APPENDIX A

Actuarial Methodology and Principal Assumptions for Cost Estimates for the Supplementary Medical Insurance Program [1]

1. ESTIMATES FOR AGED AND DISABLED (EXCLUDING ESRD) ENROLLEES

a. Introduction

Estimates for aged and disabled enrollees—excluding disabled persons with end stage renal disease (ESRD)—are prepared by establishing, as accurately as possible, reasonable charges incurred per enrollee in a recent year (the 12-month period ending June 30, 1977, for this report) and projecting these charges through the estimating period. The per enrollee charges are then converted to reimbursement amounts by subtracting out the per enrollee values of the deductible and coinsurance. Aggregate reimbursement amounts are calculated by multiplying the per enrollee reimbursement amounts by the projected enrollment. In order to estimate cash disbursements, an allowance is made for the delay between receipt of service and payment therefor.

Disabled persons with ESRD have per enrollee costs which are higher and quite different in nature from those of most other disabled persons. Hence, program costs for them have been excluded from the analysis in this section and are included in a later section.

b. Establishing a Projection Base

(1) Physicians Services

Reimbursement amounts for physician services (and small amounts for other services) are paid through fiscal intermediaries, referred to as carriers. The carriers determine whether billed services are covered under the program and determine the reasonable charges for the services. A record of the amount reimbursed after reductions for coinsurance and the deductible is transmitted to the central office in the form of a "payment record."

Payment records for 0.1 percent of aged beneficiaries and 1.0 percent of disabled beneficiaries are tabulated by date of service, thus providing a data base which is constructed on an incurred basis. Certain minor adjustments are made to the tabulated sample data to correct for biases and random fluctuation inherent in the sampling process. Having the data on an incurred basis is necessary to meet the statutory requirement that the program be financed on this basis; it also makes possible a comparison of program experience with non-program data sources.

As a check on the validity of the projection base, incurred reimbursement amounts are compared with cash expenditures reported by the carriers through an independent reporting system. In a program with continuously increasing incurred reimbursement amounts, cash payments are expected to be slightly lower than incurred expenses (except in the first year of coverage of a service or group of beneficiaries, when the difference should be substantial). These differences between cash

[1] Prepared by the Division of Medicare Cost Estimates, Office of Financial and Actuarial Analysis, Health Care Financing Administration.

and incurred reimbursement amounts occur because of the lag between receipt of services and payment therefor.

(2) Institutional and Other Services

Reimbursement amounts for institutional services under Part B are paid by the same fiscal intermediaries that pay for Part A services. The principal institutional services covered under Part B are outpatient hospital care and home health agency services.

Reimbursements for institutional services occur in two stages. Provider bills are submitted to the intermediaries, and interim payments are made on the basis of these bills. The bills are then submitted to the central office, and tabulations for a sample of beneficiaries are prepared in a manner parallel to that for payment records.

At the close of a provider's accounting period, a cost report is submitted and lump-sum payments or recoveries are made to correct for the difference between interim payments made to the provider and the retroactively determined reasonable cost for providing covered services (net of coinsurance and deductible amounts). The amounts of these retroactive settlements are reported on a cash basis, and approximations are necessary to allocate these payments to the time of service.

Group practice prepayment plans are reimbursed directly by the Health Care Financing Administration on a reasonable cost basis. Data are available for these payments only on a cash basis, and approximations must be made to assign expenses to the period when services were rendered.

(3) Summary of Historical Data

Table A1 summarizes the incurred reimbursement amounts per enrollee for the various services for each of the 12 month periods ending June 30, through 1977. Also shown are average enrollment figures for these years. In order to analyze the historical trends in prices and use of services, these reimbursement amounts are converted to the reasonable charges or reasonable costs on which reimbursement was based. This process is necessary largely because the fixed deductible becomes a smaller percentage of charges each year and thus causes reimbursement to rise faster than charges or costs. Table A2 shows the reasonable charges or costs per enrollee corresponding to the reimbursement values shown in table A1.

