# APPENDICES

## Appendix A. Actuarial Methodology and Principal Assumptions for Cost Estimates [1]

The basic methodology and assumptions used in the estimates for the hospital insurance program are described in this appendix.

### (1) METHODOLOGY

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

The actuarial balance is —.04 percent of payroll indicating that the program is in approximate actuarial balance according to the assumptions used.

### (2) PRINCIPAL PROBLEMS IN FORECASTING THE COST OF THE HOSPITAL INSURANCE PROGRAM

The principal problems involved in forcasting the future costs of the hospital insurance program are (1) establishing the present cost of the services provided by type of service, to serve as a base for projecting the future, (2) forecasting of the increase in the cost of hospital services (which account for approximately 95 percent of the cost of the program), and (3) estimating the cost for new beneficiaries covered as a result of the 1972 Amendments.

(a) *Problems involved in establishing the present 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. As the result of the elimination of such transitory factors, the rates of increase in the cost of the health insurance program are different from the increases in cash disbursements shown in tables 4 and 5. The analysis concentrates on the longer run cost of the health insurance program in relation to the designated sources of income.

The hospital insurance program is obligated by the law to reimburse institutions for the actual reasonable cost of providing covered services to beneficiaries. Payment is initially made on an "interim" or temporary basis, with the remainder of reasonable costs paid in a series of subsequent cost settlements with the institutions.

On the average, interim payments have been set at rates lower than actual costs, as recovery of any overpayment is thought to pose a serious problem. Further, there is a delay between the date on which services are performed and the date on which interim payments based on bills are made. Such delay is due to the time required (1) for the institutions to bill intermediaries; (2)

[1] Prepared by the Office of the Actuary, Social Security Administration.

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. An amount, not exceeding the program liability for services performed but for which no payment has been made, have in the past been advanced to institutions requesting such advances. Such amounts are referred to as "current-financing" payments. Such payments have been discontinued, and amounts previously advanced are being recovered during 1974. Another method of interim reimbursement, "periodic interim payments," makes fixed payments to the hospitals at regular intervals throughout the year. The payments are based on projections of estimated reasonable costs from past experience and may vary substantially from the actual bills submitted from month to month.

In order to adjust interim payments to the actual cost of providing services (as determined by cost reports which make the necessary allocations of all of an institution's costs on a functional basis), a series of settlements is made with each institution. The total cost settlements have averaged around 5½% of the interim payments during the early years of the program; however, the incomplete data available do not permit an accurate estimate of the exact amount. Due to the time that has been required to obtain cost reports from institutions and to verify and, where appropriate, 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. The overall incurred costs for any past year can be estimated, however, to within a few percent of the actual cost.

An additional complication stems from the reimbursement of the HI program from the supplementary medical insurance program (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 HI trust fund and later reimbursed from the SMI trust fund on the basis of that hospital's cost report. Interim transfers are also made from the SMI trust fund to the HI trust fund for the estimated difference between current incurred costs and cash settlements for these services. Reliable data as to the interim cost of these services is not available. Estimates are made on the basis of the final cost settlements, which as noted before are not available on a comprehensive basis for some time after the ends of hospital fiscal years.

Since the beginning of the HI program, the incidence of payments other than those for interim costs has been irregular, and consequently has 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 make judgments as to the ongoing cost of the program very difficult. 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. Estimates of the missing information can be made, however, so that the overall error in estimated incurred costs is at most a few percent.

Additional problems are posed by changes in administrative or reimbursement policy which have a substantial effect on either the amount or incidence of payment. The extent and incidence with which such changes are incorporated into interim payment rates cannot be determined precisely.

Regulations were promulgated in July 1971 which specified that an allowance would be made for the higher than average cost of performing hospital inpatient routine nursing services (e.g. nursing) for aged patients. Reimbursement is to be made retroactively for these "differential" costs, which adds approximately $100 million of non-recurring expenditures to the program; this should have been paid during fiscal 1972, but may be paid partially in subsequent years. The allowance for differential costs also increases the liability of the program in all future years.

Allocating the various payments to the proper incurred period, using incomplete data and estimates of the impact of administrative actions, presents 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, by 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 1971 indicate that aged patients used 3.85 days per capita of hospital services and .37 days per capita of extended care facility services.

Program data for 1971, corrected for anticipated final settlements with providers, indicates that the average reimbursement for a day of hospital care for the aged was $71.46 per day for insured persons and $63.93 per day for the transitionally insured. The insured paid 6.0 percent of their hospital costs in the form of the inpatient deductible and coinsurance. In 1971, the average reimbursement per day in extended care facilities for services covered by the hospital insurance program was $25.12 for insured persons and $23.42 for uninsured persons. The unit reimbursement for home health services was approximately $14.04 in 1971.

(b) *Problems 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 cost of institutional care for beneficiaries to the increases in taxable earnings which support those costs. (Increases in covered population are fairly stable and predictable). There are three principal factors to consider: (1) The aggregate increases in expenditures by institutions for producing services of the types covered by the hospital insurance program, (2) the changes in the share of these expenditures that are for beneficiaries and hence will be paid by the HI program (as affected by administrative policy), and (3) the resultant hospital insurance program expenditure increases, relative to the increases in taxable earnings. These factors, in addition to a factor indicating the differential between program costs and taxable earnings, are shown in table A1. The assumptions as to the overall rate of population increase and increases in average earnings affect income and outgo in a parallel way and are thus relatively unimportant. Similarly, the number of days of hospitalization by beneficiaries is primarily important as an index of the share of hospital costs borne by the program. Uniform decreases in the average days institutionalized for persons over and under age 65 do not immediately reduce program costs proportionately, but rather only eliminate certain direct costs (e.g. supplies purchased, overtime, etc.). If such a reduction persisted over a long enough period of time, greater reductions in cost would occur, especially if an expansion of facilities that might otherwise have occurred were not carried out.

