Options for Change under Medicare: Impact of a Cap on Catastrophic Illness Expense

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This study analyzes the total deductibles and coinsurance Medicare beneficiaries accrued in 1980. The study shows that Part B services accounted for 70 percent of all liability and Part A for 30 percent. Only 21 percent of enrollees exceeded $270 in liability from Part A and Part B combined. In 1980, if every enrollee had paid a surcharge of about $70, all liability over $270 could have been capped—without any additional program outlays. Similarly, projections for 1984 indicate that a surcharge of $98 could cap all liability over $800. For Part B alone, a surcharge of $113 could cover all liability over $200.

Introduction

Since 1966 nearly all of the elderly in the nation have been covered by Medicare. A substantial proportion of the Medicare population also carries private supplemental health insurance policies that are marketed by the Blue Cross-Blue Shield Associations and by the commercial insurers. Although some private supplemental insurance plans offer benefits for services not covered by Medicare, such as coverage for prescription drugs, most of the elderly purchase private policies which are primarily designed to cover the deductibles and coinsurance under Medicare.

Ongoing studies published by the Health Care Financing Administration on private health insurance plans show that private supplemental policies (commonly called "Medigap policies") are purchased by well over one-half of all Medicare enrollees. A study of private health insurance plans shows that of the 24 million aged persons in the nation in 1979, 15 million had private hospital insurance coverage, 10 million had private surgical insurance, and less than 4 million had coverage for prescription drugs or private duty nursing (Carroll and Arnett, 1981). The National Medical Care Utilization and Expenditure Survey (NMCUES) of 1980, which was a survey of the noninstitutionalized population in the U.S., found that 67 percent of aged Medicare enrollees had private coverage (Garfinkel and Corder, in press). From the high proportion of Medicare enrollees with private supplemental coverage, it seems clear that Medicare enrollees are concerned about avoiding the risk of running up large bills which could result from Medicare cost-sharing requirements. Perhaps a further motivation for

the purchase of Medigap policies has been to have nearly complete coverage (commonly called "first dollar" coverage) for any hospital or medical bill that may arise.

The purpose of this paper is to provide Medicare program data on the use of program benefits by persons 65 years of age and over, and on beneficiary liability resulting from the program's deductible and coinsurance requirements. First, the paper focuses on the distributions of beneficiaries by the amount of reimbursement and the amount of liability accrued during 1980. The distributions are studied to determine what proportion of aged beneficiaries had relatively small amounts of program reimbursements and liability and what proportion had relatively large amounts. Second, the paper analyzes the data to determine what surcharge the beneficiaries could have paid to cover themselves for all liability above an arbitrarily selected amount. This surcharge would have prevented any additional costs to the Medicare program. Third, a projection is made to estimate beneficiary liability in 1984 and the required surcharge necessary for "capping" the liability at arbitrarily selected limits.

It is important to stress that this paper analyzes only those out-of-pocket costs arising from Medicare deductibles and coinsurance. (A summary of these requirements is provided in the Technical Note.) It does not analyze other out-of-pocket costs for which beneficiaries are liable—such as premiums for Part B participation, charges above the allowed charges on unassigned Part B claims, or costs for non-covered services. Rather, the paper concentrates on the deductible and coinsurance requirements of Medicare because these are the "gaps" that Medigap policies generally cover.[1]

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[1]Several studies have endeavored to estimate total out-of-pocket costs for the aged: (Ferry, 1980; Fisher, 1980; and Hirsch, 1982).

Methods

Data presented here are derived from the medicare statistical system (MSS). The MSS is based upon claims that are submitted throughout the nation to Medicare fiscal intermediaries and carriers for payment. After processing, records of all claims are sent to the central office of the Health Care Financing Administration (HCFA). These records contain information about the amounts Medicare reimbursed and the deductibles and coinsurance owed by the beneficiaries.

The continuous medicare history sample (CMHS) was used to analyze the total deductibles and coinsurance for which beneficiaries are liable. This research file—which was started in 1975—links all claims submitted for a 5-percent sample of Medicare enrollees. Nearly all of the aged population (98 percent) covered by Part A (hospital insurance) voluntarily enroll for Part B (supplementary medical insurance). In order to study the distribution of persons by total cost-sharing amounts, the study was confined to those beneficiaries 65 years of age and over who were enrolled in both parts of the program. In addition, persons who were enrolled in pre-paid capitation plans were excluded from the study because the usual reimbursements and out-of-pocket costs do not apply. For this study, data were generated from the CMHS for 1976, 1978, and 1980 to examine the patterns of Medicare reimbursements and beneficiary liability and to make projections for 1984.

A limitation in the continuous medicare history file involves the Part B deductible. The Part B data are derived from carrier payment records of paid claims which are submitted to HCFA. Enrollees who do not meet the Part B deductible may choose not to send in a claim. Even if they do send in a claim, carriers do not prepare a payment record for a claim if no Medicare reimbursement is made. Thus, the basic data set used for Part B out-of-pocket costs is short.

Fortunately, we know that in 1980 the maximum amount of the deductible that was not captured in the file was limited to $60 for any one person. Using data from other sources in the MSS, we have estimated that the missing deductible paid by the beneficiaries (but not captured in the files) comes to about $30 per enrollee in 1980. The study endeavors to take this into account by adjusting the tabulated data by adding in the missing Part B deductible.