TABLE A1.—INCURRED REIMBURSEMENT AMOUNTS PER ENROLLEE: HISTORICAL

Year ending June 30—	Average enrollment (millions)	All services	Physician	Inpatient radiology and pathology[1]	Outpatient hospital	Home health agency	Group practice prepayment plan	Independent lab
Aged:								
1967	17.750	$63.16	$59.10	----------	$1.40	$0.79	$1.64	$0.23
1968	18.038	80.22	72.57	$1.89	2.40	1.49	1.52	.35
1969	18.833	93.86	79.05	6.57	4.23	1.92	1.69	.40
1970	19.312	100.05	82.82	7.14	5.93	2.00	1.68	.48
1971	19.664	106.34	87.79	7.21	7.56	1.68	1.49	.61
1972	20.043	114.07	94.82	6.77	8.57	1.61	1.52	.78
1973	20.428	122.51	100.96	6.99	9.44	2.23	1.95	.94
1974	20.988	134.57	109.91	7.54	11.35	2.13	2.44	1.20
1975	21.504	158.72	126.24	8.68	15.45	3.99	2.75	1.61
1976	22.089	187.30	144.76	10.90	21.08	5.29	3.28	1.99
1977	22.605	218.37	165.03	12.23	28.49	6.32	3.92	2.38
Disabled (excluding ESRD):								
1974	1.639	119.75	89.88	7.64	13.90	3.63	4.15	.55
1975	1.818	149.60	116.54	8.41	17.31	3.73	2.58	1.03
1976	2.015	178.61	137.27	9.95	21.46	5.26	3.26	1.41
1977	2.233	214.39	156.42	12.70	36.14	4.54	2.82	1.77

[1] Includes services on payment records and those using combined billing; amounts shown are for April 1968 and later when combined billings are authorized and inpatient radiology and pathology charges are reimbursed at 100 percent.

TABLE A2.—INCURRED REASONABLE CHARGES OR COSTS PER ENROLLEE: HISTORICAL

Year ending June 30—	Average enrollment (million)	All services	Physician	Inpatient radiology and pathology[1]	Outpatient hospital	Home health agency	Group practice prepayment plan	Independent lab
Aged:								
1967	17.750	$109.24	$102.22	----------	$2.43	$1.36	$2.84	$0.39
1968	18.038	128.84	117.60	$1.89	3.89	2.42	2.47	.57
1969	18.833	145.97	126.24	6.57	6.75	3.07	2.70	.64
1970	19.312	154.13	131.03	7.14	9.38	3.16	2.66	.76
1971	19.664	162.66	137.68	7.21	11.86	2.63	2.33	.95
1972	20.043	172.86	146.77	6.77	13.27	2.49	2.35	1.21
1973	20.428	186.32	157.06	6.99	14.69	3.08	3.03	1.47
1974	20.988	204.53	171.02	7.54	17.66	2.65	3.80	1.86
1975	21.504	235.34	191.72	8.68	23.46	4.85	4.18	2.45
1976	22.089	271.33	215.00	10.90	31.31	6.29	4.87	2.96
1977	22.605	309.82	239.72	12.23	41.38	7.34	5.69	3.46
Disabled (excluding ESRD):								
1974	1.639	181.14	140.00	7.64	21.65	4.52	6.47	.86
1975	1.818	220.23	175.76	8.41	26.11	4.50	3.89	1.56
1976	2.015	256.95	202.29	9.95	31.62	6.20	4.81	2.08
1977	2.233	301.56	225.04	12.70	52.00	5.22	4.06	2.54

[1] Includes services on payment records and those using combined billing; amounts shown are for April 1968 and later when combined billings are authorized and inpatient radiology and pathology charges are reimbursed at 100 percent.

c. Per Enrollee Increases

(1) Physician Services

Per enrollee charges for physician services are affected by a variety of factors. Some of these can be identified explicitly. Others can be recognized only by the fact that the explicitly quantifiable factors do not explain all of the increase in per enrollee charges year-to-year.

Increases in average charge per service are one of the most important elements creating increasing charges per enrollee. The physician fee component of the consumer price index provides an estimate of the historical increases in average charge per service. Increases in this index are shown in the first column of table A3.

