES TO BENEFIT PAYMENTS

[In percent]

Calendar year	Cash basis	Incurred basis
Actual experience:		
1966 [1]	58.5	11.0
1967	9.1	9.1
1968	12.1	12.0
1969	10.5	10.5
1970	12.1	12.1
1971	12.3	12.3
1972	12.4	12.4
Projected (for all enrollees):		
1973	12.7	13.7
1974	12.7	14.0
1975	12.3	14.0

[1] Excludes expenses before program began.

(6) COMPARISON OF PREVIOUS ESTIMATES WITH ACTUAL RESULTS

(a) *Premium rates.*—The financing of the SMI program has been based on the premium rates charged to enrollees, which together with matching payments from general revenues, were intended to be self-supporting. Due to the lag between services and payments for them, a balance is accumulated in the trust fund which earns interest. Such interest must be taken into account in determining the adequacy of a premium rate.

A self-supporting premium rate for any period would be one such that if all premiums and matching contributions for coverage in that period were deposited to a special savings account, all disbursements for benefits and related administration paid as a result of services performed during that period made from this account, and interest credited on any balance in the account—then the account would be exhausted by the last payment made for a service performed in that period. This method may be called the "present value method", since the rate is that with which the present value of premiums and matching contributions is equal to the present value of disbursements for all services incurred during the period to which it applied, discounted at the rate of interest actually earned on the trust fund over the period discounted. For periods other than the initial period when the balance in the trust fund is abnormally low, an approximately equivalent method is to find the rate at which incurred premiums and matching contributions plus the interest earned during the period (i.e., on a cash basis) are equal to disbursements incurred. The latter method, which may be referred to as the cash interest method, can also adjust for interest loss due to an accumulated deficit or extra interest due to a surplus.

The foregoing suggests use of the present value method to test the adequacy of the premium rate for the initial period and the cash interest method for other periods. Self-supporting rates determined on this basis are compared with those actually charged in table B15.

TABLE B15.—COMPARISON OF PREMIUM RATES TO SELF-SUPPORTING RATES

Period	Self-supporting rate[1]	Premium rate	Ratio
July 1966–December 1967	$3.25	$3.00	0.92
January 1968–March 1968	3.46	(2)	(2)
April 1968–June 1969	4.12	4.00	.97
Fiscal 1970	4.48	4.00	[3].89
Fiscal 1971	4.90	5.30	1.08
Fiscal 1972	5.35	5.60	1.05

[1] See text for explanation.
[2] No rate promulgated as a result of congressional action.
[3] The $4.40 rate recommended by the Social Security Administration would have been 98 percent of the self-supporting rate.

The self-supporting premium rate for the first period would have been $3.25 by the present value method, compared to the $3 initial rate. This initial premium rate proved to be 8 percent low, due primarily to the extraordinary increase in physician fees [1] which took place after the estimates on which this premium rate was based and to payments for uncovered services resulting from the short period between enactment and implementation. The premium rate promulgated for fiscal year 1969 was also low, due primarily to not making sufficient allowance in the estimating process for the inadequacies of the data available.

The premium rate promulgated for fiscal year 1970 was around 11 percent low. The rate that had been recommended by the Social Security Administration would have been about 2 percent low. The Secretary promulgated a continuation of the old rate for fiscal year 1970 while directing that all possible administrative steps be taken to reduce the cost of the program. The administrative actions taken to delay the recognition of physicians' fee increases and to stop payments for noncovered services did reduce the cost of the program substantially, but most of the impact occurred in periods after fiscal year 1970.

The premium rates for periods through fiscal 1970 did not require large contingency margins, due to the availability of the contingency reserve through 1969 and due to the adequate level of the trust fund to allow for fluctuations in experience. After the promulgation of an inadequate rate in December 1968 for fiscal 1970, however, which reduced the trust fund to only $57 million—premium rates had to contain much larger margins for contingencies, until an adequate balance was restored in the trust fund. Thus, the rates promulgated for fiscal years 1971 and 1972 were somewhat higher than the minimum rates which would otherwise be required.