TABLE A1.—COMPONENTS OF HISTORICAL AND PROJECTED LONG-RANGE INCREASES IN HI HOSPITAL COSTS INCURRED, COMPARED TO THE INCREASE IN HI TAXABLE EARNINGS[1]

[In percent]

| Calendar year | Aggregate inpatient hospital costs[2] | HI share of aggregate inpatient hospital costs[3] | Total HI hospital costs | HI taxable earnings | Cost-earnings differential |
|---|---|---|---|---|---|
| Historical data: | | | | | |
| 1956–65 | 10.4 | | | | |
| 1966 | 11.7 | | | | |
| 1967 | 18.6 | | | | |
| 1968 | 16.5 | 7.4 | 25.2 | | |
| 1969 | 18.4 | −3.1 | 14.8 | | |
| 1970 | 16.8 | −5.1 | 10.8 | | |
| 1971 | 13.7 | −.5 | 13.2 | | |
| Projection: | | | | | |
| 1972 | 12.0 | 2.0 | 14.3 | 16.5 | −1.9 |
| 1973 | 12.5 | 9.0 | 22.6 | 13.8 | +7.7 |
| 1974 | 12.5 | 10.2 | 24.0 | 10.2 | +12.5 |
| 1975 | 12.0 | 1.9 | 14.1 | 8.3 | +5.4 |
| 1980 | 10.1 | .5 | 10.7 | 6.8 | +3.7 |
| 1985 | 8.6 | .4 | 9.0 | 6.6 | +2.3 |
| 1990 | 8.4 | .4 | 8.8 | 6.5 | +2.2 |
| 1995 | 8.2 | .4 | 8.6 | 6.6 | +1.9 |

[1] Increase in year indicated over previous year.
[2] See Table A2.
[3] See Table A5.

Of these factors, the increase in aggregate inpatient hospital costs has dominated all others, due to the very rapid rate (14 to 18 percent per year) and the irregular pattern of increases. The share of hospital costs allocated to beneficiaries by the reimbursement system has also fluctuated somewhat in recent years, but is projected to stabilize for future years except for the effect of changes in administrative policy that are specifically assumed. The changes in share for other institutional services have been substantial, as well as changes in aggregate expenditures, but these influence only 5 percent of the overall cost of the program. The primary assumption that determines the level of costs is thus the differential between the rates of increase in the hospital insurance program's share of aggregate hospital costs and in taxable earnings.

(3) PRINCIPAL ASSUMPTIONS USED IN PROJECTING THE FUTURE COSTS OF THE HOSPITAL INSURANCE SYSTEM

(*a*) *Trends in covered hospital costs and the impact of the Economic Stabilization Program*

(1) *Analysis of data concerning past trends.*—The increase in the aggregate cost of covered hospital services paid by the hospital insurance program may be analyzed into the following components:

(*a*) Increases in aggregate inpatient hospital costs, consisting of increases due to:

(*i*) Factor prices: the increase in unit costs that would result if every function were 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.

(*ii*) Services provided and their method of provision, consisting of:

Changes in the number and composition by relative expanse of services furnished (including the increase in services required to keep pace with population growth).

Changes in the method of providing the same services (including improvements to a given service, normally increasing the unit cost, and the effects of more efficient techniques or labor-saving equipment, normally decreasing the unit cost).

Incorporation of new services not previously provided (normally new, technically advanced services).

(*b*) Increases in the hospital insurance program's share of aggregate inpatient hospital costs, consisting of increases due to:

(*i*) Proportion of the population covered: the increase in the proportion of the general population which receives reimbursement for its hospital care under the hospital insurance program.

(*ii*) Relative amount of care paid by the hospital insurance program, consisting of:

Changes in the proportion of hospital services used by beneficiaries (including the number of services and their relative values), independent of any population change.

Changes in administrative or reimbursement policy which have an effect on the amount or incidence of payment.

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 the services provided and the method of their provision, however, must be combined to use available data, and separated into (i) a portion due to hiring more employees and (ii) a residual due to all other causes. A large portion of the historical increases must thus be studied only as a residual element. Table A2 shows the values of the principal components of the increases for periods for which data is available, together with the projections used in the estimates.

TABLE A2.—COMPONENTS OF HISTORICAL AND PROJECTED LONG RANGE INCREASE IN AGGREGATE INPATIENT HOSPITAL COSTS INCURRED[1]

[In percent]

| Calendar year | Factor prices [2] | Services provided and method of provision [3] | Aggregate inpatient hospital costs |
|---|---|---|---|
| Historical data: | | | |
| 1965–66 | 3.8 | 6.6 | 10.4 |
| 1966 | 1.8 | 9.9 | 11.7 |
| 1967 | 7.2 | 11.3 | 18.6 |
| 1968 | 8.1 | 8.4 | 16.5 |
| 1969 | 8.4 | 10.0 | 18.4 |
| 1970 | 9.2 | 7.6 | 16.8 |
| 1971 | 8.4 | 5.3 | 13.7 |
| Projection: | | | |
| 1972 | 7.0 | 5.0 | 12.0 |
| 1973 | 6.8 | 5.8 | 12.5 |
| 1974 | 6.7 | 5.8 | 12.5 |
| 1975 | 6.4 | 5.6 | 12.0 |
| 1980 | 5.6 | 4.5 | 10.1 |
| 1985 | 4.4 | 4.2 | 8.6 |
| 1990 | 4.4 | 4.0 | 8.4 |
| 1995 | 4.4 | 3.9 | 8.2 |

[1] Increase in year indicated over previous year.
[2] See table A3.
[3] See table A4.

Hospital factor prices can be divided into those for personnel and those for non-personnel expenditures. Table A3 shows the approximate increases that have occurred in these components and in overall factor costs.