Bills submitted to the carriers during a 12-month period beginning July 1 are subject, by statute, to certain limitations on the level of fees to be recognized by the program for reimbursement purposes. The fee level recognized for a particular service by a physician is subject to reduction if it exceeds the median charge that the physician assessed for the same service in the preceding calendar year. This median charge is called the "customary" charge. Fees are subject to further reduction if they exceed the "prevailing" charge for the locality. The prevailing charge is defined as the 75th percentile of customary charges for a particular service in a particular locality. Since July 1, 1975, the rate of increase in prevailing charges has been limited further by the application of an "economic index." The customary and prevailing charge limits maintained by the carriers are called "fee screens." Reasonable charges are charges on which reimbursement is based, after they have been reduced by the fee screens.

The average reduction in submitted fees has increased each year due both to deliberate administrative actions and to differentials in the rate of increase in fees between the calendar year in which the fee screens are established and the July to June period in which the screens are applied. The result is that the net increase in per enrollee charges due to price changes (i.e., the increase in fee levels recognized for reimbursement purposes) has been less than the increase in submitted fees. The second column of table A3 shows the reduction of

charges due to the impact of the fee screen operation to date. The year-to-year changes in this impact are shown in the third column.

Per enrollee charges also have increased each year as a result of more physician visits per enrollee, increasing use of specialists and more expensive techniques, and other factors. The fifth column of table A3 shows the increase in charges per enrollee resulting from these residual causes. Because the measurement of increased recognized charges per service is subject to error, this error is included implicitly under residual causes.

The proportion of charges that have been denied as non-covered care has increased in most years. To the extent that this increase in denials reflects the effect of administrative actions defining covered services, it will cause a nonrecurring distorting effect on the increase due to net residual factors. The gross residual factor is adjusted for the impact of changes in denials, as shown in the sixth column of table A3. This column is used in the projection to indicate the amount of cost increases to be expected in the future from residual causes. The seventh column shows the net increase due to residual factors.

The last column of table A3 shows the total increase in charges per enrollee for physician services. It includes the effects of all the items discussed above.

Projected increases in total recognized charges per enrollee are shown in table A4. Column 1 of table A4 shows the projected average increase in customary charges in each of the 12 month periods ending June 30, 1978 through 1982. As described above, each of these increases depends on the increases in fees actually submitted during the preceding calendar year. Thus, this column represents actual and projected average increases in physicians' fees for calendar years 1976 through 1980, respectively. In principle, further adjustments should be made for the year-to-year variations created by the process of selecting the 75th percentile of customary charges for each service in each locality to establish prevailing charges and for the fact that, of necessity, some fees are not screened in exactly the manner described (e.g., when new categories of services arise for which there is no historical data base). The impact on year-to-year increases in reasonable charges of these two factors is treated as negligible (although, of course, they have a substantial effect on the absolute level of fees). The effects of the economic index on the average charge increase is shown in column 2. The projected net increase in reasonable charges is shown in column 3; this compares with the corresponding historical data shown in column 4 of table A3.

The projection of residual factors assumes no further changes in the proportion of claims denied consistent with the very small changes observed in the last few years (see table A3).

TABLE A3.—COMPONENTS OF INCREASES IN TOTAL RECOGNIZED CHARGES PER ENROLLEE FOR PHYSICIAN SERVICES: HISTORICAL

[In percent]