(b) *Estimates of Cash Disbursements.*—A comparison of the estimates of the cash disbursements under the SMI program in previous reports with the actual outlays appears in table B16. These estimates have normally been prepared in the September prior to publication of the report in which they appear for use in the planning and budgeting cycle. The actual results are generally available in the August or September following the end of any fiscal year. For example, the estimate of fiscal 1972 disbursements in the 1972 report was prepared in September 1971, published in the Federal budget in January 1972—and is compared to the actual outlays as shown in the "semi-final" Treasury Statement which became available in late August 1972. The periods over which estimates for the next three fiscal years are made in each cycle are approximately the next one, two, and three years, respectively.

[1] Physician fees rose approximately 15 percent between July 1965 and July 1967, compared to an estimate of 6 percent based on the average rate over the previous decade of 3 percent per year.

TABLE B16.—COMPARISON OF ACTUAL CASH DISBURSEMENTS WITH THOSE ESTIMATED IN PREVIOUS TRUSTEES REPORTS

[Dollar amounts in millions]

Fiscal year	Actual, Amount	Amount and ratio to actual for estimates made:—[1] 1 year before actual known: Amount	1 year before actual known: Ratio (percent)	2 years before actual known: Amount	2 years before actual known: Ratio (percent)	3 years before actual known: Amount	3 years before actual known: Ratio (percent)
1967	$798	$995	125	[2] $897	[2] 112	[2] $897	[2] 112
1968	1,532	1,612	105	[3] 1,251	[3] 82	[2 3] 1,080	[2 3] 70
1969	1,840	1,790	97	1,823	99	1,329	[3] 72
1970	2,196	2,165	99	[4] 2,130	[4] 97	[4] 2,108	[4] 96
1971	2,282	2,314	101	2,314	101	[4] 2,168	[4] 95
1972	2,544	2,538	100	2,573	101	2,521	99

[1] Estimates are normally prepared the September preceding publication of the trustees report in connection with the preparation of the Federal Budget. Semifinal Treasury statements for a fiscal year are normally available in the August following the end of a fiscal year.

[2] Estimates prepared for Ways and Means Committee in March 1965: Average of "high" and "low" estimates of enrollment and cost per enrollee.

[3] Estimates are for 1965 Act and hence do not reflect the cost of additional benefits resulting from the 1967 Amendments, and are thus not strictly comparable.

[4] Increased by the amount added to cash disbursements by the transfer of $163,000,000 in fiscal year 1970 and $37,000,000 in fiscal year 1971 from SMI to HI trust fund for combined billing radiology and pathology (see text for explanation).

The initial estimates,[1] prepared during the spring of 1965 when the program was under legislative consideration, required estimating the number of persons who would enroll as well as the cash disbursements for the cost of their services. Due to the uncertainty resulting from an absence of data for the average cost of the services to be covered by SMI and the lack of any precedents for estimating the proportion of persons over age 65 who would enroll, high and low estimates were prepared for both the cost of services per capita and the number enrolled. The average of the estimates for each period was used to project the trust fund and is shown as the estimate in table B16.

The estimates prepared before 1968 did not reflect the additional benefits resulting from the 1967 amendments, since estimates are always made for current law. No adjustment has been made to correct this lack of comparability since the actual cost of the new benefits can not be determined precisely.

The estimates prepared prior to 1969 were based on assumed continuation of the administrative policy of charging payments for inpatient radiology and pathology billed by hospitals initially to the HI program and charging the SMI trust fund only for cash transfers that occurred when cost settlements were made with the hospitals. This policy was changed during 1969 to transferring all payments as incurred, and immediately transferring such payments as incurred but unpaid. For purposes of comparison, the amounts actually transferred on an interim basis were added to the estimates prepared before this policy was adopted.

The estimates were high for the first year due to the longer than expected average delay in payment for benefits encountered during the first fiscal year and despite underestimating the enrollment (by about 7 percent) and the incurred cost of the program (by about 8 percent). The estimates for fiscal 1968 and fiscal 1969 prepared in 1965 were low as a result of underestimating the initial incurred cost and the rate of increase in the cost of services. In addition, benefits were increased in April 1968 as a result of the 1967 amendments, making exact comparisons impossible.