TABLE A3.—HISTORICAL AND PROJECTED LONG RANGE PRICE INCREASES FOR FACTORS USED BY HOSPITALS [1]

[In percent]

| Calendar year | Average earnings in covered employment [2] | Average payroll per hospital employee [3] | Price index [4] | Factor prices |
|---|---|---|---|---|
| Historical data: | | | | |
| 1956–65 | 3.6 | 4.7 | 2.2 | 3.8 |
| 1966 | 4.4 | 0.6 | 3.4 | 1.8 |
| 1967 | 6.3 | 9.3 | 3.6 | 7.2 |
| 1968 | 7.0 | 9.9 | 4.7 | 8.1 |
| 1969 | 6.0 | 9.4 | 6.2 | 8.4 |
| 1970 | 4.8 | 10.1 | 7.0 | 9.2 |
| 1971 | 5.0 | 10.3 | 5.0 | 8.4 |
| Protection: | | | | |
| 1972 | 6.4 | 9.0 | 3.6 | 7.0 |
| 1973 | 6.3 | 8.5 | 3.7 | 6.8 |
| 1974 | 6.0 | 8.5 | 3.6 | 6.7 |
| 1975 | 5.5 | 8.3 | 3.3 | 6.4 |
| 1980 | 5.0 | 7.0 | 3.3 | 5.6 |
| 1985 | 5.0 | 5.0 | 3.3 | 4.4 |
| 1990 | 5.0 | 5.0 | 3.3 | 4.4 |
| 1995 | 5.0 | 5.0 | 3.3 | 4.4 |

[1] Increase in year indicated over previous year.
[2] Average earnings subject to OASDHI taxes in first quarter.
[3] Based on data from the American Hospital Association through 1971.
[4] See text for explanation.

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 one 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 to 5 percent per year. The wage freeze during the fall of 1971 does not appear to have had a significant effect on the increase in wages of hospital workers. Increases in the prices of the goods and services hospitals purchase are treated as a function of increases in the Consumer Price Index, weighted more heavily by services since hospitals purchase a large volume of services, as no index of hospital non-personnel factor prices is available.

Increases in hospital costs due to changes in the services and how they are provided (exclusive of the effect of any change in factor costs) are analyzed on an aggregate basis. Due to lack of data, the increases are analyzed into a part due to adding more employees and a part due to all other causes, the latter being estimated as a residual.

TABLE A4.—CHANGES IN SERVICES PROVIDED AND THEIR METHOD OF PROVISION FOR INPATIENT HOSPITALS [1]

[In percent]

| Calendar year | Number of hospital employees [2] | Nonemployee sources [3] | Services provided and method of provision |
|---|---|---|---|
| Historical data: | | | |
| 1956-65 | 5.3 | 8.3 | 6.6 |
| 1966 | 10.5 | 8.8 | 9.9 |
| 1967 | 5.7 | 19.0 | 11.3 |
| 1968 | 6.1 | 11.3 | 8.4 |
| 1969 | 6.2 | 14.6 | 10.0 |
| 1970 | 5.8 | 9.7 | 7.6 |
| 1971 | 3.6 | 7.5 | 5.3 |
| Projection: | | | |
| 1972 | [4] 2.3 | 8.9 | 5.0 |
| 1973 | 3.2 | 9.2 | 5.8 |
| 1974 | 3.2 | 9.3 | 5.8 |
| 1975 | 3.0 | 9.1 | 5.6 |
| 1980 | 3.0 | 6.4 | 4.5 |
| 1985 | 3.0 | 5.7 | 4.2 |
| 1990 | 3.0 | 5.2 | 4.0 |
| 1995 | 3.0 | 4.7 | 3.9 |

[1] Increase in year indicated over previous year.
[2] Based on data from the American Hospital Association.
[3] Actually a residual; i.e., the increase in hospital costs not explained by factor cost increases or the number of hospital employees.
[4] Based on preliminary data.

During the early years of the hospital insurance program, the number of hospital workers in non-Federal short-term general hospitals had been increasing about 6 percent per year (as reported by the American Hospital Association). The growth in the number of hospital employees has slowed somewhat during recent periods, especially since the imposition of wage-price controls.

The residual required to balance the historical increases in hospital costs allows for the effect of all changes in the services provided and how they are provided that cannot be attributed to 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 8½ percent per year. After a surge in the early years of the hospital insurance program, the residual has declined to a level of around 9 percent currently.

Changes in the program's share of aggregate hospital costs result primarily from changes in the proportion of the population covered (including changes due to legislation), changes in the relative number and value of services received by beneficiaries, and the effect of administrative actions defining the services eligible for reimbursement and the corresponding level of payment.

Ultimately, reimbursement by the program depends on the proportion of recognized costs that are allocated to beneficiaries in the final cost settlements with

hospitals. In general, this allocation depends on the ratio of charges for services used by beneficiaries to charges for all services provided.

Unfortunately, due to the long delay experienced in the filing of final cost settlements, no reliable data is available from which this ratio can be determined for any recent period. However, an approximation to the change in this share ratio from year to year is the combined effect of the change in the ratio of days of care provided for beneficiaries to days of care provided for all persons and any change in administrative or reimbursement policy. The change in program share appears in table A5, with the change in population covered netted from the other sources.

