APPENDICES

APPENDIX I. ASSUMPTIONS AND METHODOLOGY FOR LONG-RANGE COST ESTIMATES

The basic methodology and assumptions for the long-range cost estimates for the hospital insurance program are described in this appendix.

(1) Methodology

The adequacy of financing for the hospital insurance program for the next 25 years is expressed in this report as an actuarial balance. The actuarial balance is calculated as the difference between the average tax rates specified in current law and the average current cost rate for the 25-year period. The current cost rate for any year is the incurred cost of benefits and administration for insured persons divided by the incurred effective payroll for that year, plus an amount (expressed as a percent of payroll) required to build the trust fund balance to the level of a full year's benefits by 1985 and maintain it at that level thereafter. In projecting the incurred payroll, it is assumed that the wage base is adjusted periodically to keep pace with rising earnings.

The actuarial balance is −0.61 percent of payroll indicating that the program is seriously underfinanced.

(2) Principal problems in forecasting the cost of the hospital insurance program

The principal problems involved in forecasting the future costs of the hospital insurance program are (1) establishment of the current cost of the services provided by type of service, to serve as a base for projecting the future, and (2) forecasting of the increase in the cost of hospital services (which account for approximately 95 percent of the cost of the program).

(a) *Problems involved in establishing the current cost of services incurred as a base for forecasting future costs.*—In order to establish a suitable base from which to forecast the future costs of the hospital insurance program, it is necessary to eliminate the effect of any transitory factors. Thus the initial problem is to find the incurred cost of services provided for the most recent year for which reliable estimates can be made. To do this, the non-recurring effects of any changes in regulations or administration of the program and of any irregularities in the system of payments to providers must be eliminated.

The reimbursement system of the hospital insurance program is intended to reimburse institutions for the actual cost of providing covered services concurrently with the provision of the services. Payment is initially made on an "interim" or temporary basis. In theory, the rate at which such interim payments are made is an estimate of the actual average cost of providing the services. Actually, on the average, these rates are set lower than the estimated costs, as recovery of any overpayment is thought to pose a serious problem for the institutions' management. Due to the time required for (1) the institutions to bill intermediaries, (2) for the intermediaries to query the Social Security Administration to determine the spell of illness status of the patient, determine that the services are covered, and draw checks for approved services; and (3) for the institutions to present these checks for payment—there is a lag between the date on which services are performed and on which payment therefor on an interim basis is received.

In order to bring interim reimbursements up to a current basis, an amount, not exceeding the program liability for services performed but for which no payment has been made, can be advanced to the institution. Such amounts are referred to as "current financing" payments.

Another method of interim reimbursement, called the "periodic interim payment" method, achieves the same results as current financing by making regular payments to the hospitals at short intervals throughout the year. The payments are based on cost studies of past experience and are not delayed until individual bills are submitted.

In order to adjust interim payments to the actual cost of providing services (as determined by an audited cost report which makes the necessary allocations of all of an institution's costs on a functional basis), a series of settlements are made with each institution. These payments have run 4 percent to 5 percent of interim payments during the early years of the program. Due to the time that has been required to obtain cost reports from institutions and to verify and audit these reports, the settlements have lagged behind the liability for such payments, as much as several years for many institutions. The final cost of the program has not been completely determined even for the initial year of the program, and more uncertainty exists as to the final cost of subsequent years. An additional complication stems from the policy of reimbursing the hospital insurance program from the SMI program for the cost of certain salaried physicians. If a hospital has an agreement with salaried radiologists and pathologists under which the institution bills for the professional component of these services, interim payments are made from the hospital insurance trust fund and later reimbursed from the supplementary medical insurance trust fund on the basis of that hospital's cost report. There is no reliable statistical information concerning these costs, which must be estimated from the settlements. Interim transfers are also made from the supplementary medical insurance trust fund to the hospital insurance trust fund for the estimated difference between current incurred costs and cash settlements for these services. Since the beginning of the hospital insurance program, the incidence of payments other than those for interim costs have been irregular, and consequently have distorted the cash expenditure figures. For example, in the early years of the program, relatively few cost settlements were made. In later years, there was some catching up, through making more than one settlement payment to some hospitals in the same year. These changes in the incidence of payment undermine judgments as to the ongoing cost of the program from the present cost. Further, inadequate aggregate data concerning the periods for which the various payments other than interim costs have been made, and the incomplete filing of audited cost reports—have prevented accurate reconstitution of the actual costs.

Additional problems are posed by changes in administrative or reimbursement policy which have a substantial effect on either the amount or incidence of payment. For example, the 2 percent allowance for unallocated costs that was paid during the initial years of the program was discontinued in July 1969. The extent and incidence with which this change was incorporated into interim payment rates is not known.

