

### III. Statement of Actuarial Assumptions and Bases Employed in Determining the Monthly Actuarial Rates and the Monthly Premium for the Supplementary Medical Insurance Program Beginning January 2004

#### A. Actuarial Status of the Supplementary Medical Insurance Trust Fund

Under the law, the starting point for determining the monthly premium is the amount that would be necessary to finance the SMI program on an incurred basis. This is the amount of income that would 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 year is added to the trust fund and used when needed.

The rates are established prospectively and are, therefore, subject to projection error. Additionally, legislation enacted after the financing has been established, but effective for the period in which the financing has been set, may affect program costs. 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 variation between actual and projected costs, and the

amount of incurred, but unpaid expenses. An appropriate level for assets to cover a moderate degree of variation between actual and projected costs depends on numerous factors. The most important of these factors are: (1) The difference from prior years between the actual performance of the program and estimates made at the time financing was established; and (2) the expected relationship between incurred and cash expenditures. Ongoing analysis is made of both factors as the trends vary over time.

Table 1 summarizes the estimated actuarial status of the trust fund as of the end of the financing period for 2002 and 2003.

TABLE 1.—ESTIMATED ACTUARIAL STATUS OF THE SUPPLEMENTARY MEDICAL INSURANCE TRUST FUND AS OF THE END OF THE FINANCING PERIOD  
[In millions of dollars]

Financing period ending	Assets	Liabilities	Assets less liabilities
Dec. 31, 2002 .....	\$34,301	\$9,053	\$25,248
Dec. 31, 2003 .....	25,537	8,037	17,500

#### B. Monthly Actuarial Rate for Enrollees Age 65 and Older

The monthly actuarial rate for enrollees age 65 and older is one-half of the monthly projected cost of benefits, the Medicaid transfer (for 1998 through 2003), 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 variation between actual and projected costs and to amortize any surplus or unfunded liabilities.

The monthly actuarial rate for enrollees age 65 and older for 2004 is determined by first establishing per-enrollee cost by type of service from program data through 2002 and then projecting these costs for subsequent years. The projection factors used are shown in Table 2. The projected values for financing periods from January 1, 2001 through December 31, 2004, 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 2004 is \$135.65. The monthly actuarial rate of \$133.20 also provides an adjustment of –\$2.49 for interest earnings and \$0.04 for a contingency margin. Based on current estimates, it appears a positive contingency margin is needed to increase assets toward a level that is

sufficient to cover the amount of incurred, but unpaid expenses and to provide for a moderate degree of variation between actual and projected costs.

#### C. Monthly Actuarial Rate for Disabled Enrollees

Disabled enrollees are those persons enrolled in SMI because of entitlement (before age 65) to disability benefits for more than 24 months or because of entitlement to Medicare under the end-stage renal disease (ESRD) program. Projected monthly costs for disabled enrollees (other than those with ESRD) are prepared in a fashion parallel to the projection for the aged using appropriate actuarial assumptions (see Table 2). Costs for the ESRD program are projected differently because of the different nature of services offered by the program. 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 2004 is \$154.33. The monthly actuarial rate of \$175.50 also provides an adjustment of –\$1.33 for interest earnings and \$22.50 for a contingency margin. Based on current estimates, it appears that a positive contingency margin is needed to increase assets to a level that is sufficient to cover the amount of incurred, but unpaid expenses and provide for a

moderate degree of variation between actual and projected costs.

#### D. Sensitivity Testing

Several factors contribute to uncertainty about future trends in medical care costs. It is appropriate to test the adequacy of the rates using alternative assumptions. The results of those assumptions are shown in Table 5. One set represents increases that are lower and, therefore, more optimistic than the current estimate. The other set represents increases that are higher and, therefore, more pessimistic than the current estimate. The values for the alternative assumptions were determined from a statistical analysis of the historical variation in the respective increase factors.

Table 5 indicates that, under the assumptions used in preparing this report, the monthly actuarial rates would result in an excess of assets over liabilities of \$21,636 million by the end of December 2004. This amounts to 15.8 percent of the estimated total incurred expenditures for the following year. Assumptions that are somewhat more pessimistic (and therefore, test the adequacy of the assets to accommodate projection errors) produce a surplus of \$10,426 million by the end of December 2004, which amounts to 6.8 percent of the estimated total incurred expenditures for the following year. Under fairly optimistic assumptions, the monthly actuarial rates would result in