TABLE A5.—HISTORICAL AND PROJECTED LONG-RANGE INCREASES IN SHARE OF INCURRED HOSPITAL COSTS PAID BY HI [1]

[In percent]

| Calendar year | Proportion of population covered | Relative amount of care paid by HI | HI share of aggregate inpatient hospital costs |
|---|---|---|---|
| Historical data: | | | |
| 1968 | 0.3 | 7.1 | 7.4 |
| 1969 | .3 | −3.4 | −3.1 |
| 1970 | .3 | −5.4 | −5.1 |
| 1971 | .3 | −.8 | −.5 |
| Projection: | | | |
| 1972 | .3 | [3] 1.7 | 2.0 |
| 1973 | [2] 4.8 | 4.0 | 9.0 |
| 1974 | [2] 5.0 | 5.1 | 10.2 |
| 1975 | .9 | 1.0 | 1.9 |
| 1980 | .5 | 0 | .5 |
| 1985 | .4 | 0 | .4 |
| 1990 | .4 | 0 | .4 |
| 1995 | .4 | 0 | .4 |

[1] Increase in year indicated over previous year.
[2] Reflects the extension of HI coverage to new classes of beneficiaries under the 1972 amendments.
[3] Based on preliminary data.

The most important changes in administrative policy affecting the health insurance program's share of inpatient hospital costs have been the termination in 1969 of the 2 percent allowance for costs not otherwise allocated and the institution of a new differential based on cost accounting studies of the differential costs of furnishing hospital inpatient routine nursing services to persons over age 65. Payments for this differential cost of nursing in fiscal years 1970 and 1971 were delayed until after new regulations were promulgated in July 1971.

The 1972 Amendments authorize payment for non-covered services for which payment was disallowed and the beneficiary was judged not to be at fault. This provision increases the share of services paid by a small amount.

The 1972 Amendments also contain a number of specific provisions which authorize administrative action which could reduce the share of hospital costs paid through the program. Included were provisions intended to reduce payments to certain providers of services who have abused the program or who furnish services which are determined to be unduly expensive or unnecessary for efficient delivery of health services, the requirement of reasonable institutional planning, limitations on reimbursement for disapproved capital expenditures, and the limitation of reimbursement to charges when these are less than reasonable cost. The cost estimates assume that these provisions are implemented gradually over several years as part of the public effort to restrain the increase in cost of institutional care generally assumed in the estimates.

(2) *Effect of Phase II of Implementing the Economic Stabilization Program.*—Regulations promulgated by the Price Commission in December 1971 restricted several of these components of the increase in hospital costs. Costs as recognized for third party reimbursements were treated as prices, and as such were limited by:

(1) Increases in wages and salaries (as recognized for cost based reimbursement) were limited to 5.5 percent per year.

(2) Increases in prices paid for goods and services were limited to 2.5 percent per year.

(3) Increases due to changes in the method of providing the same services were limited to 1.7 percent per year.

(4) An increase in price for any service—including the unit cost (as recognized for reimbursement) for any service for which an institution has a separate charge—was limited to 6 percent per year. The price structure of an institution could not be changed to avoid the effects of this overall control. Thus, for example, the quantity and quality of all services billed for through room and board charges—including any increase in cost due to improving services not specifically billed to any patient or where the cost is too expensive for any patient (e.g., open heart surgery)—were restricted by the 6 percent unless other charges, which are only 40 percent of hospital charges, increased at lower rates. But the same type of problem is also encountered on the other types of services.[1]

The Social Security Administration adopted the policy of withholding reimbursements which reflected increases in costs of more than 9 percent per year (adjusted for volume) in periods after the announcement of controls in August 1971, unless the hospital obtained certification of compliance from the Internal Revenue Service. In November 1972, however, the Price Commission ruled that no restriction should be made on payments for accounting periods starting before July 16, 1971, with the result that most sums withheld for such periods would be paid. Thus it appears that the program will pay most costs recognized according to the normal program reimbursement procedures for periods through the end of fiscal year 1972. Despite early difficulties in implementation and enforcement, the controls appear to have had a substantial impact: aggregate cost increases (on which program reimbursement is based) during 1972 appear to have been at a lower rate than in previous years. The rate of increase in hospital charges was cut in half during 1972.

Strict enforcement of the Phase II regulations without any exceptions would further reduce the average rate of increase in aggregate hospital expenditures to around 9½ percent per year and the average cost per day to around 8 percent per year. Exceptions may be allowed in certain cases, for example, for wage increases covering low paid employees. The benefits that would be paid in fiscal years 1974 and 1975 under these conditions—assuming strict enforcement after July 1, 1973, and few exceptions—are as follows:

[In millions of dollars]

| Fiscal year | HI benefits, this report | HI benefits with strict enforcement | Reduction from present estimates |
|---|---|---|---|
| 1974 | 8,790 | 8,712 | 78 |
| 1975 | 10,440 | 10,161 | 279 |

(3) *Projection of future increases in hospital costs.*—To project the future rate of increase in hospital costs it is necessary to estimate the increase that has occurred since 1971, for which no reliable data is available, and then to project future increases.[1] In order to do this, the causes of past increases are analyzed into components which can be predicted or have been stable—or are affected in a predictable way by administrative policy or other influences.

The average earnings of hospital employees have been increasing more rapidly than the average earnings of other workers over the past decade. Historically, hospital employees earned less than similarly skilled workers in other industries. With the growth in third party reimbursement of hospitals, hospital workers began to receive higher increases in earnings than other workers. The differential has been particularly pronounced since the beginning of the hospital insurance and medicaid programs, which brought the level of third party payments up to the point that most of the financing for hospital care in the United

[1] For a detailed discussion of how the Price Commission regulations would effect the rate of increase in hospital costs if fully implemented, see the Actuarial Appendix of the 1972 Trustees Report.

[1] Many of the principal components of the estimate of 1971 costs are, however, projected from previous years.

States is provided through such payments. As a result hospital managements have tended to assume that any costs incurred would be reimbursed and resistance to expensive increases in the quality of services and wage demands of personnel have been lessened. Under these conditions, average wages of hospital workers have been increasing in excess of 9 percent per year since 1966.

