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COMPARISON OF ACTUAL EXPERIENCE UNDER HI WITH ESTIMATES OF VARIOUS ORGANIZATIONS

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This Actuarial Note presents an analysis of the actual experience under the Hospital Insurance program during its early period of operation with estimates that were made by the Social Security Administration and various other organizations at the time the legislation was being considered in the early part of 1965. The SSA estimates considered here are those developed at the time the final legislation was being enacted, which reflect certain upward adjustments in cost factors recommended by the House Ways and Means Committee on the basis of testimony from the several other organizations. The cost estimates for the other organizations are contained in the volumes of "Executive Hearings before the House Ways and Means Committee on H.R. 1 and Other Proposals for Medical Care for the Aged (January 27 to February 16, 1965)".

The cost estimates made by the several private organizations related to the original Administration proposal, whereas the actual experience has, of course, been for the legislation finally enacted. However, there were relatively few important changes from a cost standpoint between these two bases, except that the in-hospital professional component of anesthesiology, pathology, and radiology (RAP) services were included in HI in the Administration proposal, but not in the final legislation. This requires an adjustment of 4% relatively in total costs and in average daily hospital costs. Otherwise, with appropriate adjustments where they are necessary and possible, the two bases can be considered to be approximately equivalent for broad comparative purposes.

The major cost item is the inpatient hospital benefit. Both bases have the same dynamic deductible feature. The Administration proposal, however, had a benefit period of 60 days, while the final legislation provided 90 days, but with coinsurance of \$10 per day after the first 60 days, a slightly higher cost thus resulting. The extended care facility (ECF) benefits under the final legislation had a higher cost because of providing 100 days of benefits within a benefit period, instead of 60 days, but this was probably more than counterbalanced by having coinsurance of \$5 per day (initially) for all days after 20, as against no coinsurance in the Administration proposal. The final legislation was less costly as to home health service benefits because it provided for only 100 visits during a calendar year, instead of 240 visits as under the Administration proposal (a relatively small cost item, however). The outpatient hospital diagnostic benefits under the final legislation were somewhat less costly than under the Administration proposal, because they contained a 20% coinsurance element (again, a relatively small cost matter).

Three organizations made cost estimates as to some or all of the cost elements involved in HI—namely, the American Hospital Association (AHA) the Blue Cross Association (BCA), and the insurance business (being the coordinated testimony of four trade associations for health insurance companies and life insurance companies).

The AHA testified only as to likely future trends of hospital costs. The AHA estimated that, over the 5-year period following 1965, average daily hospital costs would increase

by about 7% per year, and thereafter should level off (being affected then by increases in the general cost of living and by advances in medical science). The SSA cost estimates used a similar assumption for this cost element. As has been indicated elsewhere, the increase in average daily hospital costs since 1965 has been about twice as high as this estimate.

The BCA made a number of estimates about various details of the likely operation of the HI program, as well as to its total operations. For the first year of operation, beginning July 1, 1966, the per capita benefit cost for the total persons eligible for HI benefits (i.e., both insured and noninsured persons) was estimated at \$12.12 per month. This figure must, however, be adjusted down by \$.40 per month to allow for the fact that ECF benefits were payable for only the last 6 months of the year and then by 4% to allow for the exclusion of RAP services in the final legislation. The result is \$11.25 per month, or \$135.00 per year.

When the adjusted BCA per capita figure is multiplied by the average number of eligibles during the year (19.0 million), the result is an estimated benefit outgo of \$2,565 million. This is 10% lower than the estimate of the actual experience on an accrual basis—namely, \$2,850 million. The SSA estimate, as finally developed later, was about 18% too low. At the same time, the BCA estimated that administrative expenses would represent about 2.7% of benefit payments (as against the corresponding estimate of 3% by the SSA). The actual experience—disregarding the initial start-up cost (much of which was involved in adjudicating the eligibility of noninsured persons) was about 3.1% on an accrual basis.

The BCA estimate for inpatient hospital benefits was close to the actual experience, because this is by far the major cost item under HI. For the three auxiliary types of benefits, the BCA estimated a monthly per capita cost of \$.80 for ECF benefits, \$.05 for home health benefits, and \$.10 for outpatient diagnostic benefits. Translated into total outgo for the first year of operation (con-

sidering that ECF benefits were available for only 6 months of this period), the results were as follows, as compared with the SSA estimates and with the estimated actual experience on an accrual basis (in millions):

Type of Benefit	BCA Estimate	SSA Estimate	Actual Experience
Extended Care Facility	\$91	\$25	\$125
Home Health Service	11	10	15
Outpatient Diagnostic	23	10	6

The actual experience for ECF benefits was somewhat higher than the BCA estimate, while the BCA estimates for the other two auxiliary benefits were close in terms of dollars, although the relative differences were large.