Further, regulations were promulgated in July 1971 which specify that a similar allowance will be made for the higher than average cost of performing certain services (e.g. nursing) for aged patients. Reimbursement will be made retroactively for these "differential" costs, which will add approximately $100 million of non-recurring expenditures which should be paid during fiscal 1972, but may be paid partially in subsequent years. The new allowance for differential costs will also increase the liability of the program in all future years. Allocating the various payments to the proper periods, using incomplete data and estimating the impact of administrative actions present very difficult problems—the solution of which can only be approximate. Under the circumstances, the best that can be expected is that the actual incurred cost of the program for a recent period can be estimated within a few percent. This situation has the dual effect of (1) increasing the error of forecast directly, through incorporating any error in estimating the base year into all future years, and (2) lengthening the periods that must be forecast, since a projection of the most recent year is more accurate than an attempt to reconstruct the actual cost in that year.

Hospital insurance program data from 1968 indicate that aged patients used 4.13 days per capita of hospital services and 1.08 days per capita of extended care facility services.

Program data for 1970, corrected for anticipated final settlements with providers, indicates that the average cost of a day of hospital care for the aged was $62.17 per day for insured persons and $55.28 per day for the uninsured. The insured paid 6.3 percent of their costs themselves in the form of the inpatient deductible and coinsurance. In 1970, the average cost per day in extended care facilities for services covered by the hospital insurance program was $22.19 for insured persons and $20.56 for uninsured persons. The unit cost of home health services was approximately $12.30 in 1970.

(*b*) *Problem involved in forecasting the increase in hospital costs.*—In order to evaluate the adequacy of a tax schedule to support the hospital insurance program, it is necessary to relate the increases in the costs of institutional care to the increases in covered earnings which support those costs. Hospital insurance cost increases due to increases in covered population are fairly stable and predictable.

The cost of the services provided per capita, however, have varied substantially from year to year. The next section discusses in detail the problems involved in forecasting hospital costs.

(3) *Principal assumptions used in forecasting future costs of the hospital insurance program*

(a) *Trend in hospital costs and the impact of the Economic Stabilization Program.*—The increase in the cost per capita of hospital services may be analyzed into the following components:

(1) The number of days of confinement in a hospital per capita: the level of use of inpatient care by the covered population.

(2) Factor prices: the increase in unit costs that would result if every function was performed in precisely the same way by the same people and only the salaries of the people employed or the cost of the equipment and other supplies used changed.

(3) Increases due to changes in the services provided per patient day and the method of provision consisting of:

(a) Change in the method of providing services, i.e., any increase (or decrease) in unit costs for providing the same services, other than those due to factor price increases. This component consists of two different types of influences:

(*i*) Improvements to a given service, normally increasing the unit cost.

(*ii*) The effect of more efficient techniques or use of labor saving equipment, which normally decrease the unit cost.

(*b*) Provision of new services not previously provided (normally new, technically advanced services).

(*c*) Number and composition by relative expense of services furnished per day of care.

It has been possible to isolate some of these elements and identify their role in previous hospital cost increases. The increases due to changes in services provided (per patient day) and the method of provision, however, must be combined to use available data, and separated into (i) a portion due to hiring more employees per day of care provided and (ii) a residual due to all other causes. A large portion of historical increases must thus be studied only as a residual element. Table A shows the historical values of the principal components of the increase together with the forecasts underlying the increases in hospital costs per capita used in the estimates.

Hospital use, as measured by the number of inpatient days per capita, depends on many factors such as medical practice, administrative policies of health insurers, and chance fluctuations in morbidity.

TABLE A.—COMPONENTS OF INCREASE IN COST OF HOSPITAL SERVICES PER CAPITA FOR THE AGED

[Percent increase in year shown over previous year]

Year	(1) Patient days per capita [1]	(2) Factor prices [2]	(3) Due to change in services and how provided [3]	(4) Total increase [1]
I. Historical data:				
1956–1965		3.5	3.2	
1966		1.5	6.7	
1967	2.4	6.7	7.6	17.6
1968	7.3	7.6	7.2	23.4
1969	1.5	7.8	5.5	15.4
1970	−2.0	8.4	4.5	10.9
II. Forecast:				
1971	−1.5	7.1	4.6	10.3
1972	1.0	5.7	4.5	11.6
1973	.5	5.7	4.4	11.1
1974	.5	5.7	4.3	11.1
1975	.5	5.6	4.2	10.6
1980	0	4.6	2.8	7.5
1983 and later	0	4.1	1.8	6.0

[1] Historical data from health insurance program.
[2] See table B.
[3] See table C.

