APPENDIX A

ACTUARIAL METHODOLOGY AND PRINCIPAL ASSUMPTIONS FOR THE HOSPITAL INSURANCE COST ESTIMATES

The basic methodology and assumptions for alternative II-A and alternative II-B used in the estimates for the HI program are described in this appendix. These alternatives reflect two different levels of expectation of future performance of the economy. In addition, sensitivity testing of program costs under alternative sets of assumptions is presented.

The economic and demographic assumptions underlying the alternative projections are described in detail in the 1990 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds.

1. PROGRAM COSTS

The principal steps involved in projecting the future costs of the HI program are (1) establishing the present cost of services provided to beneficiaries, by type of service, to serve as a projection base; (2) projecting increases in payment amounts for inpatient hospital services under the program; (3) projecting increases in payment amounts for skilled nursing facility (SNF) and home health agency services covered under the program; and (4) projecting increases in administrative costs. The major emphasis will be directed toward expenditures for inpatient hospital services, which account for approximately 93 percent of total benefits.

a. Projection Base

In order to establish a suitable base from which to project the future costs of the program, the incurred payments for services provided must be reconstructed for the most recent period for which a reliable determination can be made. To do this, payments to providers must be attributed to dates of service, rather than to payment dates. In addition, the nonrecurring effects of any changes in regulations, legislation, or administration of the program and of any items affecting only the timing and flow of payments to providers must be eliminated. As a result, the rates of increase in the incurred cost of the program differ from the increases in cash disbursement shown in tables 5 and 6.

For those expenses still reimbursed on a reasonable cost basis, the costs for covered services are determined on the basis of provider cost reports. Payments to a provider initially are made on an interim basis; to adjust interim payments to the level of retroactively determined costs, a series of payments or recoveries is effected through the course of cost settlement with the provider. The net amounts paid to date to providers in the form of cost settlements are known; however, the incomplete data available do not permit a precise determination of the exact amounts incurred during a specific period of time. Due to the time required to obtain cost reports from providers, to verify these reports, and to perform audits (where appropriate), final settlements have lagged behind the liability for such payments of recoveries by as much as several years for some providers. Hence, the final cost of services reimbursed on a reasonable cost basis has not been completely determined for the most recent years of the program, and some degree of uncertainty remains even for earlier years.

Even for inpatient hospital operating payments paid for on the basis of diagnosis-related groups (DRGs), most payments are initially made on an interim basis, and final payments are determined on the basis of bills containing detailed diagnostic information which are later submitted by the hospital.

Additional problems are posed by changes in legislation or regulation, or in administrative or reimbursement policy, which have a substantial effect on either the amount or incidence of payment. The extent and timing of the incorporation of such changes into interim payment rates and cost settlement amounts cannot be determined precisely.

The process of allocating the various types of payments made under the program to the proper incurred period--using incomplete data and estimates of the impact of administrative actions--presents difficult problems, the solutions to which can be only 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 increases the projection error directly, by incorporating any error in estimating the base year into all future years.

b. Payments for Inpatient Hospital Costs

Beginning with hospital accounting years starting on or after October 1, 1983, the HI program began paying almost all participating hospitals a prospectively determined amount

for providing covered services to beneficiaries. With the exception of certain expenses (such as capital related and medical education expenses) reimbursed on a reasonable cost or per resident cost basis, as defined by law, the payment rate for each admission depends upon the DRG to which the admission belongs.

The law contemplates that the annual increase in the payment rate for each admission will be related to a hospital input price index, which measures the increase in prices for goods and services purchased by hospitals for use in providing care to hospital inpatients. For fiscal years through 1990, the prospective payment rates have already been determined. The projections contained in this report are based on the assumption that for fiscal years 1991 and later, the prospective payment rates will be increased in accordance with Public Law 100-203, the Omnibus Budget Reconciliation Act of 1987.

Increases in aggregate payments for inpatient hospital care covered under the HI program can be analyzed into four broad categories:

(1) Labor factors--the increase in the hospital input price index which is attributable to increases in hospital workers' hourly earnings;

(2) Non-labor factors--the increase in the hospital input price index which is attributable to factors other than hospital workers' hourly earnings, such as the costs of energy, food, and supplies;

(3) Unit input intensity allowance--the increase in inpatient hospital payments per admission which are in excess of those attributable to increases in the hospital input price index; and

(4) Volume of services--the increase in total output of units of service (as measured by hospital admissions covered by the HI program).