Year ending June 30—	Increase due to price changes				Increase due to residual factor			Total increase in recognized charges per enrollee
	Increase in physician fee component of CPI	Reduction due to fee screens		Net increase in reasonable charges	Gross residual factors	Effects of denials	Net residual factors	
		Cumulative effect	Yearly changes					
Aged:								
1967	7.6	−2.6						
1968	5.9	−3.6	−0.6	5.3	11.2	−1.4	9.8	15.1
1969	6.2	−5.0	−1.4	4.8	3.0	−.4	2.6	7.4
1970	6.7	−7.5	−2.8	3.9	3.0	−3.1	−.1	3.8
1971	7.5	−10.1	−3.0	4.5	3.8	−3.2	.6	5.1
1972	5.2	−11.2	−1.2	4.0	2.2	.4	2.6	6.6
1973	2.6	−11.7	−.5	2.1	5.5	−.6	4.9	7.0
1974	5.0	−13.2	−1.6	3.4	6.1	−.6	5.5	8.9
1975	12.8	−16.2	−3.6	9.2	3.2	−.3	2.9	12.1
1976	11.4	−18.6	−2.9	8.5	3.5	.1	3.6	12.1
1977	10.2	−19.5	−1.0	9.2	2.2	.1	2.3	11.5
Disabled (excluding ESRD):								
1974	5.0	−13.2						
1975	12.8	−16.2	−2.6	10.2	15.6	−.3	15.3	25.5
1976	11.4	−18.6	−2.7	8.7	6.3	.1	6.4	15.1
1977	10.2	−19.5	−1.0	9.2	2.0	.1	2.1	11.3

TABLE A4.—COMPONENTS OF INCREASES IN TOTAL RECOGNIZED CHARGES PER ENROLLEE FOR PHYSICIAN SERVICES: PROJECTED

[In percent]

Year ending June 30—	Increase due to price changes			Increase due to residual factors			Total increase in recognized charges per enrollee
	Increase before effect of economic index	Reduction due to economic index	Net increase in reasonable charges	Gross residual factors	Effects of denials	Net residual factors	
Aged:							
1978	11.3	−1.8	9.5	4.4	0.0	4.4	13.9
1979	9.3	−1.4	7.9	3.3	0.0	3.3	11.2
1980	8.3	−.6	7.7	3.0	0.0	3.0	10.7
1981	9.0	.2	9.2	3.2	0.0	3.2	12.4
1982	8.6	−.9	7.7	3.2	0.0	3.2	10.9
Disabled (excluding ESRD):							
1978	11.3	−1.8	9.5	4.4	0.0	4.4	13.9
1979	9.3	−1.4	7.9	3.2	0.0	3.2	11.1
1980	8.3	−.6	7.7	3.0	0.0	3.0	10.7
1981	9.0	.2	9.2	3.3	0.0	3.3	12.5
1982	8.6	−.9	7.7	3.3	0.0	3.3	11.0

(2) *Institutional and Other Services*

The historical and projected increases in charges or costs per enrollee for institutional and other services are shown in table A5. The year-to-year changes in some services have been quite erratic. At best, these series provide only a rough indication of future trends in costs.

TABLE A5.—INCREASES IN RECOGNIZED CHARGES AND COSTS PER ENROLLEE FOR INSTITUTIONAL AND OTHER SERVICES

[In percent]

Year ending June 30—	Inpatient radiology and pathology	Outpatient hospital	Home health agency	Group practice prepayment plan	Independent lab
Aged:					
Historical:					
1968		60.1	77.9	−13.0	46.2
1969	[1] −13.1	73.5	26.9	9.3	12.3
1970	8.7	39.0	2.9	−1.5	18.8
1971	1.0	26.4	−16.8	−12.4	25.0
1972	−6.1	11.9	−5.3	.9	27.4
1973	3.2	10.7	23.7	28.9	21.5
1974	7 9	20.2	−14.0	25.4	26.5
1975	15.1	32.8	83.0	10.0	31.7
1976	25.6	33.5	29.7	16.5	20.8
1977	12.2	32.2	16.7	16.8	16.9
Projected:					
1978	15.0	[2] 12.0	15.0	25.0	15.0
1979	15.0	[2] 15.0	15.0	15.0	15.0
1980	15.0	[2] 15.0	15.0	15.0	15.0
1981	15.0	[2] 15.0	15.0	15.0	15.0
1982	15.0	[2] 15.0	10.0	10.0	15.0
Disabled (excluding ESRD):					
Historical:					
1975	10.1	20.6	−.4	−39.9	81.4
1976	18.3	21.1	37.8	23.7	33.3
1977	27.6	64.5	−15.8	−15.6	22.1
Projected:					
1978	15.0	[2] 12.0	15.0	25.0	15.0
1979	15.0	[2] 15.0	15.0	15.0	15.0
1980	15.0	[2] 15.0	15.0	15.0	15.0
1981	15.0	[2] 15.0	15.0	15.0	15.0
1982	15.0	[2] 15.0	10.0	10.0	15.0