The increase in costs due to personnel expenses appears to be lower in 1972 than in recent years. It appears that the lower rate is due both to hiring fewer additional workers and to lower wage increases. Wage negotiation settlements do not indicate a major change in trend. Further, part of the increase in average wages has been due to a change in composition of the hospital work force so as to include relatively more higher paid personnel (this part of the increase was not restricted by the wage guidelines). The cost estimates assume that the average increase in payroll per hospital employee will be 8 to 8½ percent per year during 1973–75, substantially higher than the rates for all workers. Eventually this difference should disappear entirely, when hospital workers' wages are higher than those for similarly skilled personnel in other industries and the proportion of highly trained personnel grows very large. This has been assumed to occur by 1985 as a result of public pressure on hospitals to reduce the rate of increase in their costs, as generally assumed in the estimates. A graded transition was assumed between 1975 and 1985.

The index used to measure the rate of increase in prices paid by hospitals for factors other than personnel rose from a rate of 3.4 percent per year in 1966 to a level of 7.0 percent in 1970. Apparently as a result of the economic stabilization program, the increase dropped to 5 percent in 1971 and 3.6 percent in 1972. The increases beyond 1972 are projected by the rate of increase in the CPI assumed in projecting the experience of the OASDI program, with an adjustment to reflect the greater proportion of services based on the increase in average earnings.

No data is available beyond 1971 pertaining to increases in costs due to changes in services and how provided. The overall rate of increase in hospital costs has declined moderately from 14 percent in 1971 to around 12 percent in 1972. Part of this increase is attributable to reduced factor costs, and the rest to change in services.

(*b*) *Assumptions as to increases in the cost per capita of skilled nursing facility benefits*

Utilization of skilled nursing facilities dropped very sharply in 1970 and has continued to decline since. This is the result of strict enforcement of regulations separating skilled nursing from custodial care. The 1972 Amendments extended benefits to persons who require skilled rehabilitative services regardless of their need for skilled nursing services (the former prerequisite for benefits). It is anticipated that this change will result in a rapid increase in services rendered in 1973 (the first effective year of the provision) followed by more gradual increases thereafter.

Increases in the average cost per day in skilled nursing 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 containued 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 skilled nursing facility services covered by the program increased by approximately 12.8 percent in 1971 over 1970. It is assumed that the rate of increase will be lowered to about 10 percent in the immediate future and then will gradually decrease so as to merge with the annual rate of increase in general wages by 1980. The resulting increases in the cost per capita of skilled nursing facility services are shown in table A6.

The long run assumption that increases in the cost per day of care in skilled nursing facilities will be equal to the increases in the average earnings after 1979 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*

Reconstruction of the historical cost per capita of home health services is complicated by the substantial delay in bill processing. There have also been changes in administrative policy affecting the amount of interim reimbursement allowed on bills although the program has always ultimately paid the lower of the agencies' charges or reasonable costs.

A modest increase in utilization is projected for the next several years. It is anticipated that cost per service will increase at a rate close to the rate of increase in general wages. The assumptions used in the cost estimates are shown in table A6.

TABLE A6.—INCREASES IN COST PER CAPITA BY TYPE OF SERVICE ASSUMED FOR FORECASTING THE CURRENT COST RATES OF THE HOSPITAL INSURANCE PROGRAM IN THE 1973 TRUSTEES REPORT (INCREASE OVER PRIOR YEAR)

[In percent]

| Year | Extended care facilities | Home health agencies |
|---|---|---|
| 1973 | 25.0 | 7.0 |
| 1974 | 15.0 | 7.0 |
| 1975 | 11.0 | 7.0 |
| 1980 | 6.0 | 6.0 |
| 1985 | 5.0 | 5.0 |
| 1990 | 5.0 | 5.0 |
| 1995 | 5.0 | 5.0 |

(d) *Cost estimates for the disabled and persons suffering from chronic kidney disease*

Estimates for the new groups of beneficiaries are necessarily less reliable than those for the aged. The methodology used to estimate the costs was necessarily improvised to make the best use of such information as was available in proportion to judgments as to its reliability. Estimates of the short-range expenditures for new groups of enrollees are summarized in table A7 and the long range estimates as a percent of payroll are shown in table A8.

(1) *Disabled beneficiaries.*—A survey conducted in 1966 by the Bureau of the Census for the Social Security Administration provided an indication as to the medical costs of the disabled. Such surveys substantially understate the level of cost that will be experienced under an insurance program; however, suitable adjustments can be made. Also, the number of disabled beneficiaries will have more than doubled since this survey, due primarily to expansion of the program. The level of medical expenses for the new groups of beneficiaries added may be different from those surveyed.

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

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

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

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

Specifically, it is assumed that:

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

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

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

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

TABLE A7.—PROJECTION OF BENEFITS FOR DISABLED ENROLLEES AND THOSE WITH CHRONIC KIDNEY DISEASE IN FISCAL YEARS 1974–75[1]

| Fiscal year | Average enrollment (thousands) | Benefits (millions) |
|---|---|---|
| A. Disabled enrollees: | | |
| 1974 | 1,708 | $1,232 |
| 1975 | 1,820 | 1,677 |
| B. Enrollees with chronic kidney disease (other than disabled): | | |
| 1974 | 11 | 65 |
| 1975 | 14 | 84 |

[1] Coverage begins on July 1, 1973.

TABLE A8.—PROJECTED BENEFIT AND ADMINISTRATIVE COSTS FOR THE DISABLED AND CHRONIC KIDNEY DISEASE PATIENTS AS A PERCENT OF TAXABLE PAYROLL: 1973–97

| Year | Disabled | Chronic kidney disease patients |
|---|---|---|
| 1973 | [1] 0.12 | [1] 0.01 |
| 1974 | .27 | .01 |
| 1975 | .29 | .02 |
| 1980 | .41 | .03 |
| 1985 | .46 | .05 |
| 1990 | .51 | .07 |
| 1995 | .56 | .09 |
| 25-year average | .44 | .05 |

[1] For July–December 1973.