Projections presented here for 1984 are based upon actual tabulated data for 1976, 1978, and 1980. Then the projections are adjusted for the missing Part B deductible.

Findings

Medicare Reimbursements in 1980

In 1980, there were 25.1 million Medicare enrollees 65 years of age and over enrolled in both Part A and Part B of Medicare. Of this total, 9.6 million persons (38 percent) received no Medicare reimbursements, and the remaining 15.5 million persons (62 percent) had some Medicare reimbursements made on their behalf.

Total Medicare reimbursements for this study population came to $26.6 billion (or an average of $1,059 per enrollee). As shown in Table 1, nearly $7 out of every $10 of program outlays were for Part A services. A vast proportion of Part A reimbursements was for inpatient hospital care (96 percent). With regard to Part B, which comprised about $3 out of every $10 of Medicare reimbursements, a vast proportion was for physicians' and related services (85 percent).

TABLE 1

Medicare Reimbursements for Enrollees 65 Years of Age and Over, with Part A and Part B Coverage, 1980

Medicare Program	Medicare Reimbursements	
	(in billions)	(in percent)
Total	$26.6	100
Part A	18.2	68
Part B	8.4	32

Table 2 provides distributions of enrollees and amounts reimbursed for Parts A and B combined. True to the Medicare experience for all other years, a large proportion of the insured had small claims or none at all. In 1980, 65.5 percent of the population received reimbursements (or reimbursements were made on their behalf) of $199 or less per person. Those reimbursements accounted for only 2.1 percent of all program payments. At the high end of the scale, 14.1 percent of enrollees had $2,000 or more in reimbursements paid to them or on their behalf, and those reimbursements accounted for 83.7 percent of all Medicare payments.

TABLE 2

Distribution of Medicare Enrollees 65 Years of Age and Over and Distribution of Combined Part A and Part B Reimbursements, According to Reimbursement Category, 1980

Reimbursement Category	Distribution of Enrollees	Distribution of Reimbursements
Total	25,104,680	$26,579,279,000
Percent	100.0	100.0
No Reimbursement	38.2	0.0
Less than $90	16.8	0.7
$90-199	10.5	1.4
200-999	14.6	6.3
1,000-1,999	5.8	7.9
2,000 and over	14.1	83.7

Not unexpectedly, if the distributions for Part A and Part B are examined separately (Table 3), the figures show that reimbursements are more unevenly distributed under Part A than under Part B. This follows from the fact that only about one out of five Medicare enrollees uses inpatient

TABLE 3

Distribution of Medicare Enrollees 65 Years of Age and Over and Distribution of Medicare Reimbursements, According to Reimbursement Categories, Part A and Part B, 1980

Reimbursement Category	Distribution of Enrollees	Distribution of Reimbursements
	Part A	
Total	25,104,680	$18,144,981,000
Percent	100.0	100.0
No Reimbursement	77.9	0.0
Less than $90	0.4	0.0
$90-199	0.6	0.1
200-999	5.7	4.7
1,000-1,999	4.9	9.8
2,000 and over	10.6	85.4
	Part B	
Total	25,104,680	$8,434,298,000
Percent	100.0	100.0
No Reimbursement	38.5	0.0
Less than $90	17.7	2.2
$90-199	12.2	5.0
200-999	21.9	30.6
1,000-1,999	6.1	25.6
2,000 and over	3.5	36.6

hospital services each year, whereas about four out of five use Medicare Part B services. Yet, despite the fact that Part B services are more likely to be used than Part A services, reimbursements under Part B are still distributed unevenly. Figure 1 summarizes these findings by presenting the cumulative distributions as Lorenz curves for Parts A and B combined and for each program separately. If benefits were evenly distributed, the graph of the distribution would follow the 45 degree line. The graph for Parts A and B combined falls between the graph for Part A and the graph for Part B, and the graph for Part A is farthest from the 45 degree line.

Beneficiary Liability in 1980[2]

In 1980, total beneficiary liability from all deductibles and coinsurance came to $4.5 billion or $180 per enrollee (Table 4). Part A liability accounted for only about $3 out of $10 of liability and Part B liability accounted for about $7 out of $10 of liability. As noted earlier, with reimbursements the reverse was true. Thus, Part B plays a much bigger role with regard to total beneficiary liability than it does with regard to total Medicare reimbursements.

TABLE 4

Medicare Deductible and Coinsurance Owed by the Aged Population with Part A and Part B Coverage, 1980

Medicare Program	Deductibles and Coinsurance Owed	
	(in billions)	(in percent)
Total	$4.5	100
Part A	1.4	31
Part B	3.1	69

These results follow from the cost-sharing provisions under the Medicare law. Under Part A, the beneficiary who is hospitalized must pay a deductible for each benefit period, but after the deductible is met, no coinsurance is required until the 61st day. As noted above, only about one out of five of all enrollees are hospitalized each year, so that about four out of five enrollees experience no cost-sharing under Part A.

Most of the cost-sharing under Part A arises from the inpatient hospital deductible because few patients experience coinsurance liability. Of those who are hospitalized under Medicare, about 70 percent have only one hospital stay. Because the average length of stay is about 10 or 11 days, the probability of reaching the 61st day in a benefit period is low and the probability of reaching the 91st day (and requiring the use of lifetime reserve days) is extremely low. In 1978, only 0.6 percent of enrollees used any coinsurance days and only 0.2 percent of enrollees used any lifetime reserve days.