Next, examining the components of the BCA estimate for inpatient hospital benefits, two elements may be examined—the utilization rate (days of hospital care per year per eligible person, whether or not hospitalized) and the average daily cost (before considering the effect of the cost-sharing payments made by the beneficiaries). The utilization rate based on a 60-day benefit period was estimated by the BCA to be 3.45 days per person per year, as against the SSA estimate of 3.16 days for a 90-day benefit period and 3.01 days for a 60-day benefit period. The actual experience showed a utilization rate of about 3.70 days for the first year of operation, which is reduced to 3.52 days when the 5% of the days in the actual experience that are in excess of 60 are eliminated. Thus, the BCA estimate was very close to the actual experience, although slightly lower.

As to the average daily cost for inpatient hospital care, the BCA estimated a figure of \$41.94 for the first year of operation, as against the SSA estimate of \$42.38. Both of these figures should be reduced by 4% to allow for the exclusion of RAP services—to \$40.26 for BCA and \$40.68 for SSA. The actual experience on an incurred basis, after making allowance for possible future adjustments after final cost audit, is now estimated at about \$41, or slightly above the BCA estimate.

The BCA estimate for ECF benefits was based on a utilization rate of about 8 days

per person per year (as against the SSA estimate of .2 days and the actual experience of about 1.0 days) and on an average daily cost of \$12 (as against the SSA estimate of about \$11 and the actual experience of about \$18).

Turning to the estimates by the insurance business, the aggregate estimate was \$3.3 billion for calendar year 1967 for both benefit payments and administrative expenses combined (including payments with respect to both insured and noninsured persons). This should be reduced by 4% to allow for the exclusion of RAP services in the final legislation—to \$3.2 billion, which may be contrasted with the corresponding SSA estimate for \$2.6 billion. The actual experience on an accrual basis for calendar year 1967 is estimated at about \$3.5 billion. The excess of the actual experience over these two estimates—particularly over the SSA estimate—arose from several factors: (1) hospital costs rose considerably more rapidly than was assumed; (2) hospital and ECF utilization was higher than assumed; and (3) more noninsured persons were present than was estimated.

Next, let us consider some of the estimates by the insurance business as to individual costs components. Such estimate for the inpatient hospital utilization rate for insured persons for a 60-day benefit period was 3.22 days¹, or somewhat lower than the actual experience of 3.42 days² for the first full year of operation. The average daily hospital cost for 1967 was estimated at \$47 by the insur-

¹ The figure of 3.04 days which was contained in the published estimate *included* the effect of the initial deductible as a *deduction* from the utilization rate. When the true utilization rate is desired, an upward adjustment of .18 days must be made.

² The overall actual utilization rate of 3.70 days is reduced to 3.60 days when only insured persons (who are younger than noninsured persons) are considered. A further 5% reduction is then applied to get the utilization rate for a 60-day benefit period.

ance business; after reducing this figure by the 4% factor it becomes \$45.12. The estimated actual experience, after an estimated 5% adjustment for final audited cost reports, was \$45.18, or almost exactly the same as the estimate. The insurance business estimated that the average daily cost of hospitalization would increase in the future—but at rates slightly below the SSA assumptions.

As to ECF benefits, the insurance business estimated utilization rate for insured persons of 1.01 days per person per year for 1967, and the actual experience was .92 days, or about 10% lower (despite the longer benefit period). The insurance business estimated an average daily cost for ECF benefits for insured persons of only \$12.60 for 1967, whereas the actual experience is estimated at about \$18. Finally, the insurance business estimated that the administrative expenses would represent 5% of benefit payments, whereas the actual experience has been very close to 3%.

In summary, it may be said that the cost estimates prepared by the BCA and the insurance business for the initial period of operation were relatively close to the actual experience and, in fact, much more so than the estimates of the SSA, which were prepared immediately prior to the enactment of the legislation and after consideration of the assumptions and arguments presented in the former estimates. The principal weakness in the SSA estimates was the low utilization rates that were used for both inpatient hospital and ECF benefits, the difficulty arising primarily because of placing too much dependence on data obtained from surveys of OASDI beneficiaries. The estimates of both the insurance business and the BCA tended to come close to the actual experience in the aggregate, in part because of the sharp rise in hospital costs following the middle of 1965, which was not forecast or assumed in any of the three cost estimates.