

**NOTE:** This document is a scan of the original report. It is not tagged for accessibility. See the accompanying reconstructed document for a version that is tagged for accessibility.



1984 ANNUAL REPORT OF THE BOARD OF  
TRUSTEES OF THE FEDERAL SUPPLE-  
MENTARY MEDICAL INSURANCE TRUST  
FUND

---

COMMUNICATION

FROM

THE BOARD OF TRUSTEES, FEDERAL  
SUPPLEMENTARY MEDICAL INSUR-  
ANCE TRUST FUND

TRANSMITTING

THE 1984 ANNUAL REPORT OF THE BOARD, PURSUANT TO SSA,  
SEC. 1841 (b) (2)



APRIL 5, 1984.—Referred jointly to the Committees on Ways and Means  
and Energy and Commerce and ordered to be printed

---

U.S. GOVERNMENT PRINTING OFFICE



LETTER OF TRANSMITTAL

---

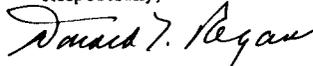
Board of Trustees of the  
Federal Supplementary Medical Insurance Trust Fund  
Washington, D.C., April 5, 1984

HONORABLE THOMAS P. O'NEILL, JR.  
Speaker of the House of Representatives  
Washington, D.C.

HONORABLE GEORGE BUSH  
President of the Senate  
Washington, D.C.

GENTLEMEN: We have the honor of transmitting to you the 1984 Annual Report of the Board of Trustees of the Federal Supplementary Medical Insurance Trust Fund (the 19th such report), in compliance with the provisions of section 1841(b) of the Social Security Act.

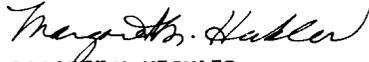
Respectfully,



DONALD T. REGAN  
Secretary of the Treasury, and  
Managing Trustee of the Trust Fund



RAYMOND J. DONOVAN  
Secretary of Labor, and Trustee



MARGARET M. HECKLER  
Secretary of Health and Human  
Services, and Trustee



CAROLYNE K. DAVIS, Ph.D.  
Administrator of the Health Care  
Financing Administration, and  
Secretary, Board of Trustees

(III)



C O N T E N T S

---

	Page
The Board of Trustees.....	1
Highlights.....	2
Nature of the Trust Fund.....	3
Summary of the Operations of the Trust Fund, Fiscal Year 1983.....	8
Expected Operations and Status of the Trust Fund During the Period October 1, 1983, to December 31, 1986.....	15
Actuarial Status of the Trust Fund.....	19
Conclusion.....	27
Appendices:	
A. Actuarial Methodology and Principal Assumptions for Cost Estimates for the Supplementary Medical Insurance Program.....	29
B. Statement of Actuarial Assumptions and Bases Employed in Determining the Monthly Actuarial Rates and the Standard Monthly Premium Rate for the Supplementary Medical Insurance Program Beginning January 1984.....	47
C. Statement of Actuarial Opinion.....	56

1984 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF  
THE FEDERAL SUPPLEMENTARY MEDICAL INSURANCE  
TRUST FUND

---

THE BOARD OF TRUSTEES

The Federal Supplementary Medical Insurance Trust Fund, established on July 30, 1965, is held by the Board of Trustees under the authority of section 1841(b) of the Social Security Act, as amended. Currently, the board has three members, who serve in an ex officio capacity. The members are the Secretary of the Treasury, the Secretary of Labor, and the Secretary of Health and Human Services. The Social Security Amendments of 1983 (Public Law 98-21, enacted into law on April 20, 1983) provide for the addition of two public members to the Board of Trustees. The two new members are to be nominated by the President for a term of 4 years, and are subject to confirmation by the Senate.

By law, the Secretary of the Treasury is designated as the Managing Trustee and the Administrator of the Health Care Financing Administration is designated as Secretary of the Board. The Board of Trustees reports to the Congress each year on the operation and status of the trust fund, in compliance with section 1841(b)(2) of the Social Security Act. This is the 1984 annual report, the nineteenth such report.

HIGHLIGHTS

(a) Disbursements of the supplementary medical insurance trust fund increased 17.7 percent in fiscal year 1983 over 1982. Most of this increase resulted from higher physician fees recognized by the program and the use of more physician services by program enrollees.

(b) Income to the trust fund increased 8.6 percent in fiscal year 1983 over 1982. This resulted from increased actuarial rates which determine the general revenue contribution and from increased enrollment in the program. During fiscal year 1983, premiums from participants accounted for 22 percent of income, general revenue contributions accounted for 74 percent of income, and the remaining income was derived from earnings on investments.

(c) The trust fund increased \$836 million to \$6,646 million during fiscal year 1983.

(d) In September of 1983, the Secretary of Health and Human Services promulgated a standard monthly premium rate of \$14.60 and actuarial rates of \$29.20 for the aged enrollees and \$54.30 for the disabled enrollees for calendar year 1984.

(e) An average of 26.0 million persons aged 65 and over were enrolled in the program in fiscal year 1983. An additional 2.7 million disabled beneficiaries were enrolled in the same period.

## NATURE OF THE TRUST FUND

The Federal Supplementary Medical Insurance Trust Fund was established on July 30, 1965, as a separate account in the United States Treasury. All the financial operations of the supplementary medical insurance program are handled through this fund.

The major sources of receipts of the trust fund are (1) contributions of the Federal Government that are authorized to be appropriated and transferred from the general fund of the Treasury, and (2) premiums paid by eligible persons who are voluntarily enrolled in the program. Eligible persons aged 65 and over have been able to enroll in the program since its inception in July 1966. Since July 1973, disabled persons under age 65, who meet certain eligibility requirements, have also been able to enroll in the program.

The premiums paid by participants are based on the standard monthly premium rate, which is the same for participants aged 65 and over and for disabled participants under age 65. Premiums paid for fiscal years 1967 through 1973 were matched by an equal amount of Government contributions. Beginning July 1973, the amount of Government contributions corresponding to premiums paid by each of the two groups of participants is determined by applying a ratio (known as the matching rate), prescribed in the law for each group, to the amount of premiums received from that group of participants. The ratio is equal to (1) twice the amount of the monthly actuarial rate applicable to the particular group of participants, minus the amount of the standard monthly premium rate, divided by (2) the amount of the standard monthly premium rate.

Standard monthly premium rates and actuarial rates are promulgated each year by the Secretary of Health and Human Services. The standard monthly premium rates in effect from the beginning of the program, July 1966 through June 1983, the rate for July 1983 through December 1983, and the rate for calendar year 1984, are shown in table 1. Actuarial rates and the corresponding matching rates in effect from July 1973 through June 1983, the rates applicable for July 1983 through December 1983, and the rates for calendar year 1984, are also shown.

Another source from which receipts of the trust fund are derived is interest received on investments held by the fund. The investment procedures of the fund are described later in this section.

Section 201(i) of the Social Security Act authorizes the Managing Trustee to accept and deposit in the trust fund unconditional money gifts or bequests made for the benefit of the fund or for any activity financed through the fund.

Expenditures for benefit payments and administrative expenses under the program are paid out of the trust fund. All expenses incurred by the Department of Health and Human Services and by the Department of the Treasury in carrying out the supplementary medical insurance provisions of title XVIII of the Social Security Act are charged to the trust fund. The Secretary of Health and Human Services certifies benefit payments to the Managing Trustee, who makes the payments from the trust fund in accordance therewith.

Prior to October 1, 1983, hospitals, at their option, were permitted to combine their billing for both hospital costs and physician components of

Table 1.--STANDARD MONTHLY PREMIUM RATES, ACTUARIAL RATES, AND MATCHING RATES

	Standard monthly premium rate	Monthly actuarial rate		Matching rate	
		Participants aged 65 and over	Disabled participants under age 65	Participants aged 65 and over	Disabled participants under age 65
July 1966 - March 1968	\$ 3.00	-----	-----	-----	-----
April 1968 - June 1970	4.00	-----	-----	-----	-----
12-month period ending June 30 of --					
1971	5.30	--	--	-----	-----
1972	5.60	--	--	-----	-----
1973	5.80	--	--	-----	-----
1974*	6.30	\$ 6.30	\$14.50	1.0000	3.6032
1975	6.70	6.70	18.00	1.0000	4.3731
1976	6.70	7.50	18.50	1.2388	4.5224
1977	7.20	10.70	19.00	1.9722	4.2778
1978	7.70	12.30	25.00	2.1948	5.4935
1979	8.20	13.40	25.00	2.2683	5.0976
1980	8.70	13.40	25.00	2.0805	4.7471
1981	9.60	16.30	25.50	2.3958	4.3125
1982	11.00	22.60	36.60	3.1091	5.6545
1983	12.20	24.60	42.10	3.0328	5.9016
July 1983 - December 1983	12.20	27.00	46.10	3.4262	6.5574
Calendar year					
1984	\$14.60	\$29.20	\$54.30	3.0000	6.4384

\* In accordance with limitations on the costs of health care imposed under Phase III of the Economic Stabilization program, the standard premium rate for July and August 1973 was set at \$5.80 and \$6.10, respectively. Effective September 1973, the rate increased to \$6.30.

radiology and pathology services rendered hospital inpatients by hospital-based physicians. Where hospitals elected this billing procedure, payments were made initially from the Hospital Insurance Trust Fund, with reimbursement later to it from the Supplementary Medical Insurance Trust Fund. The reimbursements so made were on a provisional basis and are subject to adjustment, with appropriate interest allowances, as the actual experience develops and is analyzed.

The Social Security Amendments of 1967 and 1972 authorize the Secretary of Health and Human Services to develop and conduct a broad range of experiments and demonstration projects designed to determine various methods of increasing efficiency and economy in providing health care services, while maintaining the quality of such services, under the hospital insurance and supplementary medical insurance programs. A sizeable portion of such costs of such experiments and demonstration projects are paid out of the hospital insurance and supplementary medical insurance trust funds, with the remainder funded through general revenues.

