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A RETROSPECTIVE APPLICATION OF THE HEALTH MAINTENANCE ORGANIZATION RISK SHARING SAVINGS FORMULA FOR SIX GROUP PRACTICE PREPAYMENT PLANS FOR 1969 AND 1970

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The purpose of this note is to illustrate the way in which any savings or losses resulting from the care of Medicare enrollees by risk basis Health Maintenance Organizations (HMO's) will be divided between the HMO and the Medicare Trust Funds. While no actual HMO experience is yet available, that of Group Practice Prepayment Plans (GPPP's) may be similar and has been used here to demonstrate the mechanics of the formula. The procedure for payments to HMO's is described in Section 1876 of the Social Security Act, added in 1972 by PL 92–603, Section 226(a).

Two concepts are necessary to define the savings and losses to be shared by the risk HMO and the Medicare program. The first of these is adjusted average per capita cost (AAPCC). This is the benchmark against which the HMO's experience is to be measured. It is intended to approximate the annual reimbursement that the Medicare program would have paid per HMO enrollee if the enrollees had received their services outside of an HMO setting. A sample calculation of the AAPCC is shown later. The second concept is that of the reimbursement amount that would be payable to the HMO, per enrollee, if the HMO were being paid on a strictly cost basis—that is, the HMO's total incurred cost for Medicare enrollees less the value of coinsurance and deductibles. This amount will be referred to as the HMO's incurred reimbursable cost.

An HMO which has entered into a risk sharing contract shares in savings or losses defined to be the difference between the AAPCC and the HMO's incurred reimbursable cost. The law states that savings shall be apportioned equally between the HMO and the Medicare Trust Funds up to 20 percent of AAPCC and entirely to the Trust Funds for savings in excess of 20 percent of AAPCC. Losses shall be absorbed by the HMO but shall be carried forward and offset one for one against future savings.

The sharing formula has been applied to available data for six GPPP's for 1969 and 1970. It is important to note that these plans are large and well established. In many cases, enrollees may be in better than average health due to various selection processes. It may not be reasonable to expect the same savings experience for small or developing HMO's or for HMO's using different enrollment practices.

GPPP Medicare enrollment and per capita reimbursement for services inside and outside the GPPP for the year were provided by the Office of Research and Statistics. Per capita incurred Medicare reimbursement amounts for the GPPP enrollees shown in the March, 1975 issue of the Social Security Bulletin have been adjusted for final cost settlements, since these are included in the AAPCC (but are omitted for most categories in the Bulletin article). These adjustments are based on national average final settlement rates since local data are not available. The per capita savings is calculated only for the Medicare beneficiaries enrolled for both Hospital Insurance and Supplementary Medical Insurance for the full year (or those terminated by death during the year). Persons whose SMI premium was paid by a State public assistance program are excluded as are members from counties with insignificantly small GPPP enrollment. The enrollment used in this note is in each case about 90 percent of GPPP total average monthly enrollment. The omission of public assistance enrollees probably biases downward the calculations of the HMO's incurred reimbursable cost per capita as shown in this note.

The HMO's share of savings is limited to 10 percent of AAPCC which is realized when there is a total savings of at least 20 percent of AAPCC. The HMO's share of savings is also shown as a percent of the HMO's incurred reimbursable cost. If, for example, the incurred per capita cost is 60% of

AAPCC, then the HMO's share of savings is equal to almost 17 percent of incurred reimbursable cost.

Currently, GPPP's are reimbursed at the level of their incurred reimbursable costs. If the plans showing savings had been risk basis HMO's, the HMO's share of the savings would in fact have been an additional expense to the Medicare Trust Funds. Should these plans become HMO's in the future, this additional expense will have to be offset by savings realized from the addition of new enrollees and newly created HMO's if risk basis HMO's are to reduce program expenditures.

Example: Adjusted Average Per Capita Cost (AAPCC) Calculation GPPP I, 1970

GEOGRAPHIC INDEX:

County	Plan Enrollment	HI Geographic Index	SMI Geographic Index
A	181[3]	1.205[1]	1.106[1]
B	212[3]	1.313[1]	1.247[1]
C	2582[3]	1.237[1]	1.152[1]
Total	2975[3]	1.240[2]	1.156[2]

AGE—SEX INDEX:

Male	Plan Enrollment[3]	HI Age—Sex Standard Indices[1]	SMI Age—Sex Standard Indices[1]
65–69	748	.80	.90
70–74	561	.95	1.05
75–79	396	1.20	1.20
80–84	155	1.50	1.30
85+	51	1.80	1.35
Female			
65–69	418	.65	.80
70–74	354	.85	.90
75–79	200	1.10	1.05
80–84	71	1.40	1.15
85+	21	1.65	1.25
Total	2975		

Age—Sex Index=the sum of the products, (Plan Enrollment $\times$ Standard Index), for each Age—Sex category divided by total Plan Enrollment

Plan I, HI Age—Sex Index=[(748 $\times$ .80) + (561 $\times$ .95) + (396 $\times$ 1.20) + (155 $\times$ 1.50) + (51 $\times$ 1.80) + (418 $\times$ .65) + (354 $\times$ .85) + (200 $\times$ 1.10) + (71 $\times$ 1.40) + (21 $\times$ 1.65)]/2975=.961

Plan I, SMI Age—Sex Index=[(748 $\times$ .90) + (561 $\times$ 1.05) + (396 $\times$ 1.20) + (155 $\times$ 1.30) + (51 $\times$ 1.35) + (418 $\times$ .80) + (354 $\times$ .90) + (200 $\times$ 1.05) + (71 $\times$ 1.15) + (21 $\times$ 1.25)]/2975=1.001

Total U. S. HI Age—Sex Index=1.008 [1]
Total U. S. SMI Age—Sex Index=1.005 [1]

U.S. PER CAPITA INCURRED REIMBURSEMENT COST:

HI U. S. Per Capita Incurred Reimbursement Cost (USPCC) =$267.76 [4]

SMI U. S. Per Capita Incurred Reimbursement Cost (USPCC) =$110.96 [4]

UNDERWRITING INDEX:

The Underwriting Index is intended to adjust for the difference between Plan Enrollment and Aged Enrollment composition relative to race, institutional status, public assistance status, etc. The data required to make such adjustments have not been sufficiently well developed as of this writing to warrant such an adjustment here.

ADJUSTED AVERAGE PER CAPITA COST:

AAPCC=HMO Geographic Index
$\times \left(\dfrac{\text{Plan Age—Sex Index}}{\text{U.S. Age—Sex Index}} \right)$
$\times$ U.S. Per Capita Cost
$\times$ Underwriting Index

HI AAPCC=
$1.240 \times \dfrac{.961}{1.008} \times \$267.76 \times 1.0$

=$316.54

SMI AAPCC=
$1.156 \times \dfrac{1.001}{1.005} \times \$110.96 \times 1.0$

=$127.76

Total AAPCC= $444.30

[1] Source: Medicare 1970: Geographic Index of Reimbursement.
[2] Average of County Indices weighted by size of Plan enrollment.
[3] Source: Office of Research and Statistics: SSA.
[4] Source: Office of the Actuary: SSA.

GPPP	Year	Interim Per Capita Incurred Reimbursable Cost of GPPP Medicare Enrollees [1]	Per Capita Incurred Reimbursable Costs With Final Settlement [2]	AAPCC	Total Savings as % of AAPCC	"HMO" Savings Share as % of AAPCC	"HMO" Savings as a % of Incurred Reimbursable Cost
I	1969	$265.28	$274.70	$423.60	35.2%	10.0%	15.4%
	1970	311.61	323.13	444.30	27.3	10.0	13.7
II	1969	444.92	462.64	544.20	15.0	7.5	8.8
	1970	507.26	528.40	575.60	8.2	4.1	4.5
III	1969	211.30	218.10	352.40	38.1	10.0	16.2
	1970	196.33	202.43	356.50	43.2	10.0	17.6
IV	1969	355.67	368.31	484.20	23.9	10.0	13.1
	1970	388.11	402.14	504.70	20.3	10.0	12.6
V	1969	309.72	321.86	441.80	27.1	10.0	13.7
	1970	331.10	343.71	477.30	28.0	10.0	13.9
VI	1969	214.11	221.83	349.00	36.4	10.0	15.7
	1970	225.88	234.06	385.40	39.3	10.0	16.5
Unadjusted U.S. Per Capita Cost	1969			352.78			
	1970			378.72			

[1] From "Some Aspects of Medicare Experience with Group Practice Prepayment Plans", Social Security Bulletin, March, 1975.

[2] Interim reimbursement is adjusted according to national average rate for final settlements.

Note: These examples are presented as illustrations of the calculation of reimbursement to risk-basis HMO's. Each of the plans shown here is large and long established with its own peculiar enrollment procedure. The results cannot be extrapolated to other plans or other enrollment procedures.