TABLE B.—PRICE INCREASES FOR FACTORS USED BY HOSPITALS

[Percent increase in year shown over previous year]

Year	Average earnings in covered employment [1]	Average wages of hospital employees [2]	CPI all items	Average factor prices
I. Historical data:				
1956–1965	3.6	4.7	1.6	3.5
1966	4.4	.6	2.9	1.5
1967	6.3	9.3	2.9	6.7
1968	7.0	9.9	4.2	7.6
1969	6.0	9.4	5.4	7.8
1970	4.8	10.1	5.9	8.4
II. Forecast:				
1971	5.7	9.0	4.3	7.1
1972	5.5	7.5	3.0	5.7
1973	5.5	7.5	3.0	5.7
1974	5.5	7.5	3.0	5.7
1975	5.4	7.4	3.0	5.6
1980	5.0	5.8	2.9	4.6
1983 and later	5.0	5.0	2.8	4.1

[1] Average earnings subject to OASDI taxes in first quarter.
[2] Historical data from American Hospital Association.

The past three decades have witnessed a long term increasing trend in the number of days of hospital care per capita. In 1970 and 1971, however, use of hospital facilities decreased for the aged population, due to a shorter average length of stay. By contrast, the admission rate per capita continued to grow. In view of this two-year downturn in utilization, the estimates of future increases in utilization have been substantially decreased from those shown in last year's report, assuming an increase of only one-half percent per year through 1977 and no increase thereafter. An additional increase of one-half percent is assumed in 1972 to provide an allowance for the expected value of additional hospital stays due to influenza epidemics, none of which occurred in the base year. Table A shows the actual experience under the health insurance program for 1967–1968 and the assumptions used to project hospital costs for subsequent years.

Hospital factor prices can be divided into those for personnel and those for non-personnel expenditures. Approximately 60 percent of hospital costs are for personnel. For several years preceding the beginning of the hospital insurance program, average hospital wages and salaries (as reported by the American Hospital Association) increased at a rate of about 1 percent per year more than the rate of increase in earnings in OASDI covered employment. Since the beginning of the hospital insurance program, this differential has been about 3 percent per year.

The Pay Board has restricted wage increases to the range 5 percent to 6 percent per year, but has exempted very low paid workers from this standard and has approved many settlements at a higher rate. More important, the Price Board has ruled that the costs established by the Social Security Administration for reimbursement purposes are prices and that such reimbursements cannot recognize any increase in wages and salaries higher than 5½ percent per year (although with unlimited provision for exceptions through rulings). Part of the increase in average wages has been due to a change in composition of the work force so as to include relatively more higher paid personnel; this part of the increase is not restricted by the wage guidelines. The cost estimates assume that the immediate impact of these controls will be to reduce the average increase in hospital wages to 7½ percent per year during 1972–74, still higher than the 5½ percent assumed for all workers. Eventually, this difference should disappear entirely as hospital workers' wages become comparable to those for similar workers in other industries and the proportion of highly trained personnel grows very large; this has been assumed to occur by 1983.

Increases in the prices of the goods and services hospitals purchase are treated as a function of increases in the Consumer Price Index for all items. There is some question as to whether this index is appropriate since hospitals purchase a large volume of services. No index of hospital non-personnel factor prices is available, however. The price increases that may be recognized for reimbursement under the Price Commission guidelines are limited to 2½ percent per year. Part of the increase is due to the mix of goods and services purchased, which is not subject to this limit. Table B summarizes the historical data used and the comparable forecasts in estimating the increase in factor prices.

Since the beginning of the hospital insurance program, the number of hospital workers per adjusted 100 census count in non-federal short-term general hospitals has been increasing about 3 percent per year (as reported by the American Hospital Association). Statistics adjusted for changes in outpatient care are not available prior to 1966, but some indicators suggest a level of about 2 percent per year.

TABLE C.—INCREASES IN HOSPITAL COSTS PER PATIENT DAY DUE TO CHANGES IN SERVICES AND METHOD OF PROVISION [1]

[Percent increase in year shown over previous year]

Year	Employees per patient day [2]	Nonemployee increases [3]	Increases due to changes in services and method of provision [1]
I. Historical data:			
1956–65	2.0	5.0	3.2
1966	5.8	8.2	6.7
1967	1.7	16.5	7.6
1968	2.5	14.0	7.1
1969	4.0	8.0	5.6
1970	3.1	6.6	4.5
II. Forecast:			
1971	3.0	7.0	4.6
1972	2.9	6.9	4.5
1973	2.8	6.8	4.4
1974	2.7	6.7	4.3
1975	2.6	6.6	4.2
1980	2.0	4.0	2.8
1983 and later	1.0	3.0	1.8

[1] See text for explanation.
[2] Historical data are from American Hospital Association. These increases apply only to that part of hospital expenses due to personnel, which are approximately 60 percent of hospital costs.
[3] Actually a residual; i.e., the increase in hospital costs not explained by increases in days of inpatient care per capita, factor cost increases, or the number of employees per patient day. Expressed so as to apply to nonpersonnel costs.