Congress has authorized expenditures from the trust funds for construction, rental, and lease or purchase contracts of office buildings and related facilities for use in connection with the supplementary medical insurance program. Both the capital costs of construction financed directly from the trust fund and the rental, lease, or purchase contract costs of acquiring facilities are included in trust fund expenditures. In 1972-75, construction of several large facilities was authorized under purchase contract authority, wherein initial capital costs were borne by the private sector. Under this method of facilities acquisition, trust fund expendi-

tures for use and ultimate Government ownership of a facility are made over periods of from 10 to 30 years. Whatever the manner of acquisition, the net worth of facilities and other fixed capital assets is not carried in the statement of the assets of the trust fund presented in this report. This is because the value of fixed capital assets does not represent funds available for benefit or administrative expenditures and, therefore, is not viewed as being a consideration in assessing the actuarial status of the funds.

That portion of the trust fund which, in the judgment of the Managing Trustee, is not required to meet current expenditures for benefits and administration is invested in interest-bearing obligations of the U.S. Government (including special public-debt obligations described below), in obligations guaranteed as to both principal and interest by the United States, or in certain federally sponsored agency obligations that are designated in the laws authorizing their issuance as lawful investments for fiduciary and trust funds under the control and authority of the United States or any officer of the United States. Obligations of these types may be acquired on original issue at the issue price or by purchase of outstanding obligations at their market price.

The Social Security Act authorizes the issuance of special public-debt obligations for purchase exclusively by the trust fund. The law requires that such special public-debt obligations shall bear interest at a rate based on the average market yield (computed on the basis of market quotations as of the end of the calendar month next preceding the date of such issue) on all marketable interest-bearing obligations of the United States forming a part of the public debt which are not due or callable until after the expiration of 4 years from the end of such calendar month.

## SUMMARY OF THE OPERATIONS OF THE TRUST FUND, FISCAL YEAR 1983

A statement of the income and disbursements of the Federal Supplementary Medical Insurance Trust Fund in fiscal year 1983 and of the assets of the fund at the beginning and end of the fiscal year is presented in table 2. Comparable amounts for fiscal year 1982 are also shown in the table.

The total assets of the trust fund amounted to \$5,810 million on September 30, 1982. During fiscal year 1983, total receipts amounted to \$19,147 million, and total disbursements were \$18,311 million. Total assets thus increased \$836 million during the year to a total of \$6,646 million on September 30, 1983.

Of the total receipts, \$3,834 million represented premium payments by (or on behalf of) participants aged 65 and over, and \$393 million represented premium payments by (or on behalf of) disabled participants under age 65. Total premium payments amounted to \$4,227 million, an increase of 10.4 percent over the amount of \$3,831 million for the preceding year. This increase in premiums from participants resulted primarily from (1) the growth in the number of persons enrolled in the supplementary medical insurance program and (2) the increase from \$11.00 to \$12.20 per month in the standard premium rate that became effective on July 1, 1982.

Contributions received from the general fund of the treasury amounted to \$14,238 million, which accounted for 74 percent of total receipts. This

•

Table 2.—STATEMENT OF OPERATIONS OF THE SUPPLEMENTARY MEDICAL INSURANCE  
TRUST FUND DURING FISCAL YEARS 1982 and 1983  
(In thousands)

	Fiscal year 1982	Fiscal year 1983
Total assets of the trust fund, beginning of period.....	\$ 3,742,690	\$ 5,809,993
Receipts:		
Premiums from participants:		
Participants aged 65 and over.....	3,459,916	3,834,170
Disabled participants under age 65.....	370,642	393,209
Total premiums.....	<u>3,830,558</u>	<u>4,227,379</u>
Transfers from general fund of the Treasury:		
Government contributions:		
For premiums received from participants aged 65 and over.....	11,208,236	11,936,832
For premiums received from disabled participants under age 65	2,114,776	2,301,159
Total Government contributions.....	<u>13,323,012</u>	<u>14,237,991</u>
Other.....	266	1,307
Interest:		
Interest on investments.....	484,085	690,001
Interest on amounts of interfund transfers 1/.....	-10,883	-9,560
Total receipts.....	<u>17,627,038</u>	<u>19,147,118</u>
Disbursements:		
Benefit payments.....	14,806,214	17,487,322
Reimbursement to general fund:		
Treasury administrative expenses.....	1,420	3,707
Civil Service administrative expenses.....	0	0
Railroad Retirement Board.....	0	0
Payment of Department of Health and Human Services expenses:		
Salaries and expenses - SSA.....	152,952	156,895
Salaries and expenses - HCFA.....	517,863	598,553
Salaries and expenses Office of Secretary.....	3,141	3,272
Construction.....	5,820	10,731
Professional Standard Review Organization.....	6,724	-3,325
Reimbursement of SSA expenses 2/.....	368	480
Reimbursement of HCFA expenses 2/.....	65,233	53,172
Total disbursements.....	<u>15,559,735</u>	<u>18,310,807</u>
Net addition to the trust fund.....	2,067,303	836,311
Total assets of the trust fund, end of period.....	5,809,993	6,646,303

1/ A positive figure represents a transfer of interest to the supplementary medical insurance trust fund from the other trust funds. A negative figure represents a transfer of interest from the supplementary medical insurance trust fund to the other trust funds.

2/ A positive figure represents a transfer from the supplementary medical insurance trust fund to the other trust funds. A negative figure represents a transfer to the supplementary medical insurance trust fund from the other trust funds.

NOTE: Totals do not necessarily equal the sum of rounded components.

amount consisted of \$11,937 million representing contributions relating to premiums paid by participants aged 65 and over, and \$2,301 million representing contributions relating to the premiums paid by disabled participants under age 65.

The remaining \$682 million of receipts consisted almost entirely of interest on the investments of the trust fund.

Of the \$18,311 million in total disbursements, \$17,487 million represented: (1) benefits paid directly from the trust fund for health services covered under Title XVIII of the Social Security Act; (2) transfers made to the hospital insurance trust fund to adjust for the loss of interest caused by the delay in transferring payments for the costs of radiology and pathology services that were paid initially from the hospital insurance trust fund but that were liabilities of the supplementary medical insurance trust fund, and (3) for costs of experiments and demonstration projects in providing health care services.

The remaining \$823 million of disbursements was for net administrative expenses. Administrative expenses are allocated and charged directly to each of the four trust funds--old-age and survivors insurance, disability insurance, hospital insurance, and supplementary medical insurance--on the basis of provisional estimates. Similarly, the expenses of administering other programs of the Health Care Financing Administration are also allocated and charged directly to the general fund of the Treasury on a provisional basis. Periodically, as actual experience develops and is analyzed, the allocations of administrative expenses and costs of construction for prior periods are adjusted by interfund transfers. This adjustment includes

transfers between the hospital insurance and supplementary medical insurance trust funds and the program management general fund account, with appropriate interest allowances.

In table 3, the experience with respect to actual amounts of participants' premiums, Government contributions, and benefit payments in fiscal year 1983 is compared with the estimates for fiscal year 1983 which appeared in the 1982 and 1983 annual reports. The actual experience was relatively close to the estimates for premiums, Government contributions, and benefit payments.

The assets of the trust fund at the end of fiscal year 1982 totaled \$5,810 million, consisting of \$5,874 million in the form of obligations of the U.S. Government and, as an offset, an extension of credit of \$64 million against securities to be redeemed. The assets of the trust fund at the end of fiscal year 1983 totaled \$6,646 million, consisting of \$6,958 million in the form of obligations of the U.S. Government and, as an offset, an extension of credit of \$312 million against securities to be redeemed. Table 4 shows a comparison of the total assets of the fund and their distribution at the end of fiscal year 1982 and at the end of fiscal year 1983. A comparison of assets of the trust fund with liabilities for incurred but unpaid benefits (and related administrative expenses) is shown in a later section.

The net increase in the par value of the investments held by the fund during fiscal year 1982 amounted to \$2,053 million. New securities at a total par value of \$19,631 million were acquired during the fiscal

Table 3.--COMPARISON OF ACTUAL AND ESTIMATED OPERATIONS  
 OF THE SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND,  
 FISCAL YEAR 1983  
 (Dollar amounts in millions)

Item	Comparison of actual experience with estimates for fiscal year 1983 published in--				
	Actual amount	1983 report		1982 report	
		Estimated amount	Actual as percentage of estimate	Estimated amount	Actual as percentage of estimate
Premiums from participants	\$ 4,227	\$ 4,191	101	\$ 4,284	99
Government contributions	14,238	14,238	100	14,480	98
Benefit payments	17,487	17,537	100	17,595	99

TABLE 4.—ASSETS OF THE SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND,  
AT THE END OF FISCAL YEARS 1982 AND 1983 1/