[1] Percentage change over prior year annualized.
[2] Does not include the effect of rural health clinics.

d. Projected Charges and Costs:

Table A6 shows projections of per enrollee incurred charges and costs based on the assumptions in tables A4 and A5. Table A7 shows the total reimbursement amounts per enrollee that result from subtracting the average amounts of copayment per enrollee from the total covered charges in table A6. The aggregate reimbursement amounts shown are derived by multiplying average enrollment by average reimbursement per enrollee.

TABLE A6.—INCURRED REASONABLE CHARGES OR COSTS PER ENROLLEE: PROJECTED

Year ending June 30—	All services	Physician	Inpatient radiology and pathology	Outpatient hospital	Home health agency	Group practice prepayment plan	Independent lab
Aged:							
1978	$353.36	$272.99	$14.06	$46.78	$8.44	$7.11	$3.98
1979	397.35	303.69	16.17	55.02	9.71	8.18	4.58
1980	444.40	336.31	18.60	63.64	11.17	9.41	5.27
1981	502.37	378.05	21.39	73.20	12.85	10.82	6.06
1982	561.37	419.37	24.60	84.39	14.14	11.90	6.97
Disabled (excluding ESRD):							
1978	343.71	256.28	14.61	58.82	6.00	5.08	2.92
1979	388.00	284.82	16.80	70.28	6.90	5.84	3.36
1980	434.99	315.41	19.32	81.74	7.94	6.72	3.86
1981	492.54	354.87	22.22	94.15	9.13	7.73	4.44
1982	551.19	393.75	25.55	108.24	10.04	8.50	5.11

TABLE A7.—INCURRED REIMBURSEMENT AMOUNTS: PROJECTED

Year ending June 30—	Average enrollment (millions)	Reimbursement amounts	
		Per enrollee	Aggregate (millions)
Aged:			
1978	23.173	$253.10	$5,865
1979	23.754	288.37	6,850
1980	24.365	326.53	7,956
1981	24.947	373.55	9,319
1982	25.517	421.52	10,756
Disabled (excluding ESRD):			
1978	2.420	248.35	601
1979	2.546	283.97	723
1980	2.633	321.69	847
1981	2.698	368.42	994
1982	2.760	415.94	1,148

2. ESTIMATES FOR PERSONS SUFFERING FROM END STAGE RENAL DISEASE

Certain persons suffering from end stage renal disease (ESRD) have been eligible to enroll for Part B coverage since July 1973 (under Section 299I of Public Law 92–603). For analytical purposes those enrollees suffering from ESRD who are also eligible as disability insurance beneficiaries are included in this section because their per enrollee costs are both higher and different in nature from those of most other disabled persons.

The estimates assume that charges for Part B ESRD services under Medicare will increase at an average of 7.3 percent per year over the projection period (July 1, 1977 through June 30, 1982). The estimates also assume a continued rapid increase in enrollment. The historical and projected enrollment and costs are shown in table A8.

TABLE A8.—INCURRED REIMBURSEMENT AMOUNTS FOR END STAGE RENAL DISEASE

Year ending June 30—	Disabled ESRD and ESRD only			ESRD only, reimbursement amounts, aggregate (millions)
	Average enrollment (thousands)	Reimbursement amounts		
		Per enrollee	Aggregate (millions)	
1974	14	$10,071	$141	$98
1975	21	10,857	228	155
1976	26	12,192	317	207
1977	31	13,355	414	264
1978	36	14,472	521	327
1979	40	15,900	636	393
1980	45	16,578	746	454
1981	50	17,020	851	512
1982	54	17,667	954	567

3. SUMMARY OF AGGREGATE REIMBURSEMENT AMOUNTS ON A CASH BASIS

Table A9 shows aggregate historical and projected reimbursement amounts on a cash basis, by type of beneficiary. The difference between reimbursement amounts on a cash basis and incurred reimbursement amounts results from the lag between the time of service and the time of payment.