Under Part B, more than 4 out of 5 enrollees experience cost-sharing each year. First, Part B requires that an annual deductible must be met. After the deductible is met, the program pays 80 percent of "reasonable" charges and the beneficiary is responsible for 20 percent. Thus, with only a few exceptions, for every dollar that Medicare pays under Part B there is a cost-sharing part that the beneficiary owes.

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[2]Results presented here are adjusted for the missing Part B deductible noted in Methods Section.
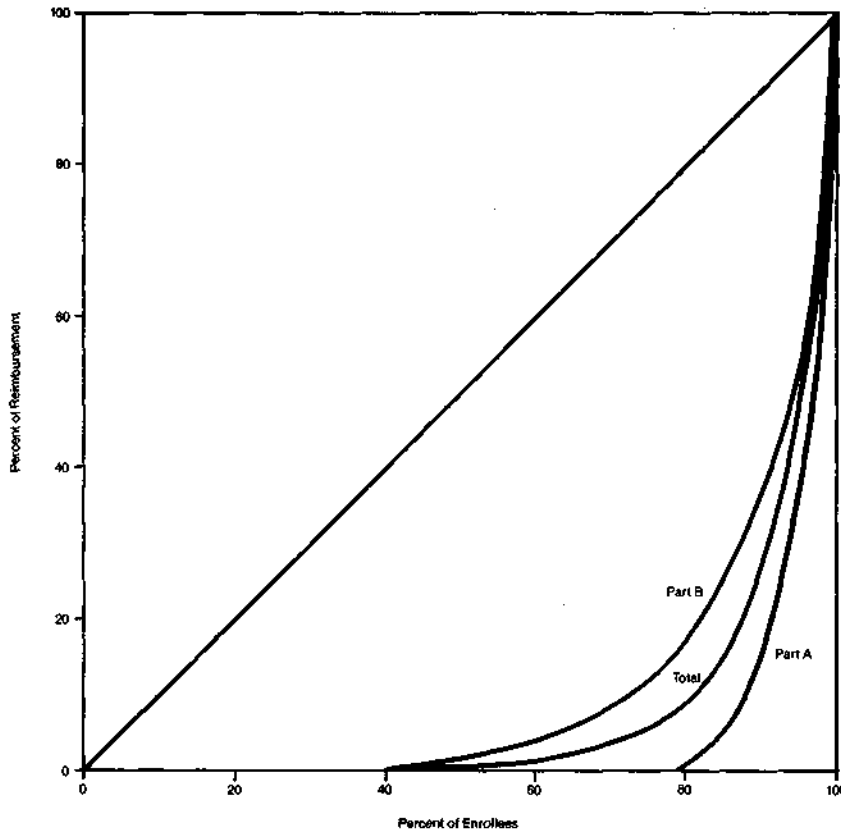
Part B

Part A

Total

Percent of Enrollees

Table 5 shows a detailed distribution of Medicare enrollees and their total deductibles and coinsurance accrued in 1980 under Parts A and B combined. In 1980, 52 percent of the enrollees accrued less than $70. There was a total of 78.9 percent of enrollees with less than $270 in deductibles and coinsurance owed. Only 10.1 percent owed over $470. Not unexpectedly, these enrollees at the high end of the scale were liable for a far higher percentage of the cost-sharing owed—49 percent.

As noted previously, liability from the Part B program accounts for about 70 percent and liability from Part A accounts for about 30 percent of the total. Table 6 shows the distribution of enrollees according to liability categories for the Part A and Part B programs separately. In light of the general perception that the risk of a large hospital bill is greater than the risk of a large medical bill, it might seem surprising to find that the percentage of enrollees at the highest end of the scale was greater under Part B than under Part A. Under Part B, 13.9 percent of enrollees had $190 or more in deductibles and coinsurance compared to only 4.3 percent of enrollees experiencing that large an amount in out-of-pocket liability from Part A services. Figure 2 shows the plots of the liability distributions and illustrates—as Figure 1 does—how unevenly enrollees are distributed.

TABLE 5

Distribution of Medicare Enrollees 65 Years of Age and Over and Distribution of Combined Part A and Part B Coinsurance and Deductibles Owed, 1980[1]

Liability Category	Distribution of Enrollees	Distribution of Liability ($1,000)
	Number	
Total	25,104,680	$4,513,898
$ 0-69	13,107,540	473,663
70-119	3,956,460	366,081
120-169	1,428,680	199,859
170-179	148,200	25,841
180-189	122,200	22,526
190-199	112,960	21,935
200-209	95,100	19,439
210-219	152,840	32,543
220-229	97,400	21,872
230-269	582,120	146,445
270-469	2,770,780	973,879
470-969	1,979,640	1,273,110
970-1,469	341,040	396,540
1,470 and over	209,720	540,166
	Percent	
Total	100.0	100.0
$ 0-69	52.2	10.5
70-119	15.8	8.1
120-169	5.7	4.4
170-179	0.6	0.6
180-189	0.5	0.5
190-199	0.4	0.5
200-209	0.4	0.4
210-219	0.6	0.7
220-229	0.4	0.5
230-269	2.3	3.2
270-469	11.0	21.6
470-969	7.9	28.2
970-1,469	1.4	8.8
1,470 and over	0.8	12.0