	September 30, 1982	September 30, 1983
Investments in public-debt obligations sold only to this fund (special issues):		
Certificates of Indebtedness:		
11 7/8-percent, 1984.....		5445,187,000.00
12 1/4-percent, 1983.....	5122,723,000.00	
13 1/4-percent, 1983.....	135,906,000.00	
13 7/8-percent, 1983.....	451,411,000.00	
Bonds:		
7 1/8-percent, 1985.....	56,245,000.00	56,245,000.00
7 1/8-percent, 1986.....	56,245,000.00	56,245,000.00
7 1/8-percent, 1987.....	56,245,000.00	56,245,000.00
7 1/8-percent, 1988.....	56,245,000.00	56,245,000.00
7 1/8-percent, 1989.....	56,245,000.00	56,245,000.00
7 1/8-percent, 1990.....	56,246,000.00	56,246,000.00
7 1/8-percent, 1991.....	56,246,000.00	56,246,000.00
7 1/8-percent, 1992.....	137,816,000.00	137,816,000.00
7 3/8-percent, 1985.....	11,547,000.00	11,547,000.00
7 3/8-percent, 1986.....	11,547,000.00	11,547,000.00
7 3/8-percent, 1987.....	11,547,000.00	11,547,000.00
7 3/8-percent, 1988.....	11,547,000.00	11,547,000.00
7 3/8-percent, 1989.....	11,547,000.00	11,547,000.00
7 3/8-percent, 1990.....	73,510,000.00	73,510,000.00
7 3/8-percent, 1991.....	8,061,000.00	8,061,000.00
7 1/2-percent, 1985.....	8,061,000.00	8,061,000.00
7 1/2-percent, 1986.....	8,061,000.00	8,061,000.00
7 1/2-percent, 1987.....	8,061,000.00	8,061,000.00
7 1/2-percent, 1988.....	8,061,000.00	8,061,000.00
7 1/2-percent, 1989.....	8,061,000.00	8,061,000.00
7 1/2-percent, 1990.....	8,060,000.00	8,060,000.00
7 1/2-percent, 1991.....	81,570,000.00	81,570,000.00
7 5/8-percent, 1984.....	49,019,000.00	61,964,000.00
7 5/8-percent, 1985.....	61,963,000.00	61,963,000.00
7 5/8-percent, 1986.....	61,963,000.00	61,963,000.00
7 5/8-percent, 1987.....	61,963,000.00	61,963,000.00
7 5/8-percent, 1988.....	61,963,000.00	61,963,000.00
7 5/8-percent, 1989.....	61,963,000.00	61,963,000.00
8 1/4-percent, 1986.....	115,978,000.00	115,978,000.00
8 1/4-percent, 1985.....	115,978,000.00	115,978,000.00
8 1/4-percent, 1986.....	115,978,000.00	115,978,000.00
8 1/4-percent, 1987.....	115,978,000.00	115,978,000.00
8 1/4-percent, 1988.....	115,978,000.00	115,978,000.00
8 1/4-percent, 1989.....	115,978,000.00	115,978,000.00
8 1/4-percent, 1990.....	115,978,000.00	115,978,000.00
8 1/4-percent, 1991.....	115,978,000.00	115,978,000.00
8 1/4-percent, 1992.....	115,978,000.00	115,978,000.00
8 1/4-percent, 1993.....	253,794,000.00	253,794,000.00
8 3/4-percent, 1984.....	72,934,000.00	72,935,000.00
8 3/4-percent, 1985.....	72,934,000.00	72,935,000.00
8 3/4-percent, 1986.....	72,934,000.00	72,934,000.00
8 3/4-percent, 1987.....	72,934,000.00	72,934,000.00
8 3/4-percent, 1988.....	72,934,000.00	72,934,000.00
8 3/4-percent, 1989.....	72,934,000.00	72,934,000.00
8 3/4-percent, 1990.....	72,934,000.00	72,934,000.00
8 3/4-percent, 1991.....	72,934,000.00	72,934,000.00
8 3/4-percent, 1992.....	72,934,000.00	72,934,000.00
8 3/4-percent, 1993.....	72,934,000.00	72,934,000.00
8 3/4-percent, 1994.....	326,728,000.00	326,728,000.00
9 3/4-percent, 1995.....	115,003,000.00	115,003,000.00
10 3/4-percent, 1985.....	88,061,000.00	88,061,000.00
10 3/4-percent, 1986.....	88,061,000.00	88,061,000.00
10 3/4-percent, 1987.....	88,061,000.00	88,061,000.00
10 3/4-percent, 1988.....	88,060,000.00	88,060,000.00
10 3/4-percent, 1989.....	88,060,000.00	88,060,000.00
10 3/4-percent, 1990.....	88,060,000.00	88,060,000.00
10 3/4-percent, 1991.....	88,060,000.00	88,060,000.00
10 3/4-percent, 1992.....	88,060,000.00	88,060,000.00
10 3/4-percent, 1993.....	88,060,000.00	88,060,000.00
10 3/4-percent, 1994.....	88,061,000.00	88,061,000.00
10 3/4-percent, 1995.....	88,061,000.00	88,061,000.00
10 3/4-percent, 1996.....	88,061,000.00	88,061,000.00
10 3/4-percent, 1997.....	456,989,000.00	456,989,000.00
13 1/4-percent, 1984.....	130,068,000.00	115,275,000.00
13 1/4-percent, 1985.....	42,201,000.00	42,200,000.00
13 1/4-percent, 1986.....	42,201,000.00	42,201,000.00
13 1/4-percent, 1987.....	42,201,000.00	42,201,000.00
13 1/4-percent, 1988.....	42,201,000.00	42,201,000.00
13 1/4-percent, 1989.....	42,201,000.00	42,201,000.00
13 1/4-percent, 1990.....	42,201,000.00	42,201,000.00
13 1/4-percent, 1991.....	42,201,000.00	42,201,000.00
13 1/4-percent, 1992.....	42,201,000.00	42,201,000.00
13 1/4-percent, 1993.....	42,201,000.00	42,201,000.00
13 1/4-percent, 1994.....	42,201,000.00	42,201,000.00
13 1/4-percent, 1995.....	253,926,000.00	253,926,000.00
13 1/4-percent, 1996.....	368,928,000.00	368,928,000.00
13 1/4-percent, 1997.....	368,928,000.00	368,928,000.00
Total investments in public-debt obligations...	5,874,115,000.00	6,958,312,000.00
Undeclared balance.....	-64,122,398.21 2/	-312,009,194.35 2/
Total assets.....	5,809,992,601.79	6,646,302,805.65

1/ The assets are carried at par value, which is the same as book value.  
2/ The negative figure represented an extension of credit which was covered by the redemption of securities on the first day of the following month.

year through the investment of receipts and reinvestment of funds made available from the redemption of securities. The par value of securities redeemed during the year was \$17,578 million. Included in these amounts is \$17,718 million in certificates of indebtedness that were acquired, and \$17,201 million in certificates of indebtedness that were redeemed, within the fiscal year.

The net increase in the par value of the investments held by the fund during fiscal year 1983 amounted to \$1,084 million. New securities at a total par value of \$20,572 million were acquired during the fiscal year through the investment of receipts and reinvestment of funds made available from the redemption of securities. The par value of securities redeemed during the year was \$19,487 million. Included in these amounts is \$18,881 million in certificates of indebtedness that were acquired, and \$19,146 million in certificates of indebtedness that were redeemed, within the fiscal year.

The effective annual rate of interest earned by the assets of the supplementary medical insurance trust fund the 12 months ending on June 30, 1983, was 10.7 percent. (This period is used because interest on special issues is paid semiannually on June 30 and December 31.) The interest rate on special issues purchased by the trust fund in June 1983 was 10 <sup>3</sup>/<sub>4</sub> percent, payable semiannually.

EXPECTED OPERATIONS AND STATUS OF THE TRUST FUND  
DURING THE PERIOD OCTOBER 1, 1983 TO DECEMBER 31, 1986

Financing for the supplementary medical insurance program is established annually on the basis of standard monthly premium rates (paid by or on behalf of the participants) and actuarial rates (on which general revenue contributions are based). Prior to June 30, 1983, these rates were applicable to 12-month periods ending June 30. Beginning January 1, 1984, Public Law 98-21 changed the annual basis to the 12-month periods ending December 31. For the 6-month period July 1, 1983 through December 31, 1983 (hereafter also called the transition semester), the standard monthly premium rate was frozen at the June 1983 rate, and the actuarial rates were set at the rates promulgated in December 1982 for the 12-month period ending June 30, 1984.

Standard premium rates and actuarial rates have been set for periods through December 31, 1984. It has been assumed in this report that financing after that time will be established to cover the incurred expenses of the program.

The projections shown in the following tables are based on two sets of economic assumptions labeled alternative A and alternative B. These alternatives reflect two different levels of expectation of future performance of the economy. Appendix A presents an explanation of the effects of alternative A and alternative B on the projections in this report.

While Public Law 98-21 changed the annual basis for financing, it did not change the July 1 to June 30 period for applying allowable fee limits for physician services. Under both projections it is assumed that

allowable fees for physician services will increase an average of 7.1 percent for the 12-month period ending June 30, 1984, and will increase an average of 5.0 percent for the 12-month period ending June 30, 1985. The costs per enrollee for institutional and other services under SMI are projected to increase an average of 13 percent for the 12-month period ending June 30, 1984, over the previous 12 months and an additional 20 percent for the 12-month period ending June 30, 1985.

Table 5 shows the projected operations of the trust fund on a fiscal year basis through fiscal year 1986. Table 6 shows the corresponding development on a calendar year basis. The trust fund balance was \$6.6 billion at the end of fiscal year 1983. The actuarial rates applicable to the 6-month period ending December 31, 1983, were promulgated with specific margins to reduce assets to a more desirable level. At the time these rates were established, it appeared that assets were more than sufficient to cover the incurred costs and to provide an appropriate contingency. The actuarial rates for calendar year 1984 were promulgated with margins to maintain the assets at these more desirable levels. Based on these actuarial rates and the above economic assumptions, the fund is projected to increase to \$8.0 billion under both alternatives by the end of fiscal year 1984, and then to increase to \$9.1 billion by the end of fiscal year 1985.

Table 5.--ESTIMATED PROGRESS OF SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND (CASH BASIS)  
FISCAL YEARS 1984-1986 AND ACTUAL DATA FOR 1967-1983  
(In millions)

Fiscal year	Income			Total Income	Disbursements			Balance in fund at end of year <sup>3/</sup>
	Premiums from participants	Government contributions <sup>1/</sup>	Interest and other income <sup>2/</sup>		Benefit payments	Admini- trative expenses	Total disburse- ments	
<b>Historical:</b>								
1967	\$ 647	\$ 623	\$ 15	\$1,285	\$ 664	\$ 135 <sup>4/</sup>	\$ 799	\$ 486
1968	698	634	21	1,353	1,390	142	1,532	307
1969	903	984	24	1,911	1,645	195	1,840	378
1970	936	928	12	1,876	1,979	217	2,196	57
1971	1,253	1,245	18	2,516	2,035	248	2,283	290
1972	1,340	1,365	29	2,734	2,255	289	2,544	481
1973	1,427	1,430	45	2,902	2,391	246	2,637	746
1974	1,704	2,029	76	3,809	2,874	409	3,283	1,424
1975	1,887	2,330	105	4,322	3,765	405	4,170	1,424
1976	1,951	2,939	104	4,994	4,672	528	5,200	1,219
Interim <sup>5/</sup>	539	878	4	1,421	1,269	132	1,401	1,239
1977	2,193	5,053	137	7,383	5,867	475	6,342	2,279
1978	2,431	6,386	228	9,045	6,852	504	7,356	3,968
1979	2,635	6,841	363	9,839	8,259	555	8,814	4,994
1980	2,928	6,932	415	10,275	10,144	593	10,737	4,532
1981	3,320	8,747	372	12,439	12,345	883	13,228	3,743
1982	3,831	13,323	473	17,627	14,806	754	15,560	5,810
1983	4,227	14,238	682	19,147	17,487	824	18,311	6,646
<b>Projected:</b>								
<b>Alternative A:</b>								
1984	4,914	16,811	882	22,607	20,420	810	21,230	8,023
1985	5,839	19,020	790	25,649	23,764	855	24,619	9,053
1986	6,355	22,352	884	29,591	27,822	903	28,725	9,919
<b>Alternative B:</b>								
1984	4,914	16,811	882	22,607	20,420	809	21,229	8,024
1985	5,866	19,020	791	25,677	23,773	856	24,629	9,072
1986	6,419	22,396	892	29,707	27,875	909	28,784	9,995

<sup>1/</sup> The payments shown as being from the general fund of the Treasury include certain interest-adjustment items.