TABLE A9.—AGGREGATE REIMBURSEMENT AMOUNTS ON A CASH BASIS

[In millions]

Fiscal year	Aged	Disabled (excluding ESRD)	Disabled ESRD and ESRD only	Total
Historical:				
1967	$664			$664
1968	1,390			1,390
1969	1,645			1,645
1970	1,979			1,979
1971	2,035			2,035
1972	2,255			2,255
1973	2,391			2,391
1974	2,650	$134	$90	2,874
1975	3,337	261	167	3,765
1976	4,073	341	257	4,671
Interim [1]	1,084	104	80	1,268
1977	5,001	487	379	5,867
1978	5,789	593	470	6,852
Projected:				
1979	6,876	724	593	8,193
1980	8,008	850	701	9,559
1981	9,336	995	808	11,139

[1] Interim period is the period from July 1, 1976, to Sept. 30, 1976, and is the transitional period between fiscal years beginning July 1 and fiscal years beginning Oct. 1.

4. ADMINISTRATIVE EXPENSES

The ratio of administrative expenses to benefit payments has been approximately 10 percent in recent years and is projected to decline slowly in future years. Projections of administrative costs are based on estimates of workloads and approved budgets for carriers, intermediaries, and Federal administration agencies.

APPENDIX B

STATEMENT OF ACTUARIAL ASSUMPTIONS AND BASES EMPLOYED IN DETERMINING THE MONTHLY ADEQUATE ACTURIAL RATES AND THE STANDARD MONTHLY PREMIUM RATE FOR THE SUPPLEMENTARY MEDICAL INSURANCE PROGRAM BEGINNING JULY 1979 [1]

1. ACTURIAL STATUS OF THE SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND

The law requires that the Supplementary Medical Insurance (SMI) program be financed on incurred basis. That is, program income during the 12-month period for which the adequate actuarial rates are effective must be sufficient to pay for services rendered during that period (plus the Government's related administrative costs) even though payment for some of these services will not be made until after the close of the period. The portion of income required to cover benefits not paid until after the close of the 12-month period is added to the trust fund until needed. Thus, the assets in the trust fund at any time should be no less than benefit and administrative costs incurred but not yet paid.

Because the adeqaute rates are established prospectively, they are subject to projection error. As a result, the income to the program may not equal incurred costs. Therefore, trust fund assets should be maintained at a level which is adequate to cover the impact of a moderate degree of projection error in addition to the amount of incurred but unpaid expenses. Table 1 summarizes the estimated actuarial status of the trust fund as of June 30 for each of the years 1977–79.

TABLE 1.—ACTUARIAL STATUS OF THE SMI TRUST FUND, YEARS ENDING JUNE 30, 1977–79

[In millions]

Year ending June 30—	Assets	Liabilities	Assets less liabilities
1977	$2,258	$1,763	$495
1978	3,824	2,237	1,587
1979	4,782	2,565	2,217

2. MONTHLY ADEQUATE ACTUARIAL RATE FOR ENROLLEES AGE 65 AND OLDER

The monthly adequate actuarial rate is one-half the monthly projected cost of benefits and administrative expenses for each enrollee age 65 and older, adjusted to allow for the following: interest earnings on assets in the trust fund; contingency margin; and amortization of unfunded liabilities.

[1] This statement appeared in the Federal Register of Dec. 29, 1978. Projections shown in this statement differ slightly from the projections shown in the rest of this report because of minor changes in assumptions since the rates were promulgated.

The monthly adequate actuarial rate for enrollees age 65 and older for the year ending June 30, 1980, was determined by projecting per enrollee cost for the 12-month period ending June 30, 1977, by type of service. The projected costs for the years ending June 30 of 1977–80 are shown in Table 2. The values for the 12-month period ending June 30, 1977, were established from program data. Subsequent years were projected using a combination of program data and data from external sources. The projection factors used are shown in Table 3.