[1]Tables adjusted to take into account the missing Part B deductible discussed in the Methods section.
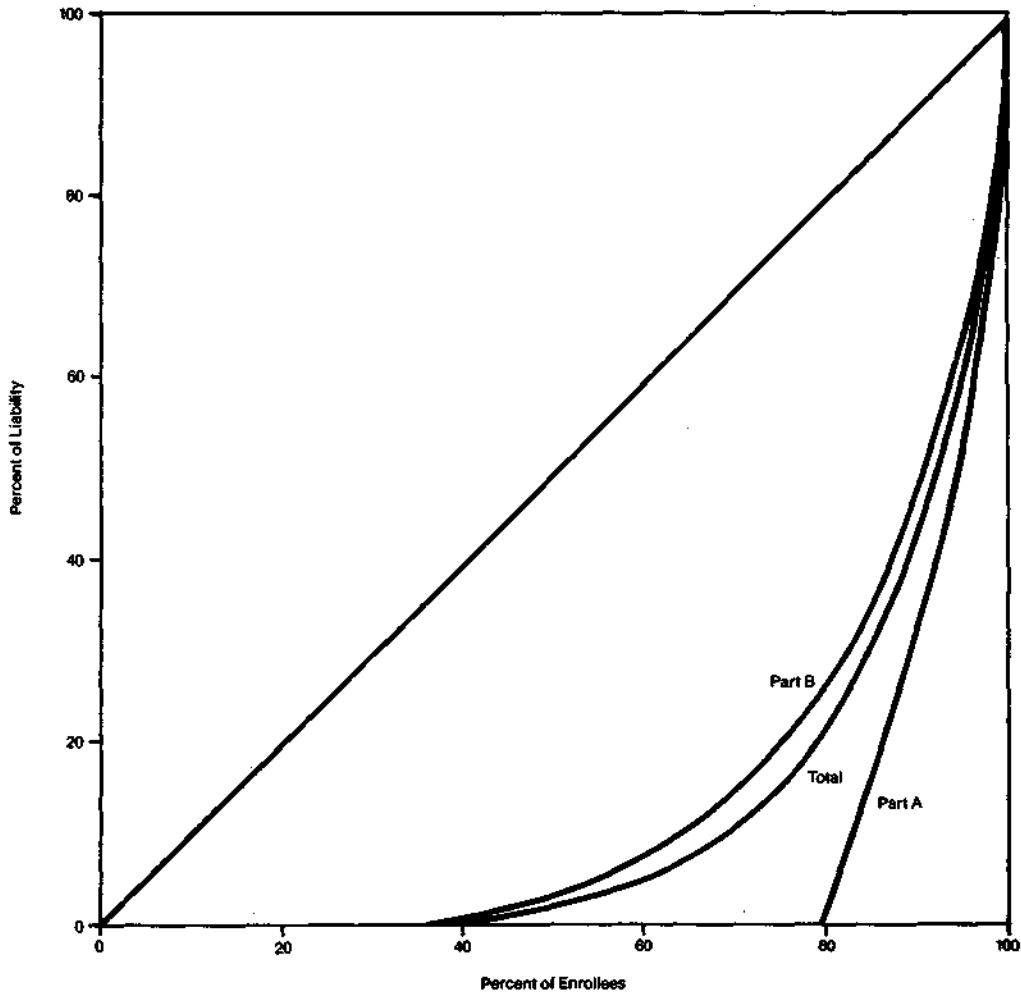
TABLE 6

Distribution of Medicare Enrollees 65 Years of Age and Over and Distribution of Coinsurance and Deductibles Owed According to Liability Category, Part A and Part B, 1980[1]

Liability Category	Distribution of Enrollees	Distribution of Liability
	Part A	
Total	25,104,680	$1,392,000,000
Percent	100.0	100.0
$ 0-69	78.8	0.0
70-169	0.4	1.2
170-179	0.0	0.0
180-189	16.5	53.6
190-269	0.1	0.3
270-469	3.1	20.0
470-969	0.6	7.0
970 and over	0.5	17.9
	Part B	
Total	25,104,680	$3,122,000,000
Percent	100.0	100.0
$0-69	65.5	23.9
70-169	19.0	20.9
170-179	0.8	1.4
180-189	0.8	1.3
190-269	4.4	9.2
270-469	5.3	16.2
470-969	3.4	17.5
970 and over	0.8	9.5

[1]Table adjusted to take into account the missing Part B deductible discussed in the Methods section.

Placing a Limit on Medicare Liability in 1980

The data in Table 5 can be used for finding the cost of placing specific "catastrophic illness" limits on total deductibles and coinsurance accrued under Parts A and B combined.

Suppose a cap on total deductibles and coinsurance had been set arbitrarily at $270.