<sup>2/</sup> Other income includes recoveries of amounts reimbursed from the trust fund which are not obligations of the trust fund and other miscellaneous income.

<sup>3/</sup> The financial status of the program depends on both the total net assets and the liabilities of the program. (See Table 8)

<sup>4/</sup> Administrative expenses shown include those paid in fiscal years 1966 and 1967.

<sup>5/</sup> Interim Period is the period from July 1, 1976 to September 30, 1976 and is the transitional period between fiscal years beginning July 1 and fiscal years beginning October 1.

Table 6.--ESTIMATED PROGRESS OF SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND (CASH BASIS)  
CALENDAR YEARS 1984-1986 AND ACTUAL DATA FOR 1966-1983  
(In millions)

Calendar year	Income			Total income	Disbursements			Balance in fund at end of year <sup>3/</sup>
	Premiums from participants	Government contributions <sup>1/</sup>	Interest and other income <sup>2/</sup>		Benefit payments	Administrative expenses	Total disbursements	
<b>Historical:</b>								
1966	\$ 322	\$ 0	\$ 2	\$ 324	\$ 128	\$ 75	\$ 203	\$ 122
1967	640	933	24	1,597	1,197	110	1,307	412
1968	832	858	21	1,711	1,518	184	1,702	421
1969	914	907	18	1,839	1,865	196	2,061	199
1970	1,096	1,093	12	2,201	1,975	237	2,212	188
1971	1,302	1,313	24	2,639	2,117	260	2,377	450
1972	1,382	1,389	37	2,808	2,325	289	2,614	643
1973	1,550	1,705	57	3,312	2,526	318	2,844	1,111
1974	1,804	2,225	95	4,124	3,318	410	3,728	1,506
1975	1,918	2,648	107	4,673	4,273	462	4,735	1,444
1976	2,060	3,810	107	5,977	5,080	542	5,622	1,799
1977	2,247	5,386	172	7,805	6,038	467	6,505	3,099
1978	2,470	6,287	299	9,056	7,252	503	7,755	4,400
1979	2,719	6,645	404	9,768	8,708	557	9,265	4,902
1980	3,011	7,455	408	10,874	10,635	610	11,245	4,530
1981	3,722 <sup>4/</sup>	11,291	361	15,374	13,113	915	14,028	5,877
1982	3,697 <sup>4/</sup>	12,284 <sup>4/</sup>	599	16,580	15,455	772	16,227	6,230
1983	4,236	14,861	727	19,824	18,106	878	18,984	7,070
<b>Projected:</b>								
<b>Alternative A:</b>								
1984	5,141	17,019	741	22,901	21,202	821	22,023	7,946
1985	6,071	19,615	837	26,523	24,790	867	25,657	8,814
1986	6,449	23,209	929	30,587	28,812	915	29,727	9,674
<b>Alternative B:</b>								
1984	5,141	17,019	741	22,901	21,203	821	22,024	7,947
1985	6,107	19,651	840	26,598	24,808	868	25,676	8,869
1986	6,523	23,221	946	30,690	28,881	922	29,803	9,756

<sup>1/</sup> The payments shown as being from the general fund of the Treasury include certain interest-adjustment items.

<sup>2/</sup> Other income includes recoveries of amounts reimbursed from the trust fund which are not obligations of the trust fund and other miscellaneous income.

<sup>3/</sup> The financial status of the program depends on both the total net assets and the liabilities of the program. (See Table 8)

<sup>4/</sup> Section 708 of Title VII of the Social Security Act modified the provisions for the delivery of Social Security benefit checks when the regularly designated delivery day falls on a Saturday, Sunday or legal public holiday. Delivery of benefit checks normally due January, 1982 occurred on December 31, 1981. Consequently, the SMI premiums withheld from the checks (\$264 million) and the general revenue matching contributions (\$883 million) were added to the SMI Trust Fund on December 31, 1981. These amounts are excluded from the premium income and general revenue income for calendar year 1982.

## ACTUARIAL STATUS OF THE TRUST FUND

## 1. ACTUARIAL SOUNDNESS OF THE SUPPLEMENTARY MEDICAL INSURANCE PROGRAM

The concept of actuarial soundness, as it applies to the supplementary medical insurance program, is closely related to the concept as it applies to private group insurance. The supplementary medical insurance program essentially is yearly renewable term insurance financed from premium income paid by the enrollees and from income contributed from general revenue in proportion to premium payments. The law requires the Secretary of Health and Human Services to establish income on the basis of incurred costs; that is, the income to the program during a 12-month period for which financing is being established must be sufficient to pay for services (including associated administrative costs) expected to be rendered during that period 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 those benefits not paid until after the close of the year is added to the trust fund until needed. Thus, the amount of assets in the trust fund at any time should be no less than the costs of the benefits and administration incurred but not yet paid. Since the income per enrollee (premium plus Government contribution rate) is established prospectively, it is subject to projection error. As a result, the income to the program may not be equal to 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, as well as the value of incurred but unpaid expenses.

In testing the actuarial soundness of the supplementary medical insurance program, it is not appropriate to look beyond the period for which the enrollee premium rate and level of general revenue financing have been established. The primary tests of actuarial soundness, then, are that (1) income for years for which financing has been established be sufficient to meet the projected benefits and associated administrative expenses incurred for that period and (2) assets be sufficient to cover projected liabilities which will have been incurred by the end of that time but will not have been paid yet. Even if these tests of actuarial soundness are not met, the program can continue to operate if the trust fund remains at a level adequate to permit the payment of claims as presented. However, to protect against the possibility that cost increases under the program will be higher than assumed, assets should be sufficient to cover the impact of a moderate degree of projection error.

## 2. INCURRED EXPERIENCE OF THE SUPPLEMENTARY MEDICAL INSURANCE PROGRAM

The tests of actuarial soundness of the supplementary medical insurance program noted above rely on the incurred experience of the program. Cash disbursements for benefits and administrative expenses by themselves are misleading, due to the relatively large liabilities outstanding at any time for benefits and processing costs that must be paid for services already performed. These liabilities result from the lag between the time that services are performed and the time that payments for them are made.

The experience of the program is substantially more difficult to determine on an incurred basis than on a cash basis. Payment for some services is reported only on a cash basis, and the incurred experience must be inferred from the cash payment information. For recent time periods, the tabulations of bills are incomplete due to normal processing delays. Finally, since bills are tabulated only for a sample of beneficiaries, the data is subject to bias and random fluctuation inherent in the sampling process.

Table 7 shows the estimated transactions of the trust fund on an incurred basis. For the reasons stated above, the incurred experience must be viewed as an estimate even for historical years. Various checks, such as cash outlay data, assure that the estimates are reasonably close, however.

Table 7.--ESTIMATED INCOME AND DISBURSEMENTS INCURRED UNDER SUPPLEMENTARY MEDICAL INSURANCE PROGRAM FOR FINANCING PERIODS THROUGH DECEMBER 31, 1984  
(In millions)

Financing period	Premiums from participants	Government contributions	Interest and other income	Benefit payments	Administrative expenses	Net operations in year
Historical:						
12-month period ending June 30,						
1967	\$ 647	\$ 647	\$ 15	\$1,108	\$123 <sup>1/</sup>	\$ 78
1968	698	698	21	1,443	155	-181
1969	903	903	24	1,766	190	-126
1970	936	936	12	1,930	213	-259
1971	1,253	1,253	18	2,090	259	175
1972	1,340	1,340	29	2,289	259	161
1973	1,427	1,426	45	2,499	300	99
1974	1,704	2,031	76	3,152	354	305
1975	1,887	2,396	105	3,945	437	6
1976	1,951	2,972	109	4,846	487	-301
1977	2,156	4,697	157	5,913	520	577
1978	2,358	5,991	254	7,027	512	1,064
1979	2,601	6,570	365	8,230	649	657
1980	2,823	6,627	421	10,017	647	-793
1981	3,178	8,219	371	12,138	725	-1,095
1982	3,737	12,488	495	14,233	740	1,747
1983	4,202	13,950	686	17,489	760	589
Transition semester <sup>2/</sup>	2,121	7,838	370	10,161	408	-240
Projected:						
Calendar year						
Alternative A:						
1984	5,141	17,017	755	21,986	821	106
Alternative B:						
1984	5,141	17,017	755	21,989	821	103

<sup>1/</sup> Includes administrative expenses incurred prior to the beginning of the program.

<sup>2/</sup> The transition semester is the 6-month period July 1, 1983 to December 31, 1983.

### 3. ACCUMULATED EXCESS OF ASSETS OVER LIABILITIES

The liability outstanding at any time for the cost of services performed for which no payment has been made is referred to as "benefits incurred but unpaid." Estimates of the amount of benefits incurred but unpaid as of the end of each financing period, and of the administrative expenses related to processing these benefits, appear in table 8. For some years of the program, assets have not been as large as outstanding liabilities. Nonetheless, the fund has remained positive, allowing claims to be paid.