(*e*) *Administrative expenses*

The short-range projections of administrative expenses are based on estimates of workloads and approved budgets for carriers and the Social Security Administration. The long-range administrative expenses per capita are assumed to increase at 4 percent each year—that is, 1 percent less than the increase in

average earnings. Historical data showing the relationship between administrative expenses and benefits is shown in table A9 together with projections through 1975.

TABLE A9.—RATIO OF ADMINISTRATIVE EXPENSES TO BENEFIT PAYMENTS

| Calendar year: | *Percent* |
|---|---|
| Historical data: | |
| 1966 [1] | 4.8 |
| 1967 | 2.3 |
| 1968 | 2.4 |
| 1969 | 2.5 |
| 1970 | 3.1 |
| 1971 | 2.6 |
| 1972 | 2.9 |
| Projection: | |
| 1973 | 3.1 |
| 1974 | 3.4 |
| 1975 | 3.4 |

[1] Excludes expenses before program began.

*(f) Interest rate*

It has been assumed that trust fund investments will earn an average of 6 percent interest per annum. The actual rate earned on the hospital insurance trust fund during fiscal 1972 was 6.7 percent.

*(g) Population*

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

(4) *Sensitivity testing of long-term cost estimates.*—Table A10 compares the cost of the program as projected in this Report (column 1) with two alternative projections, based on different assumptions as to the long run rate of increase in hospital costs. The first alternative (column 2) shows the costs that would occur if the rate of hospital cost increases were to decrease moderately to the level of 9 percent per year, and remain at that level over the projection period. The other alternative (column 3) shows what might happen if increases were to continue at the same rate as is anticipated for the immediate future.

TABLE A10.—SUMMARY OF ALTERNATIVE PROJECTIONS OF COST OF HI PROGRAM ALTERNATIVE ASSUMPTIONS AS TO INCREASE IN HOSPITAL COSTS

[In percent]

| Year | This report | Alternative 1 | Alternative 2 |
|---|---|---|---|
| Assumed increase in hospital costs per day: | | | |
| 1973 | 11.3 | 11.3 | 11.3 |
| 1974 | 11.0 | 11.0 | 11.0 |
| 1975 | 11.0 | 11.0 | 11.0 |
| 1980 | 8.5 | 9.0 | 11.0 |
| 1985 | 7.0 | 9.0 | 11.0 |
| 1990 | 7.0 | 9.0 | 11.0 |
| 1995 | 7.0 | 9.0 | 11.0 |
| Current cost ratios and resulting average costs: | | | |
| 1973 | 1.71 | 1.71 | 1.71 |
| 1974 | 1.77 | 1.77 | 1.77 |
| 1975 | 1.86 | 1.86 | 1.87 |
| 1980 | 2.37 | 2.41 | 2.56 |
| 1985 | 2.66 | 2.93 | 3.40 |
| 1990 | 2.99 | 3.60 | 4.56 |
| 1995 | 3.27 | 4.30 | 5.94 |
| Average cost | 2.67 | 3.07 | 3.72 |
| Average tax | 2.63 | 2.63 | 2.63 |
| Actuarial balance | −.04 | −.44 | −1.09 |

In 1972, total U.S. hospital expenditures were about 6 percent of earnings in employment covered by Social Security. If the assumptions of this Report are

realized, hospital expenditures would increase to about 12 percent of payroll in 25 years. Under alternative 1, hospital expenditures would become 16 percent of payroll by 1997 and under alternative 2, they would be 22 percent. This would mean that in 1997, according to the assumptions of this Report, the projected increase in hospital expenses would be roughly 16 percent of the projected increase in earnings in covered employment, somewhat more than the case in recent years. The proportion of the gain in earnings required to pay for more costly hospital care would rise to roughly 27 percent in 1997 under alternative 1 and 47 percent under alternative 2.

(5) *Comparison of estimates in previous reports with actual results*—

(a) *Estimates of financing required.*—Table A11 compares the actual incurred expenditures for the Hospital Insurance Program with the estimates of such expenditures prepared at various times in the past. The estimates of expenditures are used primarily to recommend and test the financing of the program, so an appropriate test of these estimates is to compare the estimated current cost rates to the actual results.

TABLE A11.—COMPARISON OF PREVIOUS COST ESTIMATES EXPRESSED AS A PERCENT OF TAXABLE PAYROLL WITH ACTUAL RESULTS [1]

[In percent]

| | 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.
[3] Committee on Ways and Means, Committee Print 87–369, Dec. 11, 1967.
[4] 1970 "Trustees' Report" for the HI program.
[5] See Table 9.

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

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

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 estimate was prepared and the year for which it was made.

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.

(b) *Estimates of cash disbursements.*—A comparison of the estimates of the disbursements under the HI program in previous reports with the actual outlays appears in Table A12. These estimates have normally been prepared in the September prior to publication of the report in which they appear for use in the planning and budgeting cycle. The actual results are generally available in the August or September following the end of any fiscal year. For example,

the estimate of fiscal 1972 disbursements in the 1972 Report was prepared in September 1971, published in the Federal budget in January 1972—and is compared to the actual outlays as shown in the "semi-final" Treasury Statement which became available in late August 1972. The periods over which estimates for the next three fiscal years are made in each cycle are approximately the next one, two, and three years respectively.