There was a marked improvement in the accuracy of the estimates when substantial program data on an incurred basis became available, after August 1968, for a complete calendar year (1967). Since that time, estimates have been within the 2 to 3 percent fluctuation in health care costs expected from year to year.

Appendix C. Summary of Principal Provisions

Public Law 89–97, approved July 30, 1965, amended the Social Security Act by establishing the supplementary medical insurance program. A summary of

[1] These estimates were also the basis of the 1966 report.

its principal provisions, as amended by subsequent legislation up to and including the date of this report, is as follows:

(1) ELIGIBLE INDIVIDUALS

Every individual who is over age 65 and either (a) entitled to hospital insurance benefits or (b) is a resident of the United States and is either a citizen or an alien lawfully admitted for permanent residence who has resided in the United States continuously for five years (except with respect to persons convicted of certain specified offenses such as treason, espionage, etc.).

Beginning July 1, 1973, eligibility is extended to disabled persons under 65, who have been entitled to disability insurance benefits for 24 months or more, and to persons who have been receiving hemodialysis for three months or more (coverage terminated one year after a successful kidney transplant).

(2) ENROLLMENT PROVISIONS

(*a*) Persons aged 65 and over on December 31, 1965—voluntary individual election of coverage during period through May 31, 1966, effective July 1, 1966.

(*b*) Persons attaining age 65 after 1965 whose initial enrollment period begins before March 31, 1973—similar election in the 7-month period centering around the month of attainment of age 65 (or first subsequent month when eligibility requirements are met), to be effective for month of attaining age 65 if elected in advance (otherwise, effective for first to third month following election).

(*c*) Persons whose initial enrollment period begins after March 31, 1973—automatic enrollment for those individuals entitled to hospital insurance benefits with coverage beginning in month first eligible (month of attaining age 65, 25th month of eligibility for disability insurance benefits, or three months after the beginning of hemodialysis). In the case of an individual who would otherwise be entitled to hospital insurance benefits but does not establish his entitlement until after the last day of his initial enrollment period, his enrollment shall be deemed to have occurred on the first day of the earlier of the then current or immediately succeeding general enrollment period.

(*d*) Termination of enrollment—either by failure to pay premiums (for premiums not deducted from retirement benefits) or by election to terminate enrollment at any time (to be effective at the end of the following calendar quarter). An individual who terminates coverage or who failed to enroll in an initial period may reenroll in a general enrollment period (January to March of each year). However, reenrollment is permitted only once.

(3) BENEFITS PROVIDED

(a) Types of benefits—(1) physicians (including surgeons and the professional component of anesthesiologist, pathologist, radiologist, and physical medicine in a hospital), (2) services and supplies normally furnished in a physician's office incident to his professional services (including drugs which can not be self-administered), (3) outpatient hospital services, (4) services of independent clinics, (5) home health services, (6) diagnostic X-ray and laboratory tests, (7) X-ray, radium, and radioactive isotope therapy, (8) surgical dressings and splints and other devices used for reduction of fractures and dislocations, (9) rental of durable medical equipment (or purchase thereof if not more expensive), (10) ambulance services in certain circumstances, (11) prosthetic devices, (12) braces and artificial limbs where required due to a change in the patient's physical condition, and (13) manual manipulation of the spine to correct a subluxation (demonstrated by X-rays to exist) by a chiropractor.

(b) Amount of reimbursement—program pays:

(i) In the case of the professional component of inpatient radiology and pathology, 100 percent of reasonable costs for those electing to have the hospital reimbursed for their services and 100 percent of reasonable charges; otherwise, (ii) in the case of home health servces, 100 percent of reasonable charges after the $60 deductible has been met; (iii) in the case of services received from a group practice prepayment plan electing reimbursement based on costs, 80 percent of the excess of the reasonable costs of furnishing services to enrollees over the average value of the deductible; (iv) for all other services, 80% of the excess of reasonable charges (or, in the case of institutional services, 80 percent of reasonable costs) over a deductible of $60 in each calendar year

(reduced by any amount applied to meet the deductible during the last quarter of the preceding year). Special limits apply to outpatient care for mental disease (50 percent coinsurance and $250 maximum on annual reimbursement), and on home health services (100 visits per calendar year).