Program financing has been established through December 31, 1984. Based on this financing, assets are projected to exceed liabilities by \$2,711 million at the end of June 1983. This excess is projected to decrease to \$2,472 million at the end of December 1983. The financing established for calendar year 1984 was designed to maintain this excess at about the same level. As a result, the excess of assets over liabilities is expected to increase slightly to \$2,567 million under alternative A, and to \$2,563 million under alternative B at the end of December 1984. However, this excess as a percent of incurred expenditures for the following year is expected to decrease from 10.8 percent as of December 31, 1983, to 9.7 percent as of December 31, 1984.

Table 8.--SUMMARY OF ESTIMATED ASSETS AND LIABILITIES OF THE SUPPLEMENTARY MEDICAL INSURANCE PROGRAM  
AS OF THE END OF THE FINANCING PERIOD, FOR PERIODS THROUGH DECEMBER 31, 1984  
(Dollar amounts in millions)

	Balance in trust fund	Government contributions due and unpaid	Total assets	Benefits incurred but unpaid	Administrative costs incurred but unpaid	Total liabilities	Excess of assets over liabilities	Ratio 1/
Historical:								
As of June 30,								
1967	\$ 486	\$ 24	\$ 510	\$ 444	\$-12	\$ 432	\$ 78	.05
1968	307	88	395	497	1	498	-103	-.05
1969	378	7	385	618	-4	614	-229	-.11
1970	57	15	72	569	-8	561	-489	-.21
1971	290	22	312	624	3	627	-315	-.12
1972	481	-3	478	658	-27	631	-153	-.05
1973	746	-7	739	766	27	793	-54	-.02
1974	1,272	-5	1,267	1,044	-28	1,016	251	.06
1975	1,424	67	1,491	1,224	4	1,228	263	.05
1976	1,219	105	1,324	1,398	-37	1,361	-37	-.01
1977	2,170	91	2,261	1,722	0	1,722	539	.07
1978	3,786	47	3,833	2,192	38	2,230	1,603	.18
1979	4,880	2	4,882	2,502	121	2,623	2,259	.21
1980	4,657	0	4,657	3,003	188	3,191	1,466	.11
1981	3,801	0	3,801	3,383	46	3,429	372	.02
1982	5,534	1	5,535	3,379	36	3,415	2,120	.12
1983	6,780	1	6,781	4,021	49	4,070	2,711	.13
As of December 31,								
1983	7,070	0	7,070	4,645	-47	4,598	2,472	.11
Projected:								
Alternative A:								
1984	7,948	0	7,948	5,428	-47	5,381	2,567	.10
Alternative B:								
1984	7,947	0	7,947	5,431	-47	5,384	2,563	.10

1/ Ratio of the excess of assets over liabilities to the following year's total incurred expenditures.

#### 4. SENSITIVITY TESTING

Some of the assumptions underlying the projections presented in this report are highly uncertain, and variations in these assumptions would have a substantial impact on expenditures. In order to test the future status of the program under varying assumptions, a low cost projection and a high cost projection were prepared by varying these key assumptions. The low and high cost alternative sets of assumptions are intended to reflect growth rates for the various components of program costs which are more favorable and adverse, respectively, than those of the intermediate projection and which are not unreasonable themselves in light of the nature and historical experience of the program. As such, they provide a range of financial outcomes within which the actual experience of the program might reasonably be expected to fall.

Table 9 indicates that, under the low cost assumptions, trust fund assets would exceed liabilities significantly by the end of December 1984 (the period through which financing has been established), reaching a level of 19 percent of the following year's incurred expenditures. If these low growth rates were actually to materialize, then subsequent financing rates could be adjusted downward in order to lower the excess of assets over liabilities to more appropriate levels. Under the high cost assumptions, trust fund assets would still exceed liabilities, but only slightly so, by the end of December 1984.

Table 9.--ACTUARIAL STATUS OF THE SMI TRUST FUND UNDER THREE SETS OF ASSUMPTIONS FOR FINANCING PERIODS THROUGH DECEMBER 31, 1984

	This Projection			Low Cost Projection			High Cost Projection		
	12-month periods ending June 30,			12-month periods ending June 30,			12-month periods ending June 30,		
	1983	1984	1985	1983	1984	1985	1983	1984	1985
Projection factors (in percent): <u>1/</u>									
Physicians' fees <u>2/</u>									
Aged	8.9	7.1	5.0	8.4	6.6	4.5	9.4	7.6	5.5
Disabled	8.9	7.1	5.0	8.4	6.6	4.5	9.4	7.6	5.5
Utilization of physicians' services <u>3/</u>									
Aged	14.0	6.8	6.8	13.0	4.8	4.8	15.0	8.8	8.8
Disabled	12.5	9.1	8.7	10.5	4.1	3.7	14.5	14.1	13.7
Outpatient hospital services per enrollee									
Aged	15.0	19.9	23.7	12.0	12.9	13.7	18.0	26.9	33.7
Disabled	15.0	26.8	29.6	7.0	16.8	19.6	23.0	36.8	39.6
	Financing period			Financing period			Financing period		
	As of June 30, 1983	As of Dec. 31, 1983	As of Dec. 31, 1984	As of June 30, 1983	As of Dec. 31, 1983	As of Dec. 31, 1984	As of June 30, 1983	As of Dec. 31, 1983	As of Dec. 31, 1984
Actuarial status (in millions):									
Assets	\$6,781	\$7,070	\$7,947	\$6,781	\$7,070	\$9,240	\$6,781	\$7,070	\$6,582
Liabilities	4,070	4,598	5,384	3,792	3,857	4,484	4,350	5,355	6,316
Assets less liabilities	\$2,711	\$2,472	\$2,563	\$2,989	\$3,213	\$4,756	\$2,431	\$1,715	\$ 266
Ratio of assets less liabilities to expenditures (in percent) <u>4/</u>									
	12.8	10.8	9.7	14.8	15.0	19.4	11.0	7.1	0.9

1/ Because of the manner in which alternative economic assumptions affect the projected operations of the supplementary medical insurance program, there is not a substantial difference in the projections based upon the two sets of assumptions. Therefore only one projection, alternative B is presented here. Appendix A presents an explanation of the effects of alternative A and alternative B on the projections in this report.

2/ As recognized for payment under the program.

3/ Increase in the number of services received per enrollee and greater relative use of more expensive services.

4/ Ratio of assets less liabilities at the end of the year to total incurred expenditures during the following year, expressed as a percent.

## CONCLUSION

The financing of the supplementary medical insurance program has been established through December 1984, by the setting of standard monthly premium rates (paid by or on behalf of each enrollee) of \$14.60 for calendar year 1984 and of actuarial rates which determine the amount to be contributed from general revenue on behalf of each enrollee.

Under both sets of intermediate assumptions used in this report, income, composed of premiums paid by the participants, general revenue contributions and interest earned by the trust fund, is projected to exceed disbursements during FY 1984 and FY 1985. As a result, the assets in the trust fund, on a cash basis, are projected to increase from \$6.6 billion at the end of fiscal year 1983 to an estimated \$8.0 billion at the end of fiscal year 1984 and then to increase to an estimated \$9.1 billion at the end of fiscal year 1985.

Program assets exceeded liabilities by approximately \$2,711 million at the end of June 1983 representing 12.8 percent of the projected incurred expenditures for the following 12-month period. Financing for the 6-month period was established to reduce assets to a more appropriate level relative to the growth in program expenditures. The excess of assets over liabilities at the end of December 1983 decreases to \$2,472 million and represents 10.8 percent of the projected incurred expenditures for the following 12-month period. The financing for calendar year 1984 was established to maintain assets at about the same level. Assets are projected to exceed

liabilities at the end of December 1984 by \$2,567 million under alternative A, and by \$2,563 million under alternative B, representing 9.7 percent of the projected incurred expenditures. Under more pessimistic assumptions as to cost increases, assets based on financing already established will be sufficient to cover outstanding liabilities. Hence, the financing established through December 1984 is sufficient to cover projected benefit and administrative costs incurred through that time period and to maintain a level of trust fund assets which is adequate to cover the impact of a moderate degree of projection error.

Although the supplementary medical insurance program is financially sound, the Board notes with concern the rapid growth in the cost of the program and the extent to which general revenues have become the major source of financing for the program. While disbursements of the supplementary medical insurance program increased at an average annual rate of 20.9 percent from calendar year 1973 to calendar year 1983, general revenue contributions increased at an average annual rate of 24.2 percent during the same period. During fiscal year 1983, general revenue contributions accounted for 74 percent of income to the program. The Board recommends that Congress take action to curtail the rapid growth in the supplementary medical insurance program.

## APPENDIX A

ACTUARIAL METHODOLOGY AND PRINCIPAL ASSUMPTIONS  
FOR COST ESTIMATES FOR THE SUPPLEMENTARY  
MEDICAL INSURANCE PROGRAM\*

## 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, 1982, for this report) and projecting these charges through the estimating period. The per enrollee charges are then converted to reimbursement amounts by subtracting 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.

---

\*Prepared by the Division of Medicare Cost Estimates, Bureau of Data Management and Strategy, Health Care Financing Administration

b. Establishing a Projection Base

(1) Physician Services

Reimbursement amounts for physician services (and small amounts for other services) are paid through organizations acting for the Health Care Financing Administration, 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 reduction 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 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 the supplementary medical insurance program are paid by the same fiscal intermediaries that pay for hospital insurance services. The principal institutional services covered under the supplementary medical insurance program are outpatient hospital care and home health agency services. However, due to program changes mandated by Public Law 96-499, almost all future payments for home health agency services will be made from the hospital insurance trust fund.

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. Comprehensive data are available for these payments only on a cash basis, and certain

approximations must be made to allocate 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 1982. 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.

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.