TABLE A12.—COMPARISON OF ACTUAL CASH DISBURSEMENTS WITH THOSE ESTIMATED IN PREVIOUS TRUSTEES REPORTS

[Dollar amounts in millions]

| Fiscal year | Actual amount | Amount and ratio to actual for estimates made:[1] 1 year before end of fiscal year: Amount | 1 year before end of fiscal year: Ratio (percent) | 2 years before end of fiscal year: Amount | 2 years before end of fiscal year: Ratio (percent) | 3 years before end of fiscal year: Amount | 3 years before end of fiscal year: Ratio (percent) |
|---|---|---|---|---|---|---|---|
| 1967 | $2,597 | $2,480 | 95 | $2,426 | 93 | $2,426 | 93 |
| 1968 | 3,815 | 3,452 | 90 | [2] 2,720 | [2] 71 | [2] 2,658 | [2] 70 |
| 1969 | 4,758 | 4,471 | 94 | 3,962 | 83 | [2] 2,925 | [2] 61 |
| 1970 | 4,953 | 5,322 | 107 | [3] 4,881 | [3] 99 | [3] 4,200 | [3] 85 |
| 1971 | 5,592 | 5,750 | 103 | 6,386 | 114 | [3] 5,520 | [3] 99 |
| 1972 | 6,276 | 6,434 | 103 | [4] 6,853 | [4] 109 | [4] 7,516 | [4] 120 |

[1] Estimates are normally prepared the September preceding publication of the Trustees' Report in connection with the preparation of the Federal budget. Semi-final Treasury statements for a fiscal year are normally available in the August following the end of a fiscal year.

[2] Estimates are for the 1965 Act and hence do not reflect the cost of additional benefits resulting from the 1967 Amendments.

[3] Adjusted to reflect transfer of $163,000,000 in fiscal year 1970 and $37,000,000 in fiscal year 1971 from SMI to HI trust fund for combined billing radiology and pathology.

[4] Estimates for fiscal 1972 prepared before 1971 did not reflect the Economic Stabilization Act.

The estimates prepared before 1968 did not reflect the additional benefits resulting from the 1967 Amendments, since estimates are always made for current law. No adjustment has been made to correct this lack of comparability since the cost of the new benefits was relatively small and cannot be determined precisely. No adjustment is made for the many changes in administrative policy from that proposed before the legislation was adopted. The estimates prepared prior to 1969 were based on assumed continuation of the administrative policy of charging payments for inpatient radiology and pathology billed by hospitals initially to the HI program and charging the SMI trust fund only for cash transfers that occurred when cost settlements were made with the hospitals. This policy was changed during 1969 to transferring such payments as incurred. For purposes of comparison, the amounts actually transferred on an interim basis were subtracted from the estimates prepared before this policy was known.

The original estimate for the first year was acceptable close to the actual, but estimates for subsequent years were much too low, due primarily to the very rapid and unprecedented rise in hospital costs after the program began. Part of this increase was due to the general inflation in the economy resulting from the Vietnamese involvement, which in general increased income and outgo in approximately the same proportion. Part was due to subsequent legislation, especially the application of minimum wage legislation to hospitals. But part of these large increases appear to have stemmed from the change in the proportion of hospital expenditures that are reimbursed by third parties that resulted from the HI program itself.

There was a marked improvement in the accuracy of the estimates when substantial program data on an incurred basis became available during 1968. A slowdown of the rate of increase and the reversal of the long run trend to greater relative use of hospitals by persons over age 65, however, led to substantial overestimates in the 1970 and 1971 Reports. Also, the estimates for fiscal 1972 in these Reports did not anticipate wage price controls. The estimates in the 1972 Report appear to have been within a few percent of the actual despite the effect of changes in administrative policy.

## APPENDIX B.—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 hospital insurance program. A summary of its provision, as amended, 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*) Noninsured persons traditionally eligible without charge—all other individuals aged 65 or over before 1968 who are citizens or aliens lawfully admitted for permanent residence with at least 5 consecutive years of residence and who are not retired Federal employees (or dependents of such individuals) covered under the Federal Employees Health Benefits Act of 1959 (including certain individuals who could have been covered if they had so elected). Those in this category attaining age 65 after 1967 must have certain amounts of OASDI (or railroad retirement) coverage to be eligible for HI benefits—namely, 3 quarters of coverage for each year after 1966 and before age 65, so that the provision becomes ineffective after 1975, since then the "regular" OASDI insured status conditions are as easy to meet.

(*c*) Other noninsured persons aged 65 or over—beginning July 1973, other persons over age 65 who meet the residence and citizenship requirements for transitional eligibility can elect to enroll in HI under the same conditions applicable to SMI. Continued coverage depends on payment of the standard monthly premium rate and on continued enrollment in the SMI program.

(*d*) Disabled beneficiaries under age 65 who have been entitled to disability insurance benefits for 24 months or longer. Benefits continue through the month after recovery.

(*e*) Persons under age 65 with chronic kidney disease, requiring dialysis or renal transplant—such individuals, if fully or currently insured, or spouse or dependent child of such insured person, or a monthly beneficiary—are covered under HI, beginning with the 3rd month after month in which course of treatment began and ending with 12th month after month of transplant (or after dialysis terminated).

### 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 first day of hospitalization and ending after the person has been out of a hospital or skilled nursing facility for 60 consecutive days), after payment of the inpatient deductible ($72 in 1973), the cost of the first 3 pints of blood, and copayments of ¼ of the inpatient deductible ($18 in 1973) per day for the 61st through the 90th day. A lifetime reserve of 60 days with copayments of one-half of the inpatient deductible ($36 in 1973) is available for each eligible individual in addition to the days of coverage otherwise available (90 days per spell of illness). There is a lifetime maximum of 190 days for psychiatric hospital care. The inpatient deductible is automatically adjusted each

[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.

year to reflect changes in hospital costs. (See Appendix C for the inpatient deductible promulgated for 1973).

(*b*) Skilled nursing facility (skilled nursing home or convalescent wing of hospital—formerly called "extended care facility") benefits—following at least 3 days of hospitalization and beginning within 14 days of leaving hospital, for care needed on a daily basis that can only be provided by such a facility on an inpatient basis, for up to 100 days of such care in a spell of illness, with copayments of one-eighth of the inpatient deductible ($9.00 in 1973) per day for all days after the 20th.