A residual item is required to balance the historical increases in hospital costs, which allows for the effect of changes in the services provided and method of provision not accounted for by an increase in the number of personnel (this item is stated so as to apply only to non-personnel costs). Before 1966, this residual averaged about 5% per year. After a surge in the early years of the hospital insurance program, 16½% in 1967 and 14% in 1968, the residual has declined to a level of around 7% in 1969–1970.

Hospital cost increases due to changes in the services provided and method of provision will be partially restricted under the Price Commission guidelines, which specify that "aggregate expenses for new technology such as new equipment and new services directly related to health care, to the extent they are not charged directly to persons benefiting directly from that equipment or those services, which exceed 1.7% of total annual expenses" cannot be recognized for reimbursement purposes. This limitation thus applies jointly to items (3)(a) and (3)(b), but not to (3)(c)—assuming hospital managements will charge users for any new services offered, including services that in the absence of controls would have been included in the room and board charge. To use the data base available, a judgment is thus required as to the portion of the total increase due to changes in the services provided and method of provisions that is due to new services; the rest of this component is restricted to 1.7% per year. There are, however, many items whose attribution in cost accounting is not clearly designated. With constraints on other costs, there is pressure on hospital managements to adopt policies which allocate more of the cost of overhead items to new services than might otherwise have been the case. The historical data related to increases in cost due to changes in the services, analyzed by personnel and non-personnel subcomponents, are shown in table C, together with the forecast for the future.

It is assumed that the current rate of increase in the number of personnel per adjusted census of around 3% per year will continue for a few years and then gradually decrease to a level of about 1% per year, a level lower than obtained before the hospital insurance program. The 1% per year is assumed to persist over the full period for which estimates are prepared.

The restriction on increases due to changes in the services and method of provision is estimated to reduce moderately the non-labor portion of this component of the increase in the immediate future. It is assumed that ultimately this rate will drop to 3% per year, a level substantially lower than that which prevailed during the decade before the hospital insurance program began.

Table A shows the increases in hospital costs that have occurred under the hospital insurance program, and those resulting from compounding the forecasts for each of the three principal components into which such increases were analyzed. It can be noted that the long run increases are assumed to be higher than the long run increases in earnings, and hence in income, so that the current cost of the program rises indefinitely. Such increases assume a willingness on the part of the public to spend part of the increases in real income resulting from the differences between earnings and consumer prices on higher quality hospital care, at a rate of 1% per year. As emphasized throughout this report, this rate is below the historical average and far below the rate experienced since the beginning of the hospital insurance program. It thus presumes a significant amount of public pressure to reduce the increases in hospital costs as the cost of these services bite deeper into disposable income, either directly through payment of higher charges or indirectly in the form of higher insurance premiums and taxes to support government programs. It is also assumed that the investments of federal programs in quality of hospital management should in the longer run reduce the cost of care.

b. Assumptions as to increases in the cost per capita of extended care facility benefits.—Utilization of extended care facilities dropped very sharply in 1970 and moderately in the first quarter of 1971 as a result of strict enforcement of regulations separating convalescent from custodial care. Adjusted for the trend to increasing use of these facilities, the current level of utilization is a little over half of that which occurred during the early years of the program. It is anticipated that increases in utilization are to be anticipated over the next several years, however, as providers and patients become more familiar with the level of care covered in these institutions under the new administrative policies.

Increases in the average cost per day in extended care facilities under the program are caused principally by (i) the higher cost of the nurses and other skilled labor required and (ii) the addition to covered facilities of new, better equipped, and more expensive facilities. Nurses have been in particularly short supply since the beginning of the hospital insurance program, and consequently their wages have been increasing far more rapidly than earnings in general. This trend may be expected to continue for the foreseeable future due to (i) the continued rapid increase in demand for nursing services and (ii) the opening of a wide variety of occupations to women, forcing employers of nurses to be more competitive in wages and working conditions.

The average cost per day of extended care facility services covered by the program increased by approximately 10% in 1970 over 1969. It is assumed that a similar level of cost increases will prevail for a few years and then gradually decrease so as to merge with the annual rate of increase in general wages by 1982. The resulting increases in the cost per capita of extended care facility services are shown in table D.