Table A1.--INCURRED REIMBURSEMENT AMOUNTS PER ENROLLEE: HISTORICAL

Year ending June 30,	Average enrollment (millions)	All services	Physician	Inpatient radiology and pathology*	Outpatient hospital	Home health agency	Group practice prepayment plan	Independent lab
Aged:								
1967	17.750	\$62.40	\$59.02		\$1.41	\$ .79	\$ .88	\$ .30
1968	18.038	80.04	72.56	\$1.89	2.40	1.49	1.35	.35
1969	18.833	93.72	79.06	6.57	4.23	1.92	1.54	.40
1970	19.312	99.90	82.84	7.14	5.93	2.00	1.51	.48
1971	19.664	106.26	87.80	7.21	7.56	1.68	1.40	.61
1972	20.043	114.22	94.82	6.77	8.58	1.61	1.66	.78
1973	20.428	122.38	100.95	6.99	9.45	2.17	1.88	.94
1974	20.988	134.38	109.97	7.44	11.36	2.03	2.37	1.21
1975	21.504	160.23	127.48	8.72	15.48	3.84	3.07	1.64
1976	22.089	188.60	145.30	10.89	21.30	5.21	3.87	2.03
1977	22.605	221.34	167.00	12.21	28.72	6.54	4.39	2.48
1978	23.133	254.18	192.23	14.74	33.42	6.82	4.05	2.92
1979	23.693	287.46	215.83	16.33	40.29	6.86	4.84	3.31
1980	24.287	340.88	256.26	18.71	47.32	7.50	7.06	4.03
1981	24.826	404.66	301.87	22.94	57.16	8.20	9.14	5.35
1982	25.363	464.68	355.34	23.99	67.24	.52	11.15	6.44
Disabled (excluding ESRD):								
1974	1.636	116.81	90.13	7.54	13.93	3.46	1.10	.65
1975	1.813	149.71	117.41	8.40	17.37	3.59	1.88	1.06
1976	2.015	179.09	138.49	10.03	21.74	5.14	2.22	1.47
1977	2.229	220.58	161.85	13.03	36.50	4.79	2.41	2.00
1978	2.419	256.68	188.96	14.23	42.85	5.54	2.50	2.60
1979	2.560	301.47	223.79	17.08	50.25	5.13	2.04	3.18
1980	2.638	364.01	268.89	19.79	61.10	6.03	4.36	3.84
1981	2.683	433.85	315.92	23.00	77.71	7.28	5.24	4.70
1982	2.682	511.26	363.81	24.39	110.54	.00	6.65	5.87

\* 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 (millions)	All services	Physician	Inpatient radiology and pathology*	Outpatient hospital	Home health agency	Group practice prepayment plan	Independent lab
Aged:								
1967	17.750	\$109.36	\$103.44		\$2.47	\$1.38	\$1.55	\$.52
1968	18.038	128.13	117.21	\$1.89	3.88	2.41	2.18	.56
1969	18.833	145.58	126.11	6.57	6.74	3.06	2.46	.64
1970	19.312	154.02	131.18	7.14	9.39	3.16	2.39	.76
1971	19.664	162.57	137.72	7.21	11.86	2.63	2.20	.95
1972	20.043	173.14	146.82	6.77	13.28	2.49	2.57	1.21
1973	20.428	186.57	157.43	6.99	14.74	3.01	2.93	1.47
1974	20.988	204.63	171.37	7.44	17.71	2.53	3.70	1.88
1975	21.504	237.09	193.13	8.72	23.45	4.65	4.65	2.49
1976	22.089	272.60	215.25	10.89	31.55	6.17	5.74	3.00
1977	22.605	313.92	242.45	12.21	41.69	7.59	6.38	3.60
1978	23.133	355.12	274.83	14.74	47.78	7.80	5.79	4.18
1979	23.693	397.07	304.62	16.33	56.87	7.75	6.83	4.67
1980	24.287	463.95	355.81	18.71	65.70	8.33	9.80	5.60
1981	24.826	543.44	413.40	22.94	78.28	8.98	12.51	7.33
1982	25.363	631.88	488.78	25.89	92.49	.52	15.34	8.86
Disabled (excluding ESRD):								
1974	1.636	173.38	137.66	7.54	21.27	4.23	1.68	1.00
1975	1.813	215.00	172.54	8.40	25.52	4.22	2.76	1.56
1976	2.015	251.36	198.90	10.03	31.23	5.90	3.19	2.11
1977	2.229	305.07	228.79	13.03	51.60	5.42	3.40	2.83
1978	2.419	351.71	264.23	14.23	59.92	6.20	3.49	3.64
1979	2.560	408.02	308.75	17.08	69.32	5.66	2.82	4.39
1980	2.638	486.38	365.77	19.79	83.11	6.56	5.93	5.22
1981	2.683	574.08	425.26	23.00	104.60	7.84	7.06	6.32
1982	2.682	683.75	491.26	26.33	149.26	.00	8.98	7.92

\* 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 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 Factors				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	Effect of denials	Net residual factors	
		Cumulative effect	Yearly changes					
<b>Aged:</b>								
1967	7.6	-2.6						
1968	5.9	-3.6	-0.7	5.2	9.5	-1.4	8.1	13.3
1969	6.2	-5.0	-1.4	4.8	3.2	-0.4	2.8	7.6
1970	6.7	-7.5	-2.8	3.9	3.2	-3.1	0.1	4.0
1971	7.5	-10.1	-3.0	4.5	3.7	-3.2	0.5	5.0
1972	5.2	-11.2	-1.2	4.0	2.2	0.4	2.6	6.6
1973	2.6	-11.7	-0.5	2.1	5.7	-0.6	5.1	7.2
1974	5.0	-13.2	-1.6	3.4	6.1	-0.6	5.5	8.9
1975	12.8	-16.2	-3.6	9.2	3.8	-0.3	3.5	12.7
1976	11.4	-18.6	-2.9	8.5	2.9	0.1	3.0	11.5
1977	10.2	-19.5	-1.0	9.2	3.3	0.1	3.4	12.6
1978	8.9	-19.4	0.5	9.4	3.9	0.1	4.0	13.4
1979	8.6	-20.0	-0.6	8.0	3.1	-0.3	2.8	10.8
1980	11.5	-22.1	-2.3	9.2	7.5	0.1	7.6	16.8
1981	11.1	-24.5	-2.7	8.4	7.1	0.7	7.8	16.2
1982	9.9	-23.9	1.6	11.5	6.2	0.5	6.7	18.2
<b>Disabled (excluding ESRD):</b>								
1974	5.0	-13.2						
1975	12.8	-16.2	-2.6	10.2	15.4	-0.3	15.1	25.3
1976	11.4	-18.6	-2.6	8.8	6.4	0.1	6.5	15.3
1977	10.2	-19.5	-0.8	9.4	5.5	0.1	5.6	15.0
1978	8.9	-19.4	0.7	9.6	5.8	0.1	5.9	15.5
1979	8.6	-20.0	-0.2	8.4	8.7	-0.3	8.4	16.8
1980	11.5	-22.1	-2.1	9.4	9.0	0.1	9.1	18.5
1981	11.1	-24.5	-2.7	8.4	7.2	0.7	7.9	16.3
1982	9.9	-23.9	1.3	11.2	3.8	0.5	4.3	15.5

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" charges 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 almost every year due both to 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 has 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 non-recurring 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, 1983 through 1987. 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 1981 through 1985, respec-

Table A4.--COMPONENTS OF INCREASES IN TOTAL RECOGNIZED CHARGES  
PER ENROLLEE FOR PHYSICIAN SERVICES: PROJECTED  
(In percent)

Year ending June 30,	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	Total increase in recognized charges per enrollee
<b>Alternative A:</b>							
<b>Aged:</b>							
1983	10.6	-1.7	8.9	15.2	0.0	15.2	24.1
1984	8.8	-1.7	7.1	7.3	0.0	7.3	14.4
1985	7.8	-2.8	5.0	7.1	0.0	7.1	12.1
1986	6.2	-0.6	5.6	6.2	0.0	6.2	11.8
1987	6.2	-0.8	5.4	5.3	0.0	5.3	10.7
<b>Disabled (excluding ESRD):</b>							
1983	10.6	-1.7	8.9	13.6	0.0	13.6	22.5
1984	8.8	-1.7	7.1	9.7	0.0	9.7	16.8
1985	7.8	-2.8	5.0	9.1	0.0	9.1	14.1
1986	6.2	-0.6	5.6	8.4	0.0	8.4	14.0
1987	6.2	-0.8	5.4	7.3	0.0	7.3	12.7
<b>Alternative B:</b>							
<b>Aged:</b>							
1983	10.6	-1.7	8.9	15.2	0.0	15.2	24.1
1984	8.8	-1.7	7.1	7.3	0.0	7.3	14.4
1985	7.8	-2.8	5.0	7.1	0.0	7.1	12.1
1986	6.7	-0.9	5.8	6.2	0.0	6.2	12.0
1987	6.4	-0.7	5.7	5.3	0.0	5.3	11.0
<b>Disabled (excluding ESRD):</b>							
1983	10.6	-1.7	8.9	13.6	0.0	13.6	22.5
1984	8.8	-1.7	7.1	9.7	0.0	9.7	16.8
1985	7.8	-2.8	5.0	9.1	0.0	9.1	14.1
1986	6.7	-0.9	5.8	8.5	0.0	8.5	14.3
1987	6.4	-0.7	5.7	7.3	0.0	7.3	13.0

tively. 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 may have some 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).

#### (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. Because these series provide only a rough indication of future trends in costs, identical series of increase factors are used for alternative A and alternative B.

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
<b>Aged:</b>					
<b>Historical:</b>					
1968		57.1	74.6	40.6	7.7
1969	-13.1 *	73.7	27.0	12.8	14.3
1970	8.7	39.3	3.3	-2.8	18.7
1971	1.0	26.3	-16.8	-7.9	25.0
1972	-6.1	12.0	-5.3	16.8	27.4
1973	3.2	11.0	20.9	14.0	21.5
1974	6.4	20.1	-15.9	26.3	27.9
1975	17.2	32.4	83.8	25.7	32.4
1976	24.9	34.5	32.7	23.4	20.5
1977	12.1	32.1	23.0	11.1	20.0
1978	20.7	14.6	2.8	-9.2	16.1
1979	10.8	19.0	-0.6	18.0	11.7
1980	14.6	15.5	7.5	43.5	19.9
1981	22.6	19.1	7.8	27.7	30.9
1982	12.9	18.2	-94.2	22.6	20.9
<b>Projected:</b>					
1983	3.0	15.0	15.0	20.0	1.0
1984	-14.5	19.9	10.0	20.0	-7.6
1985	-0.6	23.7	10.0	20.0	4.1
1986	9.6	23.0	10.0	25.0	9.8
1987	9.9	14.8	10.0	20.0	10.0
<b>Disabled (excluding ESRD):</b>					
<b>Historical:</b>					
1975	11.4	20.0	-0.2	64.3	56.0
1976	19.4	22.4	39.8	15.6	35.3
1977	29.9	65.2	-8.1	6.6	34.1
1978	9.2	16.1	14.4	2.6	28.6
1979	20.0	15.7	-8.7	-19.2	20.6
1980	15.9	19.9	15.9	110.3	18.9
1981	16.2	25.9	19.5	19.1	21.1
1982	14.5	42.7	-100.0	27.2	25.3
<b>Projected:</b>					
1983	6.0	15.0	0.0	20.0	19.0
1984	-13.2	26.8	0.0	25.0	-4.9
1985	0.0	29.6	0.0	25.0	-0.8
1986	9.0	27.5	0.0	35.0	12.3
1987	9.7	17.3	0.0	30.0	10.8

\* Percentage change over prior year annualized value.