It has been possible to isolate some of these elements and to identify their roles in previous hospital cost increases. Table Al shows the values of the principal components of the increases for historical periods for which data are available and the projected trends used in the estimates. The following discussions apply to projections under both alternative II-A and alternative II-B, unless otherwise indicated.

Increases in hospital workers' hourly earnings can be analyzed and projected in terms of the assumed increases in hourly earnings in employment in the general economy and the difference between hourly earnings increases in the general economy and the proxy for hospital hourly earnings used in the hospital input price index.

Since the beginning of the HI program, the differential between the proxy for hospital workers' hourly earnings and hourly earnings in the general economy has fluctuated widely. Since 1975, this positive differential has averaged about 0.3 percent, as hospital workers' earnings have risen faster than general earnings. Several factors contributing to this differential can be identified, including (1) growth in third-party reimbursement of hospitals--through Medicare, Medicaid, and comprehensive private plans -- which is likely

to have weakened hospital resistance to wage demands; (2) increased proportions of highly trained and more highly paid personnel; (3) an increased degree of labor organization and activity; and (4) the fact that hospital employees had historically earned less than similarly skilled workers in other industries. During the initial years of the prospective payment system, it appears that hospital hourly earnings were depressed relative to those in the general economy as hospitals adapted to the prospective payment system. This differential is assumed to grow to a level of one-half percent over the short term, declining to zero just after the end of the first 25-year projection period.

Increases in hospital price input intensity, which are primarily the result of price increases for goods and services that hospitals purchase which do not parallel increases in the Consumer Price Index (CPI), are measured as the difference between the non-labor component of the hospital input price index and the CPI. Although the level has fluctuated erratically in the past, this differential has averaged about one-half percent during 1975-1988. Over the short term, hospital price input intensity is assumed to remain at a level of one-half percent, declining to zero just after the end of the first 25-year period.

Public Law 100-203 prescribes that future increases in payments to participating hospitals for covered admissions in most years will equal the increase in the hospital input price index. Thus, the unit input intensity allowance, as indicated in table A1, is assumed to equal zero in most years during the first 25-year projection period. After the first 25-year projection period, the input price index plus the unit input intensity allowance is assumed to increase at the same rate as average earnings increase. For years prior to the beginning of the prospective payment system, the unit input intensity allowance has been

set at one percent for illustrative purposes, with historical increases in excess of one percent allocated to other sources. For years after the beginning of the prospective payment system, the unit input intensity allowance is the allowance provided for in the prospective payment update factor.

Since the beginning of the prospective payment system, increases in inpatient hospital payments from other sources are primarily due to three factors: (1) the improvement in DRG coding as hospitals continue to adjust to the prospective payment system; (2) the trend toward treating less complicated (and thus, less expensive) cases in outpatient settings, resulting in an increase in the average prospective payment per admission; and (3) legislation affecting the payment rates. The effects of several budget reconciliation acts, sequesters as required by the Gramm-Rudman-Hollings Act, and other legislative effects are reflected in other sources as appropriate. Some of the expansions in hospital payments due to the Medicare Catastrophic Coverage Act of 1988, and the subsequent reductions in hospital payments due to the Medicare Catastrophic Coverage Repeal Act of 1989, are reflected in other sources for 1989 to 1991. A two percent increase for fiscal years 1991 through 2000 and a one percent increase for fiscal years 2001 through 2014 reflected in other sources are attributable to a continuation of the current trend toward treating less complicated cases in outpatient settings and continued improvement in DRG coding. Additionally, part of the increase from other sources can be attributed to the increase in payments for certain costs not included in the DRG payment; these costs generally increasing at a rate faster than the input price index. Possible other sources of both relative increases and decreases in payments include (1) a shift to more or less expensive admissions (DRGs) due to changes in the demographic characteristics of the covered population;

(2) changes in medical practice patterns; and (3) adjustments in the relative payment levels for various DRGs or addition/deletion of DRGs in response to changes in technology. As experience under the prospective payment system continues to develop and is further analyzed, it may be possible to establish a predictable trend for this component.