TABLE 2.—DERIVATION OF PROMULGATED MONTHLY RATE FOR ENROLLEES AGE 65 AND OVER, YEARS ENDING JUNE 30, 1977–80

	1977	1978	1979	1980
Covered services (at level recognized):				
Physicians' reasonable charges	$9.99	$11.37	$12.65	$13.99
Radiology and pathology	.51	.59	.67	.78
Outpatient hospital and other institutions	1.72	1.95	2.28	2.64
Home health agencies	.31	.35	.40	.47
Group practice plans	.24	.30	.34	.39
Independent lab	.14	.17	.19	.22
Total services	12.91	14.73	16.53	18 49
Cost sharing:				
Deductible	−1.73	−1.76	−1.78	−1.80
Coinsurance	−2.08	−2.41	−2.73	−3.08
Total benefits	9.10	10.56	12.02	13.61
Administrative expenses	.79	.76	.94	1.02
Incurred expenditures	9.89	11.32	12.96	14.63
Value of interest on fund	−.09	−.20	−.27	−.29
Margin for contingencies and to amortize unfunded liabilities	.90	1.18	.71	−.94
Promulgated monthly rate	10.70	12.30	13.40	13.40

TABLE 3.—PROJECTION FACTORS YEARS ENDING JUNE 30, 1978–80

[In percent]

	1978	1979	1980
Physicians' services:			
Fees [1]	9.5	7.9	7.5
Utilization [2]	4.0	3.0	3.0
Outpatient hospital services per enrollee [3]	12.0	15.0	15.0
Home health agency services per enrollee [3]	15.0	15.0	15.0
Group practice plan services per enrollee [3]	25.0	15.0	15.0
Other services per enrollee	15.0	15.0	15.0

[1] As recognized for payment under the program.
[2] Increase in the number of services received per enrollee and greater relative use of more expensive services.
[3] The values for 1978 and/or 1979 differ significantly from those contained in last year's promulgation notice due to an additional year's data which support the current values.

The projected monthly rate required to pay for one-half of the total of benefits and administrative costs for enrollees age 65 and over for the year ending June 30, 1980, is $14.63. The monthly adequate actuarial rate of $13.40 provides an adjustment for interest earnings and a small margin for contingencies.

3. MONTHLY ADEQUATE ACTUARIAL RATE FOR DISABLED ENROLLEES

Disabled enrollees are those persons enrolled in SMI because of entitlement to disability benefits for not less than 24 consecutive months or because of entitlement to Medicare under the end-stage renal dis-

ease program. Projected monthly costs for disabled enrollees (other than those suffering from end-stage renal disease) are prepared in a fashion exactly parallel to projections for the aged, using the same actuarial assumptions. Costs for the end-stage renal disease program are projected using a computer model because of the complex demographic problems involved. The combined results for all disabled enrollees are shown in Table 4.

The projected monthly rate required to pay for one-half of the total of benefits and administrative costs for disabled enrollees for the year ending June 30, 1980, is $26.47. The monthly adequate actuarial rate of $25.00 provides an adjustment for interest earnings and a small margin for contingencies.

TABLE 4.—DERIVATION OF PROMULGATED MONTHLY RATE FOR DISABLED ENROLLEES, YEARS ENDING JUNE 30, 1977–80

	1977	1978	1979	1980
Covered services (at level recognized):				
Physicians' reasonable charges	$11.16	$12.78	$14.28	$15.80
Radiology and pathology	.53	.61	.70	.81
Outpatient hospital and other institutions	9.73	11.38	13.18	14.75
Home health agencies	.22	.25	.29	.33
Group practice plans	.17	.21	.24	.28
Independent lab	.11	.12	.14	.16
Total services	21.92	25.35	28.83	32.18
Cost sharing:				
Deductible	−1.59	−1.62	−1.64	−1.65
Coinsurance	−3.92	−4.58	−5.23	−5.85
Total benefits	16.41	19.15	21.96	24.63
Administrative expenses	1.41	1.38	1.73	1.84
Incurred expenditures	17.82	20.53	23.69	26.47
Value of interest on fund [1]	−1.61	−1.96	−2.11	−2.21
Margin for contingencies and to amortize unfunded liabilities	2.79	6.43	3.42	.74
Promulgated monthly rate	19.00	25.00	25.00	25.00

[1] The values for 1977, 1978, and 1979 differ substantially from last year's promulgation notice due to refinements in the methodology for determining interest for disabled enrollees.