#### 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.

### 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 SMI coverage since July 1973 (under Section 2991 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 SMI ESRD services under Medicare will increase at an average of 3.4 percent per year under alternative A and 3.9 percent per year under alternative B over the projection period (July 1, 1982 through June 30, 1987). The estimates also assume a continued rapid increase in enrollment. The historical and projected enrollment and costs are shown in table A8.

### 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

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
<b>Alternative A:</b>							
<b>Aged:</b>							
1983	\$ 767.79	\$ 606.80	\$26.67	\$106.36	\$.60	\$18.41	\$ 8.95
1984	875.54	694.20	22.80	127.52	.66	22.09	8.27
1985	994.98	778.70	22.66	157.77	.73	26.51	8.61
1986	1,133.07	870.74	24.84	194.10	.80	33.14	9.45
1987	1,264.36	963.19	27.31	222.81	.88	39.77	10.40
<b>Disabled (excluding ESRD):</b>							
1983	821.61	601.85	27.91	171.65	.00	10.78	9.42
1984	967.47	703.24	24.22	217.57	.00	13.48	8.96
1985	1,134.72	802.87	24.23	281.88	.00	16.85	8.89
1986	1,334.16	915.49	26.42	359.51	.00	22.75	9.99
1987	1,523.11	1,031.70	28.99	421.78	.00	29.58	11.06
<b>Alternative B:</b>							
<b>Aged:</b>							
1983	767.79	606.80	26.67	106.36	.60	18.41	8.95
1984	875.54	694.20	22.80	127.52	.66	22.09	8.27
1985	994.98	778.70	22.66	157.77	.73	26.51	8.61
1986	1,134.47	872.14	24.84	194.10	.80	33.14	9.45
1987	1,268.65	967.48	27.31	222.81	.88	39.77	10.40
<b>Disabled (excluding ESRD):</b>							
1983	821.61	601.85	27.91	171.65	.00	10.78	9.42
1984	967.47	703.24	24.22	217.57	.00	13.48	8.96
1985	1,134.72	802.87	24.23	281.88	.00	16.85	8.89
1986	1,335.63	916.96	26.42	359.51	.00	22.75	9.99
1987	1,527.71	1,036.30	28.99	421.78	.00	29.58	11.06

Table A7.--INCURRED REIMBURSEMENT AMOUNTS: PROJECTED

Year ending June 30,	Average enrollment (millions)	Reimbursement amounts	
		Per enrollee	Aggregate (millions)
Alternative A:			
Aged:			
1983	25.873	\$ 567.35	\$14,679
1984	26.412	652.27	17,228
1985	26.995	747.55	20,180
1986	27.619	857.93	23,695
1987	28.244	962.89	27,196
Disabled (excluding ESRD):			
1983	2.626	614.62	1,614
1984	2.580	729.98	1,883
1985	2.579	862.74	2,225
1986	2.547	1,022.06	2,603
1987	2.528	1,173.26	2,966
Alternative B:			
Aged:			
1983	25.873	567.35	14,679
1984	26.412	652.27	17,228
1985	26.995	747.55	20,180
1986	27.619	859.06	23,726
1987	28.244	966.33	27,293
Disabled (excluding ESRD):			
1983	2.626	614.62	1,614
1984	2.580	729.98	1,883
1985	2.579	862.74	2,225
1986	2.547	1,023.24	2,606
1987	2.528	1,176.82	2,975

Table A8.--INCURRED REIMBURSEMENT AMOUNTS FOR  
END STAGE RENAL DISEASE

Year ending June 30,	Disabled ESRD and ESRD only			ESRD only
	Average enrollment (thousands)	Reimbursement amounts		Reimbursement amounts
		Per enrollee	Aggregate (millions)	Aggregate (millions)
Alternative A:				
1974	14	\$10,071	\$ 141	\$ 98
1975	21	10,857	228	155
1976	27	11,852	320	209
1977	31	13,516	419	267
1978	36	14,611	526	330
1979	41	15,756	646	399
1980	48	16,229	779	474
1981	53	17,472	926	557
1982	57	18,895	1,077	641
1983	61	19,574	1,194	702
1984	63	19,048	1,200	690
1985	65	19,323	1,256	710
1986	67	20,134	1,349	753
1987	70	20,671	1,447	799
Alternative B:				
1974	14	10,071	141	98
1975	21	10,857	228	155
1976	27	11,852	320	209
1977	31	13,516	419	267
1978	36	14,611	526	330
1979	41	15,756	646	399
1980	48	16,229	779	474
1981	53	17,472	926	557
1982	57	18,895	1,077	641
1983	61	19,574	1,194	702
1984	63	19,063	1,201	691
1985	65	19,400	1,261	713
1986	67	20,269	1,358	758
1987	70	20,886	1,462	807

Table A9.—AGGREGATE REIMBURSEMENT AMOUNTS ON A CASH BASIS  
(In millions)

Fiscal year	Aged	Disabled (excluding ESRD)	Disabled ESRD and ESRD only	Total
<b>Historical:</b>				
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	2,538	\$ 199	\$ 137	2,874
1975	3,296	284	185	3,765
1976	4,045	356	271	4,672
Interim*	1,080	107	82	1,269
1977	5,016	483	368	5,867
1978	5,798	597	457	6,852
1979	6,943	749	567	8,259
1980	8,495	942	707	10,144
1981	10,370	1,141	834	12,345
1982	12,404	1,403	999	14,806
1983	14,726	1,630	1,131	17,487
<b>Projected:</b>				
<b>Alternative A:</b>				
1984	17,379	1,898	1,143	20,420
1985	20,329	2,228	1,207	23,764
1986	23,903	2,619	1,300	27,822
<b>Alternative B:</b>				
1984	17,379	1,898	1,143	20,420
1985	20,335	2,228	1,210	23,773
1986	23,944	2,624	1,307	27,875

\* Interim Period is the period from July 1, 1976 to September 30, 1976 and is the transitional period between fiscal years beginning July 1 and fiscal years beginning October 1.

reimbursement amounts on a cash basis and incurred reimbursement amounts results from the lag between the time of service and the time of payment.

#### 4. ADMINISTRATIVE EXPENSE

The ratio of administrative expenses to benefit payments has been approximately 5 percent in recent years and is projected to decline 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 ACTUARIAL RATES AND THE  
STANDARD MONTHLY PREMIUM RATE FOR THE SUPPLEMENTARY  
MEDICAL INSURANCE PROGRAM BEGINNING JANUARY 1984\*1. Actuarial Status of the Supplementary Medical Insurance Trust Fund

The law requires that the SMI program be financed on an incurred basis; that is, program income during the calendar year for which the actuarial rates are effective must be sufficient to pay for services furnished during that year (including associated administrative costs), even though payment for some of these services will not be made until after the close of the year. The portion of income required to cover benefits not paid until after the close of the calendar year 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 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 that is adequate to cover 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 the end of the financing period for periods from 1982 through 1983.

---

\* This statement appeared in the Federal Register of September 30, 1983. Projections shown in this statement differ from the projections shown in the rest of the report because of minor changes in assumptions since the rates were announced.

TABLE 1--ACTUARIAL STATUS OF THE SMI TRUST FUND  
AS OF THE END OF THE FINANCING PERIODS,  
JUNE 30, 1982 - DECEMBER 31, 1983  
(in millions of dollars)

Financing Period Ending <u>1/</u>	Assets	Liabilities	Assets Less Liabilities
June 30, 1982	\$5,535	\$3,885	\$1,650
June 30, 1983	6,780	4,555	2,225
December 31, 1983	6,736	5,019	1,717

1/ Prior to July 1, 1983, the financing periods were the 12-month periods ending June 30. For the transitional period, the financing period is July 1, 1983, through December 31, 1983. After December 31, 1983, the financing periods are the calendar year periods ending December 31.

2. Monthly Actuarial Rate for Enrollees Age 65 and Older

The monthly 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 interest earnings on assets in the trust fund and a contingency margin. The contingency margin is an amount appropriate to provide for a moderate degree of projection error and to amortize unfunded liabilities.

The monthly actuarial rate for enrollees age 65 and older for calendar year 1984, was determined by projecting per-enrollee cost for the 12-month periods ending June 30, 1984, and June 30, 1985, by type of service. Although the actuarial rates are now applicable for calendar years, projections of per-enrollee costs are determined on a July to June period, consistent with the July 1 annual fee screen update used for benefits. The values for the 12-month period ending June 30, 1981, were established from program data. Subsequent periods were projected using a combination of program data and data from external sources. The projection factors used are shown in Table 2. These per-enrollee values are

then adjusted to apply to a calendar year period. The projected values for financing periods from July 1, 1981, through December 31, 1984, are shown in Table 3.

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 calendar year 1984 is \$29.90. The monthly actuarial rate of \$29.20 provides an adjustment for interest earnings and \$.04 for a contingency margin. This margin is positive to maintain the fund at an appropriate level for contingencies.

3. Monthly Actuarial Rate for Disabled Enrollees

Disabled enrollees are those persons enrolled in SMI because of entitlement to disability benefits for not less than 24 months or because of entitlement to Medicare under the end-stage renal disease 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 appropriate actuarial assumptions (see Table 2). Costs for the end-stage renal disease program are projected using a different 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 calendar year 1984 is \$57.78. The monthly actuarial rate of \$54.30 provides an adjustment for interest earnings and \$.07 for a contingency margin. This margin is positive to maintain the fund at an appropriate level for contingencies.