TABLE D.—INCREASES IN COST PER CAPITA BY TYPE OF SERVICE ASSUMED FOR FORECASTING THE CURRENT COST RATES OF THE HOSPITAL INSURANCE PROGRAM IN THE 1972 TRUSTEES REPORT (INCREASE OVER PRIOR YEAR)

[In percent]

Year	Hospitals	Extended care facilities	Home health agencies
1970	11.4	−26.0	19.5
1971	10.5	0.0	19.5
1972	11.5	15.0	19.5
1973	11.0	22.0	19.0
1974	11.0	21.0	18.0
1975	10.5	19.0	18.0
1976	10.5	16.0	15.0
1977	9.5	12.0	11.0
1978	8.5	11.0	10.0
1979	8.0	9.0	8.0
1980	7.5	7.0	7.0
1981	7.0	6.0	6.0
1982	6.5	5.0	5.0
1983 and later	6.0	5.0	5.0

The long run assumption that increases in the cost per day of care in extended care facilities will be equal to the increases in the average earnings after 1981 requires increases in productivity to offset the higher than average increases in earnings anticipated for nurses and any tendency to upgrade the quality of services. As in the case of hospitals, public pressure to contain these costs will be required, through legislation if necessary.

c. Assumptions as to home health service benefits.—Data on utilization of home health services are very slow in reaching the Social Security Administration. Early in the program, increases in utilization were very large, running around 30% per year; but it now appears that the rate of increase may be substantially lower, perhaps 10% per year. The assumptions used in the cost estimates are shown in table D.

d. Administrative expenses.—Total administrative expenses are assumed to be 2½% of benefits through 1977. After that, the projection assumes that the per capita expenses increase at 4% each year—that is, 1% less than the projected increase in all wages in covered employment.

e. Interest rate.—It has been assumed that trust fund investments will earn an average of 6% interest per annum. The actual rate earned on the hospital insurance trust fund during fiscal 1971 was 6.5%.

f. Population.—The population projections used in this report are based on those in *Actuarial Study Number 62*, Social Security Administration.

4. Sensitivity testing of long term cost estimates

Sensitivity testing has always been incorporated in examination of the cost of the hospital insurance program; but the results of these sensitivity studies have not been shown explicitly in the reports. Sensitivity testing reported here is limited to investigating the effect of a single change in the assumptions as to the long term increases in hospital costs, to reflect a weaker degree of public pressure to contain such costs. For this test the rate of hospital cost increases for 1981 and later is held at the 1980 level (7.5%), rather than declining to 6% for 1983 and later as assumed in the cost estimates. The higher level after 1980 assumes the same excess of hospital cost increases over factor cost increases that prevailed in the decade before the beginning of the hospital insurance program.

A summary of the assumptions used in this test appears in table E and the resulting current cost ratios appear in table F.

5. Accuracy of past estimates

Table G compares the actual incurred expenditures for the hospital insurance program with the estimates of such expenditures prepared at various times in the past. Since the estimates of incurred expenditures are used primarily to recommend and test the financing of the program, the appropriate test of these estimates is to compare the estimated current cost rates to the actual results.

The earliest of these estimates, prepared before any program experience was available, underestimated the first year and one half of expenditures by around 8%, but because of too little allowance for what proved to be a steep trend, underestimated 1971 expenditure by 27%.

The 1967 estimate was about 10% low for 1968, and 18% low for 1971, again indicating that the increase in hospital costs over the period was sharper than anticipated.

TABLE E.—INCREASES IN COST PER CAPITA BY TYPE OF SERVICE ASSUMED FOR FORECASTING THE CURRENT COST RATES FOR THE HOSPITAL INSURANCE PROGRAM IF THE LONG-RANGE INCREASE IN HOSPITAL COSTS IS COMPARABLE TO THAT IN THE DECADE BEFORE 1966 (INCREASE OVER PRIOR YEAR)

[In percent]

Calendar year	Hospitals	Extended care facilities	Home health agencies
1970	11.4	−26.0	19.5
1971	10.5	0.0	19.5
1972	11.5	15.0	19.5
1973	11.0	22.0	19.0
1974	11.0	21.0	18.0
1975	10.5	19.0	18.0
1976	10.0	16.0	15.0
1977	9.5	12.0	11.0
1978	8.5	11.0	10.0
1979	8.0	9.0	8.0
1980	7.5	7.0	7.0
1981	7.5	6.0	6.0
1982	7.5	5.0	5.0
1983 and later	7.5	5.0	5.0

TABLE F.—*Incurred Cost* [1] *of Hospital Insurance Program (for the Insured Only) as a percent of taxable payroll* [2]

Calendar year:	*Incurred cost (percent)*
1972	1.50
1973	1.60
1974	1.70
1975	1.80
1980	2.20
1985	2.40
1990	2.76
1995	3.08
25-year average	2.38

[1] Benefit payments and administrative expenses, plus a provision for trust fund growth equal to 1 year's expenditures for 1985 and thereafter.
[2] Earnings in covered employment and taxable earnings base assumed to rise 5 percent annually.