(*c*) Home health services benefits—following at least 3 days of hospitalization beginning within 14 days of leaving hospital or skilled nursing facility, for 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 outpatient hospital services when equipment cannot be brought to the home.

(*d*) Services not covered—services obtained outside United States (except for emergency services for an illness occurring in the United States, or in transit in Canada between Alaska and another State and except for illness of a person treated in a hospital which is nearer his residence than any in the United States), 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, through fiscal intermediaries (such as Blue Cross, other health insurance organizations, or State agencies) who are able to assist the providers of services in applying safeguards against over-utilization of services. Each provider of services can nominate a fiscal intermediary 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. Establishment of utilization review committees is required for hospitals and skilled nursing facilities, and the latter must develop transfer agreements with hospitals. Special reimbursement provisions apply to Health Maintenance Organizations (in essence, group practice prepayment plans) who elect and are offered at-risk contracts which may reward them financially for more favorable operating experience.

### IV. FINANCING

(*a*) Insured persons—on a long-range self-supporting basis (just as for OASDI) through separate schedule of increasing tax rates on covered workers, with same maximum taxable earnings base as scheduled for OASDI; same rate applies to employees, employers, and self-employed (unlike OASDI).

(*b*) Noninsured persons transitionally eligible—from general revenues, through the HI Trust Fund.

(*c*) Other noninsured who enroll—through a standard monthly premium rate which is approximately self-supporting. The rate is $33 in 1973 and will be increased thereafter at the rate of increase in the inpatient deductible.

(*d*) Reimbursement from general revenues for expenditures resulting from non-contributory wage credits granted to persons who served in the armed forces. The Secretary of Health, Education, and Welfare must determine the level annual appropriations to the trust fund necessary to amortize the estimated total additional costs arising from these payments.

## Appendix C. Determination and Announcement of "Inpatient Deductible for 1973"[1]

### AVERAGE PER DIEM RATE

Pursuant to authority contained in Section 1813(b)(2) of the Social Security Act (42 U.S.C. 1395e(b)(2), as amended, and a ruling of the Price Commission under 6 CFR 300.18 of its regulations, I hereby determine and announce that

[1] This statement was published in the Federal Register for October 11, 1972 (Vol. 37, No. 197, pp. 21452–3).

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 $72 in the case of any spell of illness beginning during 1973.

The Social Security Act 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, 1971) 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 1971 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 interim 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 of interim reimbursements 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 interim costs for a given year on an 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 average interim per diem rate for inpatient hospital services for calendar year 1966, on the basis described, is $37.93, while the corresponding figure for calendar year 1971 is $72.21. It may be noted that these averages are based on about 30 million days of hospitalization in 1966 and 63 million days of hospitalization in 1971. The ratio of the 1971 rate to the 1966 rate is 1.904.

In order to reflect accurately 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 for (ii) 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 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 (1971 and 1966); thus the effect of lifetime reserve days, must be eliminated from the current year tabulation. Actuarial analysis of the data available indicates that these adjustments do not change the ratio shown above by enough to result in a different deductible for 1973. The values shown in this Report do not reflect these adjustments for final cost settlements or lifetime reserve days.

When the ratio of 1.904 is multiplied by $40, it produces an amount of $76.16, which must be rounded to $76. The Cost-of-Living Council, however, has ruled that the inpatient hospital deductible represents a price paid by Medicare recipients for hospital services and is, therefore, governed by Price Commission

regulations limiting the increase which can be charged by institutional providers of health services. The Price Commission has further ruled that the increase allowable is limited to 6 percent. Rounded to the nearest multiple of $4, this produces a rate of $72 for 1973. Accordingly, the inpatient hospital deductible for spells of illness beginning during the calendar year 1973 is $72.

Dated: October 5, 1972.

ELLIOT L. RICHARDSON,
*Secretary.*

EXECUTIVE OFFICE OF THE PRESIDENT,
*October 5, 1972.*

HON. ELLIOT LEE RICHARDSON,
*Secretary of Health, Education, and Welfare,*
*Washington, D.C.*

DEAR MR. SECRETARY: At the request of the Cost of Living Council, the Price Commission has reviewed the proposed increase in the Medicare inpatient hospital deductible for 1973, which you are required to promulgate for Part A of title XVIII of the Social Security Act, relating to health insurance for the aged.

The Cost of Living Council notified the Price Commission, on October 4, 1972, that the deductible represents a price paid by Medicare recipients for hospital services and is governed by the Price Commission regulations which limit the prices that can be charged by institutional providers of health services.

Previously, in accordance with the interpretation that reimbursement of health providers is a price, the Price Commission applied its rules to the proposed increase in the doctors' fee screens, under Part 8 of Medicare, which you were required to promulgate in December of 1971. At that time we held that, in accordance with Price Commission rules applicable to non-institutional providers, increases in screens, based upon cost justification, were limited to 2.5 percent.

The deductible, under Part A of title XVIII is the price paid by the Medicare patient to the provider and is subject to 6 CFR 300.18. This section provides that base price increases on the basis of cost justification, which increase aggregate annual revenues from 2.5 percent to 6 percent, may be made without prior approval, upon notification to the Internal Revenue Service, with cost justification and a new price list to the appropriate Medicare intermediary. Your promulgation will satisfy the above procedural requirements of notification and justification.

The Price Commission, therefore, does not authorize an increase in a deductible of more than 6 percent. In this case, the 6 percent rounded to the nearest dollar would be $4.00, making the total of the deductible $72.00.

We are confident of your continuing cooperation, and we are certain that this action is in the best interests of the provider, the beneficiary, and this industry.

Sincerely,

C. JACKSON GRAYSON, JR.,
*Chairman, Price Commission.*

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