Other factors which contribute to increases in payments for inpatient hospital services include increases in units of service as measured by increases in inpatient hospital admissions covered under the HI program. Increases in admissions are attributable both to increases in enrollment under the HI program and to increases in admission incidence (admissions per beneficiary). The historical and projected increases in enrollment reflect the more rapid increase in the population aged 65 and over than in the total population of the United States, and the coverage of certain disabled beneficiaries and persons with end-stage renal disease. Increases in the enrollment are expected to continue, reflecting a continuation of the demographic shift into categories of the population which are eligible for HI protection. In addition, increases in the average age of beneficiaries lead to higher levels of admission incidence. Admission incidence levels are also often affected by changes in the laws and regulations that define and guide the HI program's coverage of inpatient hospital care.

c. Skilled Nursing Facility and Home Health Agency Costs

Historical experience with the number of days of care covered in SNFs under the HI program has been characterized by wide swings. The number of covered days dropped very sharply in 1970 and continued to decline through 1972. This was the result of strict

enforcement of regulations separating skilled nursing care from custodial care. Because of the small fraction of nursing home care covered under the program, this reduction primarily reflected the determination that Medicare was not liable for payment rather than reduced usage of services. 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). This change and subsequent related changes in regulations have resulted in significant increases in the number of services covered by the program. More recently, changes made in 1988 to coverage guidelines for SNF services resulted in about a 50 percent increase in utilization, and expansions and changes due to the Medicare Catastrophic Coverage Act of 1988, effective January 1, 1989, resulted in about another 250 percent increase in utilization of SNF services. The projections contained in this report reflect, for 1990, a reduction in utilization consistent with the SNF transition provisions of the Medicare Catastrophic Coverage Repeal Act of 1989 and, for 1991, the complete repeal of the catastrophic expansions and changes, as also mandated by the Act. Modest increases in covered days, based on growth and aging of the population, are projected for 1992 and later, and are included in the 1990 and 1991 projections as well.

Increases in the average cost per day (where cost is defined to be the total of program reimbursement and beneficiary cost sharing) in skilled nursing facilities under the program are caused principally by increasing payroll costs for nurses and other required skilled labor. Projected rates of increase in cost per day are assumed to be about the same as increases in general earnings throughout the projection period. Increases in reimbursement per day reflect the changes in beneficiary cost sharing mandated by the catastrophic coverage and catastrophic coverage repeal legislation.

The resulting increases in expenditures for SNF services are shown in table A2.

Program experience with home health agency payments has shown a generally upward trend. The number of visits had increased sharply from year to year, but some decreases, albeit small in magnitude relative to past increases, were experienced in the mid-1980's; these were followed recently by modest increases. Continued modest increases, based on growth and aging of the population, are projected. Reimbursement per visit is assumed to increase at about the same rate as increases in general earnings. The resulting increases in expenditures for home health agency services are shown in table A2.

d. Administrative Expenses

The costs of administering the HI program have remained relatively small, in comparison with benefit amounts, throughout the history of the program. The ratio of administrative expenses to benefit payments has generally fallen within the range of 1 to 3 percent. The short-range projection of administrative cost is based on estimates of workloads and approved budgets for intermediaries and the Health Care Financing Administration. In the long range, administrative cost increases are based on assumed increases in workloads, primarily due to growth and aging of the population, and on assumed unit cost increases of slightly less than the increases in average hourly earnings shown in table A1.

2. FINANCING

In order to analyze costs and to evaluate the financing of a program supported by payroll taxes, program costs must be compared on a year-by-year basis with the taxable payroll which provides the source of income for these costs. Since the vast majority of total program costs are related to insured beneficiaries and since general revenue appropriations and premium payments are available to support the uninsured segments, the remainder of this report will focus on the financing for insured beneficiaries.

a. Taxable Payroll

Taxable payroll increases can be separated into a part due to increases in covered earnings and a part due to increases in the number of covered workers. The taxable payroll projection used in this report is based on economic assumptions consistent with those used in the OASDI report. Increases in taxable payroll assumed for this report are shown in table A2.

b. Relationship Between Program Costs and Taxable Payroll

The single most meaningful measure of program cost increases, with reference to the financing of the system, is the relationship between program cost increases and taxable payroll increases. If the rates of increase in both series are the same, a level tax rate over time will be adequate to support the program. However, to the extent that program costs increase more rapidly than taxable payroll, either a schedule of increasing tax rates or a

reduction in program costs will be required to finance the system over time. Table A2 shows the resulting increases in program costs relative to taxable payroll over the first 25-year projection period. These relative increases reduce gradually to a level of slightly above two percent per year by 2010, but increase to a level of about four percent per year by 2014 for alternatives II-A and II-B, just after the post-World War II "baby boom" start becoming eligible for benefits. The result of these increases is a continued increase in the year-by-year ratios of program expenditures to taxable payroll, as shown in table A3.