TABLE G.—COMPARISON OF PREVIOUS COST ESTIMATES EXPRESSED AS A PERCENT OF TAXABLE PAYROLL WITH ACTUAL RESULTS [1]

	Date estimate made			
	July 1965 [2]	December 1967 [3]	March 1970 [4]	Actual [5]
Estimate of experience in—				
1966	0.41			0.39
1967	.82			.95
1968	.82	0.93		1.03
1969	.87	.98		1.09
1970	.91	1.03	1.19	1.17
1971	.95	1.07	1.32	1.30

[1] The estimated benefits and administrative expenses shown are divided by the effective payroll; i.e., that payroll which when multiplied by the combined tax rate for employers and employees together, will produce the estimated contribution income.
[2] Committee on Ways and Means, Committee Print 51-291, July 30, 1965, The contributions for 1966 and 1967 were adjusted to an incurred basis using the assumption made in 1965 that the average lag between incurred and cash contributions is 1 month.
[3] Committee on Ways and Means, Committee Print 87-369, Dec. 11, 1967.
[4] 1970 Trustees' Report for the HI program.
[5] See table 7.

The 1970 estimate proved to be very accurate for each of its first two years, this time overestimating the expenditure by a small margin. Much more information was available for this estimate than for those made earlier.

The estimates shown are not strictly comparable, due to the changes in legislation or regulations between the date on which an esimate was prepared and the year for which it was made. For example, for the initial estimates prepared for the House Ways and Means Committee in February 1965 (and reported in the Committee Report published on July 30, 1965) the following adjustments should be made for comparability:

(1) Increase in benefits as a result of the 1967 Amendments, raising the cost of the program by approximately ½% per year after 1967.

(2) Change in the earnings base applicable to 1968 and subsequent years from $6,600 to $7,800, which increased the covered payroll by approximately 7% in 1968, by 6% in 1971, and by lower amounts in later years.

(3) Passage of legislation including hospital workers under the minimum wage.

(4) Payment to hospitals of an allowance of 2% of costs in addition to all determinable costs. For reimbursement for services provided after June 1969, this allowance was reduced to approximately 1.2% of costs.

(5) Payment during the initial years of the program for services in a very large number of extended care facilities which did not meet the standards set forth under the law but that were taking steps to overcome the deficiencies that prevented meeting such standards. (Most of these institutions were subsequently dropped.)

(6) Payment during the initial years of the program for a larger proportion of the services in extended care facilities than specified in the law. (This situation was subsequently corrected, resulting in a decrease in extended care patient days per capita of approximately 50%.)

There are also many less important differences between specifications at the time of enactment and the actual program that developed. Rates comparable to the 1965 estimates that have been standardized for the above factors (except the minimum wage legislation) would be as follows:

[In percent]

Year	Estimate	Standardized	Actual	Ratio to actual
1966	0.41	0.42	0.39	1.08
1967	.82	.87	.95	.92
1968	.82	.82	1.03	.80
1969	.87	.86	1.09	.79
1970	.91	.89	1.17	.76
1971	.95	.93	1.30	.72

The standardized rates are only 4% low for the first year and one half of the program, but are 28% low for 1971.

The more past experience available at the time of an estimate, and the shorter the time period between date of estimate and the year being estimated, the more accuracy one should expect. Experience with the hospital insurance program to date bears out this expectation. There is nonetheless much that can go wrong in the estimation process, and present estimates for years far in the future must be considered to have a relatively large likelihood for substantial error.

Appendix II. Summary of Principal Provisions

Public Law 89–97, approved July 30, 1965, amended the Social Security Act and related provisions of the Internal Revenue Code by establishing the hospital insurance program. A summary of its provisions, as of December 31, 1971, is as follows:

I. COVERAGE PROVISIONS (FOR CONTRIBUTION PURPOSES)

(a) All workers covered by old-age, survivors, and disability insurance system.

(b) All railroad workers (covered directly by system, and not through financial interchange provisions, if railroad retirement taxable wage base is not the same as the hospital insurance base; if bases are the same, railroad retirement system collects contributions and transfers them to hospital insurance trust fund through financial interchange provisions; [1] hospital insurance trust fund pays benefits to suppliers of services in either case).