(c) Basis of payment—reimbursement on a "reasonable charge" basis to the enrollee or to individual suppliers of services on the basis of an assignment from the enrollee, or on a "reasonable cost" basis to the particular institution for institutional suppliers of services.

The reasonable charge for any service is the lower of the "customary charge" of the provider of the service for the type of service rendered and the "prevailing charge" of all providers of the same type in a geographical area. The customary charge is the median rate charged for a particular type of service by a particular provider to enrollees during the calendar year prior to the fiscal year in which the claim is processed. The prevailing charge for any type of service is the 75th percentile of the distribution of customary charges for that service in an area. Payment is made on the basis of the lowest of the customary, the prevailing, and the actual charge. When payment is made on a reasonable charge basis directly to individual suppliers (by assignment), the reasonable charge determination by the carrier must be accepted as the full charge for the services, and the supplier cannot bill the patient for amounts in excess of the reasonable charge; otherwise, payment is made to the enrollee on the basis of an itemized bill.

(d) Services not covered—any service not certified by a physician (and approved upon carrier review) to be necessary for the diagnosis or treatment of an illness, routine procedures followed in eye examinations, routine foot care (including the removal of corns, warts, calluses), elective cosmetic surgery, glasses and hearing aids, services performed by a relative or household member, services performed by a governmental agency (except when it provides services to the public generally as a community institution or agency), cases eligible under workmen's compensation, and services of providers not covered (e.g. prescription drugs, private duty nursing, and dental services).

(e) Administration—by Department of Health, Education, and Welfare, through carriers (such as Blue Shield and insurance companies) who are selected by the Department, according to regulations promulgated by the Secretary of Health, Education, and Welfare. Carriers are paid their reasonable costs of administration.

(4) FINANCING

The supplementary medical insurance system is self-supporting through combined income to the trust fund from premiums and general revenue payments intended to be equal to the incurred cost of benefits and administration, with such margin for contingencies as the Secretary deems appropriate. The incurred cost of the program in any period is the sum of all payments that will be made for services performed in that period, including the administrative cost of making such payments, regardless of when payments are actually made.

The rate of income per month of coverage for which a beneficiary is enrolled is determined by two "adequate actuarial rates", one for the aged and one for the disabled. The trust fund receives twice the applicable adequate actuarial rate for each monthly premium collected, the excess over the premiums coming from general revenues.

(b) The adequate actuarial rates are promulgated by the Secretary of Health, Education, and Welfare before the January 1st preceding each fiscal year—separately for (i) enrollees over age 65 and (ii) enrollees eligible as a result of disability or chronic kidney disease. Each of these rates is the sum of (i) half of the estimated monthly incurred cost per capita for benefits and administration for the applicable enrollees and (ii) a margin for contingencies.

(c) Premiums from enrollees—A standard premium rate for each fiscal year is also promulgated by the Secretary of Health, Education, and Welfare before the January 1st preceding to be the lessor of (i) the adequate actuarial rate for the aged for that fiscal year and (ii) the standard premium rate for the prior fiscal year increased by the rate at which benefits under the OASDI program have increased (or will increase by law) during such prior fiscal year.

Persons who elected not to enroll until more than 3 months after the date of eligibility must pay premiums that are 10 percent higher for each year not enrolled while eligible.

(d) Government contributions—For each premium payment deposited in the supplementary medical insurance trust fund, the excess of (i) twice the appropriate adequate actuarial rate (adjusted if higher than standard premiums are paid) over (ii) the amount of the premium, is transferred to the trust fund from general revenues. If the additional transfers are not made on a timely basis, interest is accrued.

(e) Payment of premiums—by automatic deduction from old-age, survivors, and disability insurance, railroad retirement, or civil service retirement benefits when possible (except for such persons who are public assistance recipients receiving money payments and whose premiums are paid by State agencies); otherwise, by direct payment, with a grace period determined by the Secretary of Health, Education, and Welfare of up to 90 days. State public assistance agencies may enroll and pay premiums for other persons who are not recipients of money payments but who are eligible under the medical assistance program; at the option of the State, such recipients and other persons who are beneficiaries under the old-age, survivors, and disability insurance program or the railroad retirement program may be included in this group.

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