3. SENSITIVITY TESTING OF COSTS UNDER ALTERNATIVE ASSUMPTIONS

Over the past 20 years, aggregate inpatient hospital costs for Medicare beneficiaries have increased substantially faster than increases in average earnings and prices in the general economy. Table A1 shows the experience of the HI program for 1975 to 1988. As mentioned earlier, the HI program now makes payments to most participating hospitals on a prospective basis (with the exception of certain expenses). Thus, the trends in aggregate HI inpatient hospital costs prior to 1983, as shown in the historical section of table A1, have little relation to the projected HI inpatient hospital payments. The prospective payment system has made the outlays of the HI program potentially less vulnerable to excessive rates of growth in the hospital industry. However, there is some uncertainty in projecting HI expenditures due to the uncertainty of the underlying economic assumptions and utilization increases. In addition, there is some uncertainty in projecting HI inpatient hospital payments due to the possibility of future legislation affecting the payment levels to hospitals.

In view of the uncertainty of future cost trends, projected costs for the HI program have been prepared under four alternative sets of assumptions. A summary of the assumptions and results is shown in table A3. The sets of assumptions labeled "Alternative II-A" and "Alternative II-B" form the basis for the detailed discussion of hospital cost trends and resulting program costs presented throughout this report. They represent intermediate sets of cost increase assumptions, compared with the lower cost and more optimistic alternative I and the higher cost and less optimistic alternative III. Increases in the economic factors (average hourly earnings and CPI) for the four alternatives are consistent with those underlying the OASDI report.

As noted earlier, the single most meaningful measure of HI program cost increases, with reference to the financing of the system, is the relationship between program cost increases and taxable payroll increases. The extent to which program cost increases exceed increases in taxable payroll will determine how steeply tax rates must be increased or program costs curtailed to finance the system over time.

By the end of the first 25-year projection period, program costs are projected to increase about 4 percent faster per year than increases in taxable payroll for alternatives II-A and II-B, as discussed in the "Financing" section of this appendix. Program costs beyond the first 25-year projection period are based on the assumption that costs per unit of service will increase at the same rate as earnings increase. Program expenditures, which were about 2.6 percent of taxable payroll in 1989, increase to a level of about 5 percent by the year 2014 under both alternatives II-A and II-B and to between 8 and 9 percent by the year 2064. Hence, if all of the projection assumptions are realized over time, HI tax rates

provided in the present financing schedule (2.9 percent of taxable payroll) will be inadequate to support the cost of the program.

During the first 25-year projection period, alternatives I and III contain assumptions which result in program costs increasing, relative to taxable payroll increases, approximately 2 percent less rapidly and 2 percent more rapidly, respectively, than the results under both sets of intermediate assumptions. Costs beyond the first 25-year projection period assume the 2 percent differential gradually decreases until the year 2039 when program cost increases relative to taxable payroll are approximately the same as under both sets of intermediate assumptions. Under alternative I, program costs increase about 1.2 percent more per year than increases in taxable payroll during the first 25-year projection period. Program expenditures under this alternative would be about 3.5 percent of taxable payroll in the year 2014, increasing to about 4.5 percent of taxable payroll by 2064. The average program costs for the 75-year projection period are about 3.7 percent of taxable payroll; hence, HI tax rates provided in the present financing schedule will be inadequate even under the optimistic alternative I assumptions. Under alternative III, program costs increase about 4.8 percent more rapidly per year than increases in taxable payroll during the first 25-year projection period. The result of this differential is a level of program expenditures in the year 2014 which is about 8.5 percent of taxable payroll, increasing to about 18.0 percent of taxable payroll in the year 2064.