II. PERSONS PROTECTED (FOR BENEFIT PURPOSES)

(a) Insured persons—all individuals aged 65 or over who are eligible for any type of old-age, survivors, and disability insurance or railroad retirement monthly benefit (i.e., as insured workers, dependents, or survivors), without regard to whether retired (i.e., no earnings test).

(b) Uninsured persons—individuals who attain age 65 before 1968 who are not eligible for any type of monthly benefit under the old-age, survivors, and disability insurance or railroad retirement programs, who are citizens or aliens lawfully admitted for permanent residence with at least 5 consecutive years of residence, and who are not covered under the Federal Employees Health Benefits Act of 1959 (including certain individuals who could have been covered if they had so elected) and have not been convicted of any offense listed in section 202(u) of the Social Security Act. (Sec. 103(b)(1) of Public Law 89–97 also excluded individuals who are members of any organization referred to in section 210(a)(17) of the Social Security Act. This provision was held to be unconstitutional by a Federal court, and its enforcement was enjoined). Those in this

[1] Public Law 89–212, approved September 20, 1965, provided that the railroad retirement wage base will, in the future, be automatically adjusted so as to be the same as the earnings base under the hospital insurance system.

category attaining age 65 after 1967 must have certain amounts of old-age, survivors, and disability insurance or railraod retirement coverage to be eligible for hospital insurance benefits—namely, three quarters of coverage for each year after 1966 and before age 65, so that the provision becomes ineffective for men attaining age 65 after 1975 (for women, 1974), since then the "regular" insured status conditions for cash benefits are easier to meet.

III. BENEFITS PROVIDED

(a) Hospital benefits—full cost of all hospital services (i.e., including room and board, operating room, laboratory tests and X-rays, drugs, dressings, general nursing services, and services of interns and residents in training) for semi-private accommodations for up to 90 days in a "spell of illness" (a period beginning with the 1st day of hospitalization and ending after the person has been out of a hospital and an extended care facility for 60 consecutive days), after a deductible of $40 and coinsurance of $10 per day for all days after the 60th one and also a deductible of the cost of the first three pints of blood; in addition to such 90 days per spell of illness, a lifetime reserve of 60 days with coinsurance of $20 per day is available; after 1968, the deductible and the coinsurance amounts will be automatically adjusted to reflect changes in hospital costs after 1966; lifetime maximum of 190 days for psychiatric hospital care.

(b) Extend care facility (skilled nursing home or convalescent wing of hospital) benefits—following at least 3 days of hospitalization, beginning within 14 days of leaving hospital, and for continued care of a condition for which a person was hospitalized, up to 100 days of such care in a spell of illness, with coinsurance of $5 per day for all days after the 20th one; after 1968, the $5 coinsurance will be automatically adjusted to reflect changes in hospital costs after 1966.

(c) Home health services benefits—following at least 3 days of hospitalization, beginning within 14 days of leaving hospital or extended care facility, up to 100 visits in the next 365 days and before the beginning of the next spell of illness; such services are essentially for homebound persons and include visiting nurse services and various types of therapy treatment, including out-patient hospital services when equipment cannot be brought to the home.

(d) Services not covered—services obtained outside of the United States (except for emergency services for an illness occurring in the United States and the foreign hospital involved was closer, or substantially more accessible than the nearest adequate U.S. hospital), elective "luxury" services (such as private room or television), custodial care, hospitalization for services not necessary for the treatment of illness or injury (such as elective cosmetic surgery), services performed in a Federal institution (such as a Veterans' Administration hospital), and cases eligible under workmen's compensation.

(e) Administration—by Department of Health, Education, and Welfare. Each provider of services can nominate a fiscal intermediary (such has Blue Cross, other health insurance organizations, or State agencies) or can deal directly with the Department. The providers of services are reimbursed on a "reasonable cost" basis, and the fiscal intermediaries are reimbursed for their reasonable costs of administration. The providers of services must meet certain standards, including establishment of utilization review committees for hospitals, and extended care facilities, development of transfer agreements between hospitals and extended care facilities, and quality care.

IV. FINANCING

(a) Insured persons—on a long-range self-supporting basis (just as under the old-age, survivors, and disability insurance system), through separate schedule of increasing tax rates on covered workers (see table in "Nature of the Trust Fund" section), with same maximum taxable earnings base as scheduled for the old-age, survivors, and disability insurance system, $9,000; same rate applies to employees, employers, and self-employed (unlike under the old-age, survivors, and disability insurance system).