The cost in 1980 of such a cap can be determined as follows. There were 5.3 million enrollees in 1980 who reached $270 or more in amounts owed for Part A and Part B combined. The aggregate liability for this group was $3.18 billion. If liability for these individuals were limited to $270 per person, then their capped aggregate liability would have been $270 times 5.3 million persons or $1.43 billion. Then the excess liability above the $270 cap would be $3.18 billion minus $1.43 billion or $1.75 billion. If the total enrollee population had paid a surcharge to finance this excess liability over the $270 cap, it would amount to:

$$\frac{\$1.75 \text{ billion}}{25.1 \text{ million enrollees}}$$

$$= \$70 \text{ per enrollee}$$

Equation A shows the calculation in algebraic form:

$$\text{Surcharge}_c = \frac{L_c - (C \times E_c)}{\text{Total Enrollment}}$$

where

C = cap amount

L_c = aggregate liability above the cap amount

E_c = Number of enrollees above the cap amount

$$\text{Surcharge}_{\$270} = \frac{\$3.18 \text{ billion} - (\$270 \times 5.3 \text{ million})}{25,104,680}$$

$$= \$70 \text{ per enrollee in 1980.}$$

Thus, if a catastrophic illness cap had been set at $270 per enrollee in 1980, it is estimated that this protection could have been financed at an annual amount of approximately $70 per enrollee. The average annual premium for a private supplemental insurance policy for the aged has been estimated to have been $200 in 1978. Suppose that the average private supplemental policy rose to $240 by 1980. From our calculation, it appears that a cap in 1980 limiting out-of-pocket liability to $270 could have been financed at perhaps only 30 percent of the average cost of Medigap policies.

Similarly, we can use Equation A and the distributions in Table 5 to calculate the surcharge necessary for other caps. For example, if the cap had been higher than $270 in 1980, say $470, the annual surcharge required to offset the capped amount would have been $40.

Projections for 1984

As prices increase after 1980, both the number of persons exceeding a given liability level and the aggregate amount of liability above any given level will increase. Thus, for any specific cap, the surcharge needed to finance it must increase over time. Because the file used for this study is not complete beyond 1980, this section presents projections of the distribution of persons and the distribution of liability for 1984 based upon our data for 1976, 1978, and 1980. Then the estimated distributions for 1984 are used to determine surcharges needed for various cap levels in 1984. A description of the methods used to project these distributions to 1984 is given in the Technical Note.

Table 7 shows the estimated 1984 distributions of enrollees and liability. The aggregate liability comes to $9.3 billion. It is estimated that only 20 percent of enrollees will exceed $461 in liability. Only 7.8 percent will exceed $1,023 and only 3.9 percent will exceed $1,535.

The distributions in Table 7 can be used to calculate the surcharge for various caps as described in the previous section. Thus, the 1984 surcharge for a $270 cap would be approximately:

$$\text{Surcharge}_{\$270} = \frac{\$7.55 \text{ billion} - (\$270 \times 8.3 \text{ million})}{27,277,000}$$

$$= \$195 \text{ per enrollee in 1984.}$$

The above result indicates that the surcharge with a fixed cap of $270 would require a three-fold increase over the 1980 surcharge of $70.

TABLE 7

Estimated Distribution of Medicare Enrollees 65 Years of Age and Over and Estimated Distribution of Combined Part A and Part B Coinsurance and Deductible, 1984[1]

Liability Category	Distribution of Enrollees (1,000s)	Distribution of Liability ($1,000s)	Distribution of Enrollees (%)	Distribution of Liability (%)
Total	27,277	$9,255,000[2]	100.0	100.0
$0-97	13,939	819,897	51.1	8.9
98-161	2,400	308,617	8.8	3.3
162-224	1,664	312,436	6.1	3.4
225-237	300	69,325	1.1	0.7
238-250	273	66,536	1.0	0.7
251-262	245	63,002	0.9	0.7
263-275	245	66,121	0.9	0.7
276-288	245	69,239	0.9	0.7
289-300	218	64,318	0.8	0.7
301-351	818	267,185	3.0	2.9
352-461	1,391	540,588	5.1	5.8
462-605	1,309	666,709	4.8	7.2
606-819	1,309	889,389	4.8	9.6
820-1,023	791	694,509	2.9	7.5
1,024-1,241	573	617,903	2.1	6.7
1,242-1,535	491	648,872	1.8	7.0
1,536-1,876	355	576,079	1.3	6.2
1,877+	709	2,514,274	2.6	27.2

[1]Table adjusted to take into account the missing Part B deductible discussed in the Methods section.
[2]The total Part A and Part B figure is based on projections by the Office of Financial and Actuarial Analysis, HCFA. The actuarial projected total was adjusted slightly to make it consistent with the study population of the paper. The percent distributions are our own estimates based upon Medicare experience for 1976, 1978, and 1980.

Thus far, we have discussed only the option of capping the combined Part A and Part B liability. However, another option would be to set a cap for Part B alone. Table 8 shows the estimated surcharge for caps of various levels for both the combined liability and Part B only liability. A cap of $400 would require a surcharge of $161 for combined Part A and Part B liability and $74 for Part B liability alone. If the cap were raised to $1,000, the surcharges would drop to $80 and $30 for combined and Part B, respectively. And at a cap of $1,500 the surcharges would be $54 and $17. Figure 3 presents curves from which the surcharge can be found for any cap between $100 and $2,000 for either option.

One option for setting the surcharge over time would be to allow the surcharge to rise with the medical care component of the consumer price index. Between 1980 and 1984, this index rose from 265.9 at the end of 1980 to an estimated 381.1, or 43 percent, at the end of 1984. If the surcharge for combined liability were increased at the rate of 43 percent, it would rise from $70 in 1980 to $100 in 1984. The cap corresponding to a surcharge of $100 would be about $790.