TABLE A1.--COMPONENTS OF HISTORICAL AND PROJECTED INCREASES IN HI INPATIENT HOSPITAL PAYMENTS 1/
(Percent)

Calendar year	Labor			Non-labor			Input price index	Unit input intensity allowance 2/	Units of service		Other sources	HI inpatient hospital payments
	Average hourly earnings	Hospital hourly earnings level	Hospital hourly earnings	CPI	Hospital price input intensity	Non-labor hospital prices			HI enrollment	Admission incidence		
Historical Data:												
1975	8.2%	0.6%	8.8%	9.2%	3.4%	12.9%	10.5%	1.0%	3.4%	0.1%	6.1%	22.5%
1976	7.8	-0.2	7.6	5.7	1.7	7.5	7.6	1.0	2.9	1.5	5.1	19.2
1977	6.8	0.0	6.8	6.5	0.6	7.1	6.9	1.0	3.0	4.6	0.8	17.2
1978	8.0	-0.3	7.7	7.6	-0.8	6.7	7.3	1.0	2.7	-1.9	5.3	14.9
1979	8.5	-0.6	7.8	11.4	-1.1	10.2	8.8	1.0	2.7	3.1	0.2	16.5
1980	7.7	1.9	9.7	13.5	0.8	14.4	11.8	1.0	2.1	2.4	2.4	20.8
1981	9.0	1.2	10.3	10.3	-0.5	9.8	10.1	1.0	1.9	2.7	3.0	19.7
1982	5.9	2.8	8.9	6.0	0.3	6.3	7.7	1.0	1.8	0.0	4.6	15.7
1983	4.4	1.8	6.3	3.0	1.2	4.2	5.4	1.0	1.7	0.8	1.9	11.2
1984	5.8	-0.4	5.4	3.4	0.5	3.9	4.7	1.0	1.8	-3.8	7.6	11.4
1985	5.3	-0.9	4.4	3.5	-0.9	2.6	3.6	0.0	1.6	-7.4	8.8	6.0
1986	5.1	-1.3	3.7	1.6	0.5	2.1	3.0	-2.8	2.3	-4.9	6.8	4.1
1987	5.0	-0.9	4.1	3.6	0.2	3.8	4.0	-2.9	1.7	-4.3	5.0	3.3
1988	4.0	0.8	4.8	4.0	1.5	5.6	5.1	-2.7	2.0	-0.8	1.9	5.6
Projection:												
Alternative II-A												
1989	5.8	-0.8	5.0	4.8	1.2	6.1	5.5	-1.6	2.1	-1.9	3.6	7.8
1990	5.2	0.7	5.9	4.0	0.2	4.2	5.2	0.2	1.9	0.4	0.2	8.1
1991	5.5	0.3	5.8	4.0	0.8	4.8	5.4	0.0	1.7	1.2	2.7	11.4
1992	5.4	0.5	5.9	3.9	0.5	4.4	5.3	0.0	1.6	1.2	1.8	10.2
1993	5.3	0.5	5.8	3.6	0.5	4.1	5.1	0.0	1.5	1.3	1.8	10.0
1994	5.1	0.5	5.6	3.3	0.5	3.8	4.9	0.0	1.5	1.3	1.9	9.9
1995	4.9	0.5	5.4	3.1	0.5	3.6	4.7	0.0	1.4	1.3	1.9	9.6
2000	4.6	0.5	5.1	3.0	0.5	3.5	4.5	0.0	1.0	1.0	1.8	8.5
2005	4.8	0.5	5.3	3.0	0.5	3.5	4.7	0.0	1.2	0.5	1.0	7.5
2010	4.8	0.5	5.3	3.0	0.5	3.5	4.7	0.0	1.7	-0.2	1.0	7.3
2014	4.9	0.5	5.4	3.0	0.5	3.5	4.8	0.0	3.5	-0.5	1.1	9.1
Alternative II-B												
1989	5.8	-0.8	5.0	4.8	1.2	6.1	5.5	-1.6	2.1	-1.9	3.6	7.8
1990	5.3	0.6	5.9	4.4	-0.2	4.2	5.2	0.2	1.9	0.4	0.2	8.1
1991	5.3	0.5	5.8	4.5	0.3	4.8	5.4	0.0	1.7	1.2	2.8	11.5
1992	5.5	0.5	6.0	4.5	0.5	5.0	5.6	0.0	1.6	1.2	1.8	10.5
1993	5.5	0.5	6.0	4.3	0.5	4.8	5.5	0.0	1.5	1.3	2.0	10.6
1994	5.6	0.5	6.1	4.2	0.5	4.7	5.5	0.0	1.5	1.3	1.9	10.5
1995	5.6	0.5	6.1	4.0	0.5	4.5	5.5	0.0	1.4	1.3	2.0	10.5
2000	5.6	0.5	6.1	4.0	0.5	4.5	5.5	0.0	1.0	1.0	1.7	9.4
2005	5.5	0.5	6.0	4.0	0.5	4.5	5.5	0.0	1.2	0.5	1.0	8.4
2010	5.5	0.5	6.0	4.0	0.5	4.5	5.5	0.0	1.7	-0.2	1.0	8.1
2014	5.6	0.5	6.1	4.0	0.5	4.5	5.6	0.0	3.5	-0.5	1.1	9.9