4. SENSITIVITY TESTING

Several factors contribute to uncertainty about future trends in medical care costs. In view of this, it seems appropriate to test the adequacy under alternate assumptions of the rates promulgated here. The most unpredictable factors which contribute significantly to future costs are outpatient hospital costs, physician utilization (measured indirectly and reflecting the use of more visits per enrollee, the use of more expensive services, and other factors not explained by simple price per service increases), and increases in physician fees as constrained by the program's reasonable charge screens and economic index. Two alternative sets of assumptions and the results of those assumptions are shown in Table 5. All assumptions not shown in Table 5 are the same as in Table 3.

Table 5 indicates that, under the assumptions used in preparing this report, the promulgated monthly rates will result in an excess of assets over liabilities of $1,737 million by the end of June 1980. This amounts to 14.7 percent of the estimated total incurred expenditures for the following year. Assumptions which are somewhat more pessimistic produce an excess of assets over liabilities of $206 million by

the end of June 1980, which amounts to 1.5 percent of the estimated total incurred expenditures for the following year. Under fairly optimistic assumptions, the promulgated monthly rates will result in an excess of assets over liabilities of $2,777 million, which amounts to 26.1 percent of the estimated total incurred expenditures for the following year.

TABLE 5.—PROJECTION FACTORS AND THE ACTUARIAL STATUS OF THE SMI TRUST FUND UNDER ALTERNATIVE SETS OF ASSUMPTIONS, YEARS ENDING JUNE 30, 1979–80

	This projection		Low assumption		High assumption	
	1979	1980	1979	1980	1979	1980
Projection factors (in percent):						
Physicians' fees [1]	7.9	7.5	6.9	6.5	9.4	9.0
Utilization of physicians' services [2]	3.0	3.0	1.0	1.0	5.5	5.5
Outpatient hospital services per enrollee [3]	15.0	15.0	5.0	5.0	30.0	30.0
Home health agency services per enrollee [3]	15.0	15.0	5.0	5.0	30.0	30.0
Actuarial status (in millions):						
Assets	$4,782	$4,655	$5,022	$5,521	$4,444	$3,386
Liabilities	2,565	2,918	2,491	2,744	2,671	3,180
Assets less liabilities	2,217	1,737	2,531	2,777	1,773	206
Ratio of assets less liabilities to expenditures (in percent) [4]	21.6	14.7	26.4	26.1	15.7	1.5

[1] As recognized for payment under the program.
[2] Increase in the number of services received per enrollee and greater relative use of more expensive services.
[3] The values for 1979 differ significantly from those contained in last year's promulgation notice due to an additional year's data which support the current values.
[4] Ratio of assets less liabilities at the end of the year to total incurred expenditures during the following year, expressed as a percent.

5. STANDARD PREMIUM RATE

The law provides that the standard monthly premium rate, promulgated to apply for both aged and disabled enrollees, shall be the lesser of:

(*a*) The adequate actuarial rate for enrollees age 65 and older; or

(*b*) The current standard monthly premium, increased by the same percentage that the level of old-age survivors, and disability insurance (OASDI) benefits has been increased since the May preceding the promulgation (and rounded to the nearer dime).

The standard monthly premium rate for the 12-month period ending with June 30, 1979, is $8.20. The OASDI benefit table was increased 6.5 percent in June 1978. The $8.20 rate, increased by 6.5 percent and rounded to the nearer ten cent multiple, is $8.70. Since this is less than the adequate actuarial rate, the standard premium rate is $8.70 for the 12 months ending with June 1980.

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