(b) Hospital insurance trust fund—separate trust fund, with separate board of trustees (same membership as for old-age and survivors insurance and disability insurance trust funds) and with same investment procedures.

(c) Uninsured persons—from general revenues, through the hospital insurance trust fund.

Appendix III. Determination and Announcement of "Inpatient Hospital Deductible for 1972" [1]

AVERAGE PER DIEM RATE

Pursuant to the requirements of section 1813(b)(2) of the Social Security Act (42 U.S.C. 1395e(b)(2)), as amended, I hereby determine and announce that the dollar amount which shall be applicable for the inpatient hospital deductible, for purposes of section 1813(a) of the Act, as amended, shall be $68 in the case of any spell of illness beginning during 1972.

There follows a statement of the actuarial bases employed in arriving at the amount of $68 for the inpatient hospital deductible for the calendar year 1972 (as contrasted with the figures of $40 applicable for the period from July 1966 through December 1968, $44 for calendar year 1969, $52 for calendar year 1970, and $60 for calendar year 1971). Certain other cost-sharing provisions under the Hospital Insurance program are also affected by changes in the amount of the inpatient hospital deductible.

The law provides that, for calendar years after 1968, the inpatient hospital deductible shall be equal to $40 multiplied by the ratio of (1) the current average per diem rate for inpatient hospital services for the calendar year preceding the year in which the promulgation is made (in this case, 1970) to (2) the current average per diem rate for such services for 1966. The law further provides that, if the amount so determined is not an even multiple of $4, it shall be rounded to the nearest multiple of $4. Further, it is provided that the current average per diem rates referred to shall be determined by the Secretary of Health, Education, and Welfare from the best available information as to the amounts paid under the program for inpatient hospital services furnished during the year by hospitals who are qualified to participate in the program, and for whom there is an agreement to do so, for individuals who are entitled to benefits as a result of insured status under the Old-Age, Survivors, and Disability Insurance program or the Railroad Retirement Program.

The data available to make the necessary computations of the current average per diem rates for calendar years 1966 and 1970 are derived from individual inpatient hospital bills that are recorded on a 100 percent basis in the records of the program. These records show, for each bill, the total inpatient days of care, the interim reimbursement amount, and the total cost (the sum of interim reimbursement, deductible, and coinsurance).

Each individual bill is assigned both an initial month and a terminal month, as determined from the first day covered by the bill and the last day so covered. Insofar as the initial month and the terminal month fall in the same calendar year, no problems of classification occur.

Two tabulations are prepared, one summarizing the bills with each assigned to the year in which the period it covers begins, and the other summarizing the same bills with each assigned to the year in which the period it covers ends. The true value with respect to the costs for a given year on an accurate accrual basis should fall between the amount of total costs shown for bills beginning in that year and the amount shown for bills ending in that year.

The current average per diem rate for inpatient hospital services for calendar year 1966, on the basis described, is $37.92, while the corresponding figure for calendar year 1970 is $63.14. Accordingly, the ratio of the 1970 rate to the 1966 rate is 1.665.

In order to accurately reflect the change in the average per diem hospital cost under the program, the average interim cost (as shown in the tabulations) must be adjusted for (i) the effect of final cost settlements made with each provider of services after the end of its fiscal year to adjust the reimbursement to that provider from the amount paid during that year on an interim basis to the actual cost of providing covered services to beneficiaries, and (ii) for changes in the benefit structure since the base year, 1966. To the extent that the ratio of final cost to interim cost is different in the current year than it was in 1966, the increase in average interim per diem costs will not coincide with the increase in actual cost that has occurred. The inclusion of the lifetime reserve days in the current tabulation of the average interim per diem cost when such days were not included in the

[1] This notice was published in the Federal Register for October 1, 1971 (F.R. Doc. 71-14499).

corresponding tabulation for the base year, 1966, will understate the estimate of the increase in cost that has occurred, because the average cost per day of very long confinements in a hospital is less than the average for all confinements. In order to estimate the increase in average per diem cost that has occurred, a comparison must be based on similar benefits in the two periods (1970 and 1966); thus the effect of lifetime reserve days, must be eliminated from the current year tabulation. The best data available indicates that these adjustments do not change the ratio shown above by enough to result in a different deductible for 1972. The values shown in this report do not reflect these adjustments for final cost settlements or lifetime reserve days. When the ratio of 1.665 is multiplied by $40, it produces an amount of $66.60, which must be rounded to $68. Accordingly, the inpatient hospital deductible for spells of illness beginning during calendar year 1972 is $68.

Dated: September 29, 1971.

ELLIOT L. RICHARDSON,
Secretary.

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