TABLE 8

Estimated Surcharge Per Enrollee for Caps at Various Levels, 1984

	Estimated Surcharge	
Cap	Parts A & B Combined	Part B Only
$ 200	$218	$113
400	161	74
600	124	55
800	98	41
1,000	80	30
1,250	65	22
1,500	54	17
1,750	46	15
2,000	41	13

FIGURE 3
Surcharge for Caps of Various Levels
1984
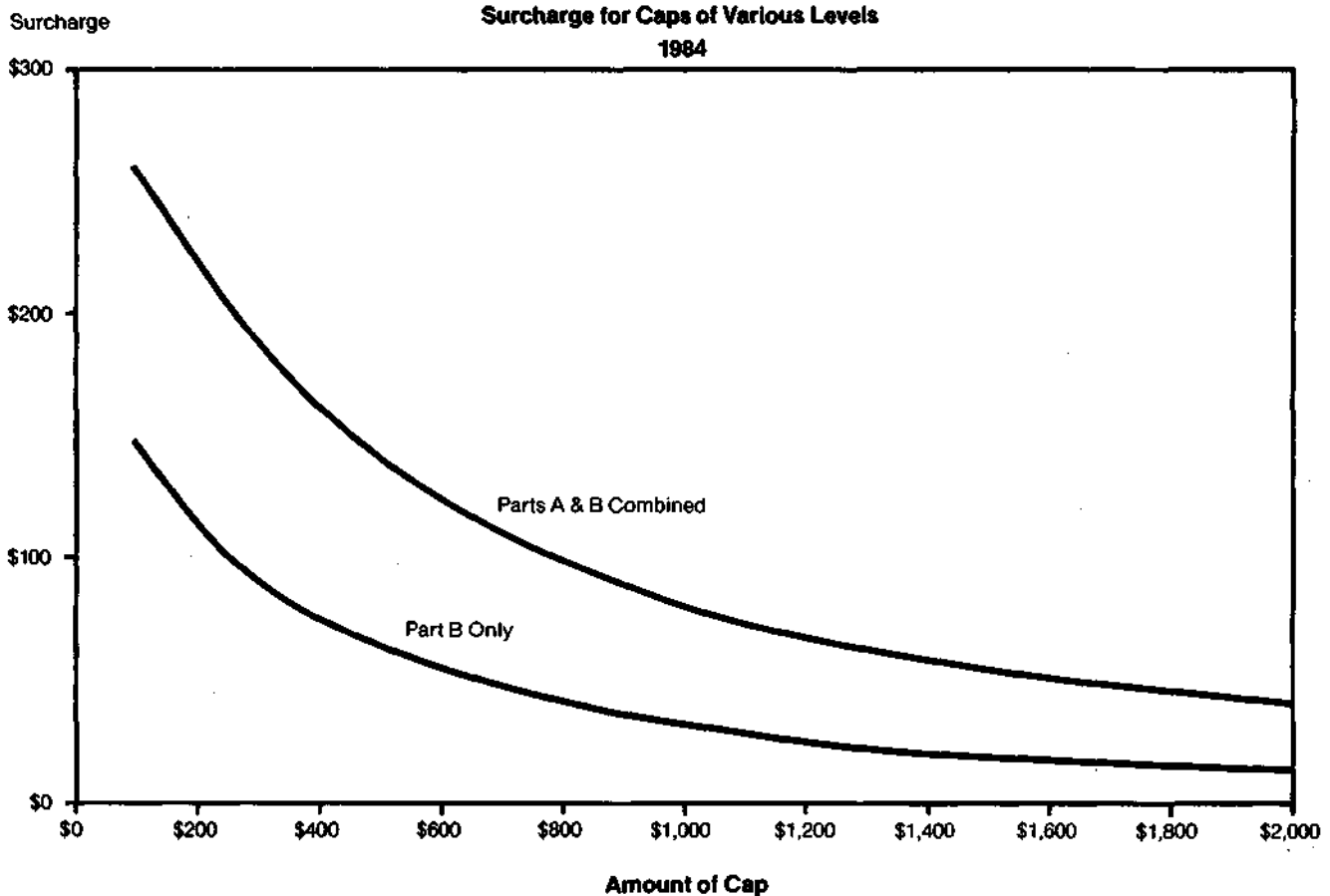
Summary and Discussion

An examination of the distributions of Medicare program benefits and beneficiary liability shows that both distributions are very uneven. As expected, the vast majority of Medicare's enrolled population require relatively low program reimbursements and hence experience relatively low liability for the deductibles and coinsurance required by the program. The Part B program is responsible for about 70 percent of all beneficiary liability.

If a feature for catastrophic illness expense had been available in the Medicare program in 1980, all liability (Parts A and B combined) above a preselected amount, say $270, could have been financed by a $70 surcharge per enrollee that year. The cap amount and the surcharge would have been expected to rise over time to keep pace with inflation. Projections for 1984 indicate that if the surcharge were allowed to rise to $100, beneficiary liability for Parts A and B combined could be capped at $790. With a $113 surcharge, beneficiary liability for Part B alone could be capped at $200.