TABLE 2--PROJECTION FACTORS <sup>1/</sup>  
 12-MONTH PERIODS ENDING JUNE 30 OF 1982-1985  
 (In percent)

12-month period ending June 30	Physicians' services		Radiology and pathology	Outpatient hospital services	Home health agency services	Group practice prepayment plans	Independent lab services
	Fees <sup>2/</sup>	Residual <sup>3/</sup>					
Aged:							
1982	10.8	10.8	6.0	15.0	-94.4	25.0	5.0
1983	9.6	8.2	14.9	15.3	-62.3	25.0	14.8
1984	6.9	7.0	0.0	13.9	10.0	25.0	-5.5
1985	5.9	6.8	8.9	14.3	10.0	20.0	0.8
Disabled:							
1982	10.8	15.2	15.0	41.0	-100.0	25.0	5.0
1983	9.6	11.8	14.8	30.2	0.0	25.0	15.2
1984	6.9	9.9	-1.0	25.4	0.0	25.0	-13.2
1985	5.9	9.9	10.6	20.1	0.0	20.0	-15.1

<sup>1/</sup> All values are per enrollee. Also, some values for 1983 and 1984 differ slightly from those contained in last year's notice due to the implementation of the provisions of the Tax Equity and Fiscal Responsibility Act of 1982, P.L. 97-248, and the Social Security Amendments of 1983, P.L. 98-21.

<sup>2/</sup> As recognized for payment under the program.

<sup>3/</sup> Increase in the number of services received per enrollee and greater relative use of more expensive services.

TABLE 3--DERIVATION OF MONTHLY ACTUARIAL RATE FOR ENROLLEES AGE 65 AND OVER  
FINANCING PERIODS ENDING JUNE 30, 1982 THROUGH DECEMBER 31, 1984

	Financing Periods			
	July 1, 1981 through June 30, 1982	July 1, 1982 through June 30, 1983	July 1, 1983 through December 31, 1983	January 1, 1984 through December 31, 1984
Covered services (at level recognized):				
Physicians' reasonable charges	\$21.14	\$25.06	\$28.65	\$30.53
Radiology and pathology	1.01	1.16	1.16	1.22
Outpatient hospital and other institutions	3.74	4.31	4.91	5.26
Home health agencies	.02	.01	.01	.01
Group practice prepayment plans	.65	.81	1.01	1.11
Independent lab	.32	.37	.35	.35
<b>Total services</b>	<b>26.88</b>	<b>31.72</b>	<b>36.09</b>	<b>38.48</b>
Cost-Sharing:				
Deductible	-2.29	-2.48	-2.50	-2.51
Coinsurance	-4.74	-5.79	-6.72	-7.19
<b>Total benefits</b>	<b>19.85</b>	<b>23.45</b>	<b>26.87</b>	<b>28.78</b>
Administrative expenses	1.01	1.04	1.09	1.12
<b>Incurred expenditures</b>	<b>20.86</b>	<b>24.49</b>	<b>27.96</b>	<b>29.90</b>
Value of interest	-.39	-.58	-.68	-.74
Contingency margin for projection error and to amortize unfunded liabilities	2.13	.69	-.28	.04
<b>Monthly actuarial rate</b>	<b>\$22.60</b>	<b>\$24.60</b>	<b>\$27.00<sup>1/</sup></b>	<b>\$29.20</b>

<sup>1/</sup> This rate, although originally promulgated for the 12-month period ending June 30, 1984, was modified by Pub. L. 98-21 to apply only to the 6-month period ending December 31, 1983.

TABLE 4--DERIVATION OF MONTHLY ACTUARIAL RATE FOR DISABLED ENROLLEES  
FINANCING PERIODS ENDING JUNE 30, 1982 THROUGH DECEMBER 31, 1984

	Financing Periods			
	July 1, 1981 through June 30, 1982	July 1, 1982 through June 30, 1983	July 1, 1983 through December 31, 1983	January 1, 1984 through December 31, 1984
Covered services (at level recognized):				
Physicians' reasonable charges	\$26.38	\$31.92	\$36.71	\$39.44
Radiology and pathology	1.11	1.27	1.26	1.33
Outpatient hospital and other institutions	21.98	26.14	28.53	30.05
Home health agencies	.00	.00	.00	.00
Group practice prepayment plans	.37	.46	.58	.64
Independent lab	.42	.48	.44	.43
<b>Total services</b>	<b>50.26</b>	<b>60.27</b>	<b>67.52</b>	<b>71.89</b>
Cost-Sharing:				
Deductible	-2.09	-2.31	-2.34	-2.36
Coinsurance	-9.44	-11.53	-13.03	-13.90
<b>Total benefits</b>	<b>38.73</b>	<b>46.43</b>	<b>52.15</b>	<b>55.63</b>
Administrative expenses	1.95	2.14	2.09	2.15
<b>Incurred expenditures</b>	<b>40.68</b>	<b>48.57</b>	<b>54.24</b>	<b>57.78</b>
Value of interest and other income	-3.45	-3.49	-3.60	-3.55
Contingency margin for projection error and to amortize unfunded liabilities	-.63	-2.98	-4.54	.07
<b>Monthly actuarial rate</b>	<b>\$36.60</b>	<b>\$42.10</b>	<b>\$46.10</b> <sup>1/</sup>	<b>\$54.30</b>

1/ This rate, although originally promulgated for the 12-month period ending June 30, 1984, was modified by Pub. L. 98-21 to apply only to the 6-month period ending December 31, 1983.

#### 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 of the rates announced here using alternative assumptions. The most unpredictable factors that contribute significantly to future costs are outpatient hospital costs, physician residual (as defined in Table 2), 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 2.

Table 5 indicates that, under the assumptions used in preparing this report, the monthly actuarial rates will result in an excess of assets over liabilities of \$1,726 million by the end of December 1984. This amounts to 6.6 percent of the estimated total incurred expenditures for the following year. Assumptions which are somewhat more pessimistic and, therefore, which indicate the adequacy of the assets to accommodate projection errors, produce a deficit of \$640 million by the end of December 1984, which amounts to -2.3 percent of the estimated total incurred expenditures for the following year. Under fairly optimistic assumptions, the monthly actuarial rates will result in a surplus of \$3,961 by the end of December 1984, which amounts to 16.3 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 FOR FINANCING PERIODS THROUGH DECEMBER 31, 1984

	This Projection			Low Cost Projection			High Cost Projection		
	12-month periods ending June 30,			12-month periods ending June 30,			12-month periods ending June 30,		
	1983	1984	1985	1983	1984	1985	1983	1984	1985
Projection factors (in percent): <sup>1/</sup>									
Physician services - fees <sup>2/</sup>									
Aged	9.6	6.9	5.9	9.1	6.4	5.4	10.1	7.4	6.4
Disabled	9.6	6.9	5.9	9.1	6.4	5.4	10.1	7.4	6.4
Physician services - Residual <sup>3/</sup>									
Aged	8.2	7.0	6.8	7.2	5.0	4.8	9.2	9.0	8.8
Disabled	11.8	9.9	9.9	9.8	4.9	4.9	13.8	14.9	14.9
Outpatient hospital services									
Aged	15.3	13.9	14.3	12.3	6.9	4.3	18.3	20.9	24.3
Disabled	30.2	25.4	20.1	22.2	15.4	10.1	38.2	35.4	30.1
	Financing Period			Financing Period			Financing Period		
	As of June 30, 1983	As of Dec. 31, 1983	As of Dec. 31, 1984	As of June 30, 1983	As of Dec. 31, 1983	As of Dec. 31, 1984	As of June 30, 1983	As of Dec. 31, 1983	As of Dec. 31, 1984
Actuarial status (in millions):									
Assets	\$6,780	\$6,736	\$7,396	\$6,780	\$7,280	\$9,259	\$6,780	\$6,174	\$5,419
Liabilities	\$4,555	\$5,019	\$5,670	\$4,273	\$4,792	\$5,298	\$4,840	\$5,251	\$6,059
Assets Less Liabilities	\$2,225	\$1,717	\$1,726	\$2,507	\$2,488	\$3,961	\$1,940	\$ 923	\$ -640
Ratio of assets less liabilities to expenditures (in percent) <sup>4/</sup>									
	10.5	7.5	6.6	12.4	11.6	16.3	8.8	3.8	-2.3

<sup>1/</sup> All values are per enrollee. Also, some values for 1983 and 1984 differ slightly from those contained in last year's notice due to the implementation of the provisions of the Tax Equity and Fiscal Responsibility Act of 1982, Pub. L. 97-248, and the Social Security Amendments of 1983, Pub. L. 98-21.

<sup>2/</sup> As recognized for payment under the program.

<sup>3/</sup> Increase in the number of services received per enrollee and greater relative use of more expensive services.

<sup>4/</sup> Ratio of assets less liabilities at the end of the year to total incurred expenditures during the following year, expressed as a percent.

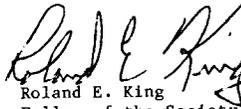
5. Standard Premium Rate

For calendar years 1984 and 1985, the law provides that the standard monthly premium rate for both aged and disabled enrollees shall be 50 percent of the monthly actuarial rate for enrollees age 65 and older. Therefore, the standard monthly premium rate for both aged and disabled enrollees for calendar year 1984 is \$14.60, which is 50 percent of the monthly actuarial rate for this period (\$29.20).

APPENDIX C

STATEMENT OF ACTUARIAL OPINION

It is my opinion that (1) the methodology used herein is based upon sound principles of actuarial practice and (2) all the assumptions used and the resulting cost estimates are in the aggregate reasonable for the purpose of evaluating the actuarial and financial status of the Federal Supplementary Medical Insurance Trust Fund, taking into account the experience and expectations of the program.



Roland E. King  
Fellow of the Society of Actuaries  
Member of the American Academy of  
Actuaries  
Director, Office of Financial and  
Actuarial Analysis  
Health Care Financing Administration