1/ Percent increase in year indicated over previous year, on an incurred basis.
2/ Reflects the allowances provided for in the prospective payment update factors.

NOTE: Historical and projected data reflect a recalibration of the hospital input price index which occurred in 1986.

TABLE A2.--**RELATIONSHIP BETWEEN INCREASES IN HI PROGRAM EXPENDITURES AND INCREASES IN TAXABLE PAYROLL** 1/
(Percent)

Calendar year	Inpatient hospital 2/ 3/	Skilled nursing facility 3/	Home health agency 3/	Weighted average 3/ 4/	HI administrative costs 3/ 5/	HI program expenditures 3/	HI taxable payroll	Ratio of expenditures to payrolls 6/
Alternative II-A								
1990	8.2%	-59.2%	9.0%	4.4%	19.9%	4.6%	6.1%	-1.4%
1995	9.6	7.2	7.5	9.5	6.7	9.5	5.8	3.5
2000	8.5	6.7	7.1	8.4	5.9	8.4	6.2	2.0
2005	7.5	6.4	6.6	7.5	5.5	7.5	5.5	1.9
2010	7.3	6.0	6.1	7.3	5.4	7.2	5.1	2.1
2014	9.1	7.7	7.6	9.0	6.9	9.0	4.8	4.0
Alternative II-B								
1990	8.2%	-59.2%	9.0%	4.4%	19.9%	4.6%	6.1%	-1.4%
1995	10.5	7.8	8.0	10.4	7.2	10.4	6.1	4.0
2000	9.4	7.1	7.6	9.3	6.4	9.3	5.8	3.3
2005	8.4	6.8	7.1	8.4	6.1	8.3	6.1	2.1
2010	8.1	6.4	6.7	8.1	5.9	8.0	5.7	2.2
2014	9.9	8.1	8.1	9.8	7.4	9.8	5.4	4.2

1/ Percent increase in year indicated over previous year.
2/ This column differs slightly from the last column of table A1, since table A1 includes all persons eligible for HI protection while this table excludes noninsured persons.
3/ Costs attributable to insured beneficiaries only, on an incurred basis. Benefits and administrative costs for noninsured persons are financed through general revenue transfers and premium payments, rather than through payroll taxes.
4/ Includes costs for hospice care.
5/ Includes costs of Peer Review Organizations.
6/ Percent increase in the ratio of program expenditures to taxable payroll. This is equivalent to the differential between the increase in program costs and the increase in taxable payroll.

NOTE: Taxable payroll is adjusted to take into account the lower contribution rates on multiple-employer "excess wages," as compared with the combined employer-employee rate.

TABLE A3.--SUMMARY OF ALTERNATIVE PROJECTIONS FOR THE HOSPITAL INSURANCE PROGRAM
(Percent)