If a feature on catastrophic illness expense with a relatively low cap could be introduced into Medicare (thus eliminating the risk of high cost-sharing amounts), but which would require some "first-dollar" out-of-pocket cost-sharing, several of the problems relating to Medigap insurance might be resolved.

First, the private supplemental policies vary considerably, often making it difficult for the elderly to understand their provisions; it is believed that some of the elderly have duplicate policies. The National Medical Care Utilization and Expenditures Survey, 1980, found that 17 percent of aged Medicare enrollees had two or more private health insurance policies (Garfinkel and Corder, in press).

Second, cost-sharing in the form of deductibles and coinsurance were included in the Medicare law not only to curtail program costs but to deter unnecessary utilization. Since Medigap policies generally provide "first-dollar" coverage, such policies very likely negate (to some extent) the planned-for effect of cost-consciousness on the part of beneficiaries.

Third, Medigap policies generally add to the paperwork the elderly need to perform to be reimbursed. Unless there is an agreement that the Medicare fiscal agent directly passes on processed claims to the Medigap insurer, the beneficiary must apply for reimbursement first to Medicare and then to the private insurer.

Finally, the premiums for Medigap policies are rising and are so costly in some cases as to be considered prohibitive to many of the aged. The rising costs of Medigap policies are illustrated by the recent experience of the two plans offered by Maryland Blue Cross-Blue Shield. In the first plan, the "65 program," monthly premiums were $14.80 in 1981 and were increased to $19.20 in 1982, resulting in an annual total of $230.40. This option covers most of Medicare's Part A cost-sharing but not all of Part B cost-sharing. Neither the Part B deductible nor Part B coinsurance for office visits are covered. In the second plan, "preferred Medicare supplemental insurance," monthly premiums were $33.74 in 1981 and rose to $50.20 in 1982 (an annual total of $602.40). The second Medigap option

covers all cost-sharing under Medicare and also covers drug costs after the payment of a $3 deductible per prescription. Additionally, the "preferred" option provides up to 365 days of hospital care per benefit period. This plan costs $675.84 in 1983.

As an option, the data presented here could also be useful to private insurers who might want to offer different kinds of Medigap policies. In particular, policies might be designed that would cover only relatively large Medicare cost-sharing amounts and that would be relatively inexpensive to purchase.

If the thesis is correct that most Medicare beneficiaries are basically concerned about the possibility of a costly illness that would run up large out-of-pocket payments for hospital and physician's care, these data and projections should be helpful in designing options for change from the current dilemma of paying for costly Medigap policies.

Technical Note

Estimation Procedures

The method for estimating the distribution of liability and surcharge for 1984 consisted of the following steps.

1. Fit curves to the 1976, 1978 and 1980 cumulative percent distribution of enrollees by liability class.
2. Estimate coefficients for a similar curve for 1984 based on the change in coefficients between 1976 and 1980. Figure A shows the actual 1976, 1978, and 1980 curves and the projected 1984 curve.
3. The unreported deductible paid by enrollees is estimated to be $37.50 per enrollee in 1984. Add this amount to the aggregate liability for each enrollee in each liability class. Add $37.50 to each class limit.
4. The total liability for 1984 estimated from the distribution in step 3 is $7.45 billion. HCFA actuaries estimated total liability for 1984 to be $9.26 billion (after having been adjusted slightly to be consistent with our study population). Thus, the dollar amounts in each class were increased by 9.26/7.45 = 1.24 to yield the liability distribution shown in Table 7. Class limits were also increased by 1.24.
5. The distributions of enrollees and liability derived as described above were used to calculate Table 8 and derive the curve of Figure 3, using the surcharge calculation method described in the text.

Further details of the technique used in the projections can be obtained from James Beebe.