Calendar year	Increases in aggregate HI inpatient hospital payments 1/				Changes in the relationship between expenditures and payroll 1/			Expenditures as a percent of taxable payroll 3/ 4/
	Average hourly earnings	CPI	Other factors 2/	Total 3/	Program expenditures 3/ 4/	Taxable payroll	Ratio of expenditures to payroll	
ALTERNATIVE I								
1990	4.7%	3.4%	3.3%	7.6%	4.2%	6.1%	-1.7%	2.54%
1995	4.3	2.1	4.2	7.8	7.8	5.5	2.2	2.83
2000	3.4	2.0	3.5	6.5	6.6	5.1	1.5	3.06
2005	4.2	2.0	1.8	5.3	5.4	5.0	0.4	3.13
2010	4.2	2.0	1.6	5.1	5.2	4.7	0.5	3.26
2014	4.2	2.0	3.3	6.9	6.9	4.4	2.4	3.48
ALTERNATIVE II-A								
1990	5.2%	4.0%	3.3%	8.1%	4.6%	6.1%	-1.4%	2.56%
1995	4.9	3.1	5.2	9.6	9.5	5.8	3.5	3.05
2000	4.6	3.0	4.3	8.5	8.4	6.2	2.0	3.51
2005	4.8	3.0	3.2	7.5	7.5	5.5	1.9	3.87
2010	4.8	3.0	3.0	7.3	7.2	5.1	2.1	4.35
2014	4.9	3.0	4.6	9.1	9.0	4.8	4.0	4.95
ALTERNATIVE II-B								
1990	5.3%	4.4%	3.0%	8.1%	4.6%	6.1%	-1.4%	2.56%
1995	5.6	4.0	5.3	10.5	10.4	6.1	4.0	3.13
2000	5.6	4.0	4.2	9.4	9.3	5.8	3.3	3.69
2005	5.5	4.0	3.3	8.4	8.3	6.1	2.1	4.12
2010	5.5	4.0	3.0	8.1	8.0	5.7	2.2	4.68
2014	5.6	4.0	4.6	9.9	9.8	5.4	4.2	5.36
ALTERNATIVE III								
1990	4.0%	4.8%	3.4%	7.9%	4.3%	4.1%	0.3%	2.61%
1995	7.2	5.3	6.2	13.0	12.8	7.3	5.1	3.50
2000	6.5	5.0	5.0	11.2	11.0	5.2	5.5	4.52
2005	6.2	5.0	4.9	10.9	10.8	6.5	4.0	5.51
2010	6.2	5.0	4.6	10.6	10.4	6.1	4.1	6.85
2014	6.2	5.0	6.3	12.4	12.2	5.7	6.1	8.46

1/ Percent increase in the year indicated over the previous year.
2/ Other factors include hospital hourly earnings, hospital price input intensity, unit input intensity allowance, units of service as measured by admissions, and other sources.
3/ On an incurred basis.
4/ Includes expenditures attributable to insured beneficiaries only.

NOTE: Taxable payroll is adjusted to take into account the lower contribution rates on multiple-employer "excess wages," as compared with the combined employer-employee rate.

APPENDIX B

ORIGINAL ANNOUNCEMENT OF THE MEDICARE PART A (HOSPITAL INSURANCE) INPATIENT HOSPITAL DEDUCTIBLE, FOR CALENDAR YEAR 1990 1/

SUMMARY: This notice announces that the inpatient hospital deductible for calendar year 1990 under Medicare's hospital insurance program (Part A) is $592. The Medicare statute specifies the formula to be used to determine this amount.

Effective Date: January 1, 1990.

SUPPLEMENTARY INFORMATION:

I. Background

Section 1813 of the Social Security Act (the Act) provides for an inpatient hospital deductible to be subtracted from the amount payable by Medicare for inpatient hospital services furnished to a beneficiary. Section 1813(b)(2) of the Act requires the Secretary to determine and publish between September 1 and September 15 of each year the amount of the inpatient hospital deductible applicable for the following calendar year. Section

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1/ Extracted from the notice entitled "Medicare Program; Inpatient Hospital Deductible for 1990," which was published in the Federal Register on September 29, 1989 (Vol. 54, No. 188, pp. 40205-40206). The Medicare Catastrophic Coverage Repeal Act of 1989, enacted December 13, 1989, did not affect the deductible amount for 1990 ($592) that is announced here. However, the Repeal Act restored the benefit period and inpatient hospital coinsurance provisions that existed prior to 1989; as a result, there is inpatient hospital coinsurance in 1990, benefit periods are reinstated, and there are higher estimated costs to beneficiaries than those shown in this notice. See appendix E for further information.

9301 of the Omnibus Budget Reconciliation Act of 1986 (Pub. L. 99-509) amended section 1813(b) of the Act to establish for the years after 1987 the method for computing the amount of the inpatient hospital deductible. The deductible specified for 1987 was $520 and, under the formula specified in the law, the deductible for subsequent calendar years is the deductible for the preceding year multiplied by the same percentage increase (that is, the update factor) used for updating the prospective payment rates for inpatient hospital services effective October 1 of the same preceding year and adjusted to reflect real case mix. The amount so determined is rounded to the nearest multiple of $4. The deductible for 1988 calculated in this manner is $540.

Section 1813(b) of the Act was further amended by section 4002(f) of the Omnibus Budget Reconciliation Act of 1987 (Pub. L. 100-203), as amended by section 411(b)(1)(H)(ii) of the Medicare Catastrophic Coverage Act of 1988 (Pub. L. 100-360), to require that, beginning with the deductible for 1989, the deductible be changed each year by the Secretary's best estimate of the payment-weighted average of the applicable percentage increases used for updating the payment rates for hospitals (according to whether they are prospective payment system hospitals in rural, large urban, or other urban areas or are hospitals excluded from the prospective payment system) and adjusted to reflect real case mix. (For discharges occurring during Federal fiscal year (FY) 1989 (that is, discharges occurring on or after October 1, 1988 and before October 1, 1989), section 1886(b)(3)(B) of the Act provides for separate percentage increases for hospitals in rural, large urban, and other urban areas as well as for hospitals excluded from the prospective payment system. Therefore, without the amendment made by Pub. L. 100-360, we would have been required to assess four different deductibles, according to the status or location

of the hospital to which a beneficiary was admitted when a deductible is applicable.) The deductible for 1989 calculated in this manner was $560.

Section 1886(b)(3)(B) of the Act provides that, for FY 1990, the applicable percentage increase for hospitals in all areas and hospitals excluded from the prospective payment system shall be the market basket percentage increase which for 1990 is 5.5 percent. Thus, using the methodology required by section 1813(b)(1) of the Act, the payment-weighted average of these increases in the payment rates is also 5.5 percent.

An average case mix is calculated for each hospital that reflects the relative costliness of that hospital's mix of cases. We computed the increase in average case mix for hospitals paid under the prospective payment system in FY 1989 compared to FY 1988. (Hospitals excluded from the prospective payment system were excluded from this calculation since their payments are based on reasonable costs and are affected only by real increases in case mix). We used bills from prospective payment hospitals received in HCFA as of the end of July 1989. This is a total of about 6.2 million discharges for FY 1989. The increase in average case mix in FY 1989 is computed to be 1.91 percent.

Although the average case mix has increased by 1.91 percent in FY 1989, section 1813 of the Act requires that the inpatient hospital deductible be increased only by that portion of the case-mix increase that is determined to be real. The long-term trend in real case-mix increase was determined to be approximately 0.5 percent. During the first few years of the prospective payment system, estimated real case-mix increases exceeded that level, primarily because of the shift of many lower-cost treatments out of the inpatient

hospital setting. This shift out of the inpatient hospital setting resulted in declining Medicare hospital admissions. However, during 1988 and 1989, hospital admission patterns have returned to levels consistent with long-term trends. Therefore, we believe that real case-mix increase has also returned to the long-term trend level of 0.5 percent. As a consequence, we believe that the case-mix increase associated with coding changes totals 1.41 percent and, for purposes of determining the 1990 inpatient hospital deductible, we are estimating the real case-mix increase at 0.5 percent.

Thus, the estimate of the payment-weighted average of the applicable percentage increases used for updating the payment rates is 5.5 percent, and the case-mix adjustment factor for the deductible is 0.5 percent.

II. Inpatient Hospital Deductible for 1990

The inpatient hospital deductible for calendar year 1990 is $560 times the payment rate increase of 1.055 times the increase in average real case mix of 1.005 which equals $593.75 and is rounded to $592.

III. Costs to Beneficiaries

We estimate that in 1990 there will be 6.6 million deductibles paid at $592 each, compared to 6.4 million deductibles paid at $560 each in 1989. The estimated total increase in cost to beneficiaries is $320 million (rounded to the nearest $10 million), due to the deductible increase and the increase in the number of deductibles.

IV. Regulatory Impact Statement

This notice merely announces an amount required by legislation. This notice is not a proposed rule or a final rule issued after a proposal and does not alter any regulation or policy. Therefore, we have determined, and the Secretary certifies, that no analyses are required under Executive Order 12291, the Regulatory Flexibility Act (5 U.S.C. 601 through 612), or section 1102(b) of the Act.

Dated: September 11, 1989.

Louis B. Hays,
Acting Administrator,
Health Care Financing Administration

Approved: September 25, 1989.

Louis W. Sullivan,
Secretary,
Department of Health and Human Services