FIGURE A

Cumulative Distribution of Enrollees with Projection to 1984

Amount of Liability
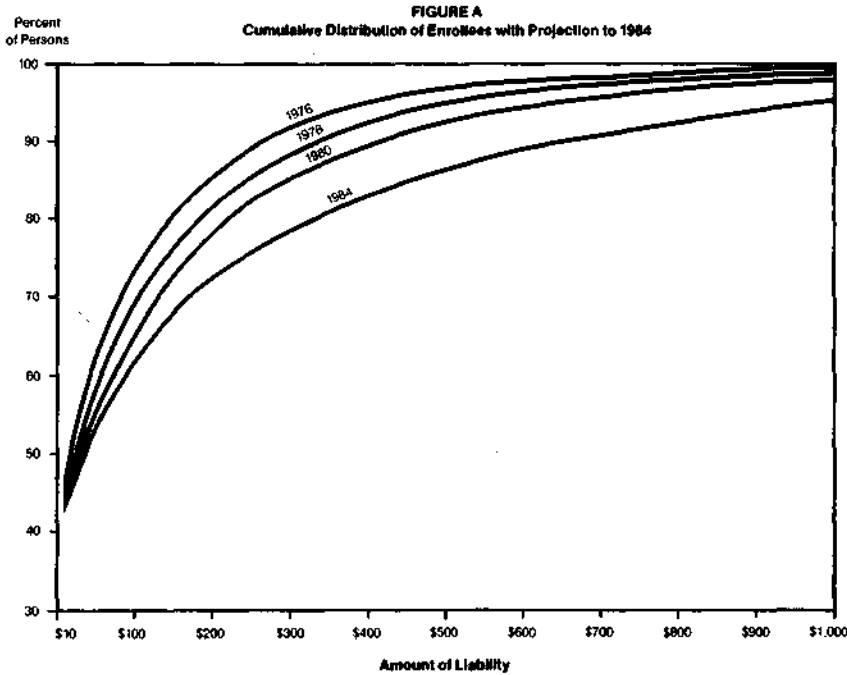
Sampling Error

The data used for this paper are estimates based on a 5-percent sample of the enrolled population and hence are subject to sampling variability. Tables A and B enable the reader to obtain approximate standard errors for the estimates of dollars and number of persons. The standard errors for dollars are based on Part B charges rather than total reimbursement or liability as shown in the paper. Both tables were derived using approximation methods. For these reasons the standard errors should be used only as indicators of the order of magnitude of the sampling variability for specific estimates.

TABLE A

Approximate Standard Error of Estimated Dollars (in thousands)

Estimated Dollars	Standard Error
$ 10,000	490
20,000	670
30,000	850
50,000	1,100
70,000	1,300
100,000	1,600
200,000	2,200
300,000	2,800
500,000	3,600
700,000	4,300
1,000,000	5,400
2,000,000	7,200
3,000,000	8,900
5,000,000	12,000
7,000,000	14,000
10,000,000	17,000
20,000,000	24,000

TABLE B

Approximate Standard Error of Estimated Number of Persons

Estimated Number of Persons	Standard Error
100,000	1,400
200,000	2,000
300,000	2,400
500,000	3,100
700,000	3,700
1,000,000	4,400
2,000,000	6,300
3,000,000	7,200
5,000,000	8,900
7,000,000	9,800
10,000,000	11,000
12,000,000	11,000

Deductibles and Coinsurance

Tables C and D summarize the benefit structure of Part A and Part B of Medicare. The deductible and coinsurance requirements are shown for selected years.

TABLE C

Medicare Part A (Hospital Insurance) Coverage, Deductibles and Coinsurance for Selected Years

Type of Benefit	Medicare Covers	Beneficiary Cost-Sharing	Beneficiary Cost-Sharing Requirements for Selected Years					
			1966	1976	1978	1980	1982	1983
Inpatient Hospital Care	90 days in each benefit period; 60 life-time reserve days (non-renewable)[1]	deductible for each benefit period	$40.00	$104.00	$144.00	$180.00	$260.00	$304.00
		coinsurance each day for 61st-90th day (¼ of deductible)	10.00	26.00	36.00	45.00	65.00	76.00
		coinsurance for each life-time reserve day (½ of deductible)	not covered	52.00	72.00	90.00	130.00	152.00
Skilled Nursing Facility (SNF) Care	100 days after a hospital stay of 3 days or more	coinsurance each day for 21st-100th day (⅛ of deductible)	not covered	13.00	18.00	22.50	32.50	38.00
Home Health Agency Visits	unlimited[2]	no deductible or coinsurance	—	—	—	—	—	—
Blood	unlimited after blood deductible met	deductible for first three pints of blood	cost or replacement of first 3 pints	cost or replacement of first 3 pints	cost or replacement of first 3 pints	cost or replacement of first 3 pints	cost or replacement of first 3 pints	cost or replacement of first 3 pints

[1]A benefit period begins when the Medicare enrollee enters the hospital or SNF and ends 60 days after the beneficiary has no longer been in a hospital or SNF.
[2]Limited to 100 visits in a benefit period prior to July 1, 1981.

TABLE D

Medicare Part B (Supplementary Medical Insurance) Coverage and Premium, Deductible and Coinsurance Amounts for Selected Years[1]

Type of Benefit	Medicare Covers	Beneficiary Cost-Sharing	Beneficiary Premium and Cost-Sharing Requirements					
			1966	1976	1978	1980	1982	1983
		monthly premium	$ 3.00	$ 6.70	$ 7.70	$ 8.70	$11.00	$12.20
		annual deductible	50.00	60.00	60.00	60.00	75.00	75.00
Physicians and Related Services	80 percent of "reasonable charges"	coinsurance for all services[2]	20 percent of "reasonable charges"	20 percent of "reasonable charges"	20 percent of "reasonable charges"	20 percent of "reasonable charges"	20 percent of "reasonable charges"	20 percent of "reasonable charges"
Outpatient Services	80 percent of "reasonable costs"	coinsurance for all services	20 percent of "reasonable costs"	20 percent of "reasonable costs"	20 percent of "reasonable costs"	20 percent of "reasonable costs"	20 percent of "reasonable costs"	20 percent of "reasonable costs"
Home Health Agency Visits	100 percent of "reasonable costs"[3]	no coinsurance after annual deductible	—	—	—	—	—	—
Blood	unlimited after blood deductible met	deductible for first 3 pints of blood in year	cost or replacement of first 3 pints	cost or replacement of first 3 pints	cost or replacement of first 3 pints	cost or replacement of first 3 pints	cost or replacement of first 3 pints	cost or replacement of first 3 pints

[1]Premiums set for a fiscal year; annual deductible set for a calendar year.
[2]Effective 10/1/82 for inpatient radiology and pathology services, there is no deductible and Medicare covers 80 percent of reimbursable charges.
[3]Prior to 1973 Medicare covered 80 percent of reasonable costs.

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