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Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy



CATASTROPHIC ACUTE AND LONG-TERM CARE COSTS:

RISKS FACED BY DISABLED ELDERLY PERSONS

June 1991

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CATASTROPHIC ACUTE AND LONG-TERM CARE COSTS: Risks Faced by Disabled Elderly Persons

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ABSTRACT

The repeal of many provisions of the 1988 Medicare Catastrophic Coverage Act was due to subjective impressions about the usefulness to many elderly persons of the services covered by the law and to the omission of long-term care services. In the wake of the repeal of the Act, many legislators have promised that the issue of catastrophic health care costs would be revisited and that long-term care costs as well as acute-care costs would be considered in their deliberations. This paper presents an empirical analysis of the extent to which acute and long-term care cause disabled elderly persons to incur catastrophic costs. We found that the proportion of these people whose out-of-pocket costs exceed 20 percent of income rises from 20 percent when only acute care costs are measured to 30 percent when long-term care costs are included.

I. INTRODUCTION

The repeal of many provisions of the 1988 Medicare Catastrophic Coverage Act (MCCA) was due, in part, to subjective impressions about the benefits and costs of services that were covered or omitted by the provisions of the law. Many of the provisions were designed to limit beneficiary cost sharing for Medicare covered services. For example, the MCCA proposed the implementation of a single yearly deductible for hospital care. Another important feature of the MCCA was the proposed cap on outpatient drugs, which could have reduced the out-of-pocket costs of many elderly persons because Medicare had not previously paid for any of these costs. While significant, the benefits provided by the MCCA did not outweigh the costs for all persons. This was particularly the case for the more affluent elderly, who were asked to finance a disproportional part of the costs of the new benefits through income-related premiums. Because these people already had Medicare supplemental insurance policies that reduced their risk of incurring catastrophic costs, the MCCA provisions seemed to entail additional costs with no additional benefits.

The most notable omission of the MCCA provisions was a distinct long-term care benefit. Because few of the elderly had purchased private long-term care insurance, many felt that they needed protection from the potentially catastrophic costs of nursing home care. Many of the more affluent elderly already had policies to cover Medicare coinsurance, but did not have private long-term care insurance. Although the inclusion of a distinct long-term care benefit in the MCCA would not have guaranteed its survival, it would have allowed the MCCA to address the concerns of those who would be responsible for financing a large part of the program.

In the wake of the repeal of the MCCA, many legislators have promised that the issue of catastrophic health care costs would be revisited in the future and that long-term care costs as well as acute-care costs would be considered in their deliberations. For this reason, empirical information on the distribution of the population affected by various acute and long-term care costs is essential to inform policymakers about who is at risk of incurring catastrophic costs as a result of various types of services used.

Several important studies have already shed light on the magnitude of the problem. Rice and Gabel (1989) found that individuals with high overall health care costs were also those most heavily burdened by high out-of-pocket costs for nursing home care. Other studies related the costs of health care to income to obtain a perspective on the extent to which such costs are financially burdensome. Wyszewianski (1986) found, for example, that the elderly are at risk of incurring high acute-care costs relative to their income. Among households of all ages that spent more than 20 percent of income on acute health care, 32 percent were headed by persons over 65 years of age. In a study of elderly persons only, Feder, Moon and Scanlon (1987) found that 10 percent had out-of-pocket acute-care costs that exceeded 20 percent of their income.

The last two above-mentioned studies highlight the fact that acute-care costs can be, literally, catastrophic for a substantial proportion of the elderly. However, the full extent of the financial burden faced by the elderly is understated if long-term care costs are not included. To address this issue, we used data from surveys of chronically disabled elderly to estimate their out-of-pocket costs for both acute and long-term care services. Although the chronically disabled elderly compose only about 20 percent of the 65+ population, they are precisely the subgroup of elderly persons at risk of incurring long-term care costs. We examined the distribution of costs for specific services and identified subgroups of the population that were most vulnerable to out-of-pocket costs for those services. In addition, we used our results to assess the effects of various policies, such as those contained in the MCCA.

II. DATA SOURCES AND VARIABLES

Our analysis used data from the 1982-1984 National Long-Term Care Surveys (NLTCS). The NLTCS allowed us to estimate several types of acute and long-term care expenses. For example, the survey collected information on nursing home use, out-of-pocket prescription drug costs, and out-of-pocket home care costs for the entire survey sample in 1982 and 1984. To approximate most of the acute-care expenses, we supplemented the cost data in the NLTCS with data from Medicare Part A and Part B files.

We estimated the health care costs of the 5,795 persons in the NLTCS sample for whom detailed survey information was available in both 1982 and 1984. All were residents in the community at the time of the 1982 survey. Although most persons in the sample still resided in the community at the time of the 1984 survey, some had died and others were residents of nursing homes.

The 1982 survey also contained information important for estimating private expenses for acute and long-term care. In particular, information was elicited about Medicaid eligibility and private insurance policies for hospital or physician services (MediGap). In addition, the NLTCS collected extensive information on the demographic and socioeconomic characteristics of the sample. Information was collected on income, home-ownership, age, sex, race, marital status, dependency in activities of daily living (ADLS), cognitive impairment, living arrangement, and geographic location.

Expected Expenses

In this analysis, expected expenses per month were estimated based on the experience over the two year period covered by the 1982-84 NLTCS. Because the 1982 NLTCS sample consisted exclusively of noninstitutionalized elderly persons, our estimates represent the prospective expenses of a cohort of disabled persons who originally resided in the community. This is distinct from a cross-sectional analysis of all elderly Medicare enrollees, of whom approximately 5 percent are nursing home patients.

The expected expenses reflect the estimated cumulative costs of services over the two-year period for those who survived and over the remaining lifetime for those who died between 1982 and 1984. Out-of-pocket costs, by type of service, were related to periods when it was possible to incur such costs. For example, home care costs refer only to periods when individuals were not institutionalized. Results are presented as one-month expected costs, based on the number of dollars estimated relative to months of exposure. The following sections elaborate on how we estimated all of the cost components.

Medicare-related Expenses

Beneficiary expenses for Medicare related services, including hospital, Medicare skilled nursing facility (SNF), and physician services were based on recorded amounts of beneficiary cost sharing or inferred private expenses based on Medicare rules. The actual amount assigned also depended on other factors, such as whether the respondent owned a MediGap policy or was a Medicaid recipient.

For Medicare Part A services (hospital, skilled nursing facility), Medicare deductibles and copayments were available directly from bill records. For Medicare Part B services, private expenses were estimated to be 20 percent of covered charges. Medicare Part B premiums were assigned on a monthly basis as long as the individual was alive.

Information was available from the NLTCS to determine if an individual owned a MediGap policy, but details of the benefits and costs of the policy were unavailable. If the individual owned a MediGap policy, the beneficiary costs associated with Medicare Part A and Part B services were not assigned. This assumption tends to underestimate the actual out-of-pocket costs of our sample because MediGap policies are not necessarily as comprehensive as this assumption implies (e.g., there is frequently a deductible). In general, where there was uncertainty because of limitations in the NLTCS data, we opted to minimize out-of-pocket costs in order to obtain lower bound estimates of the proportions of persons likely to experience catastrophic costs.

Because data were not available on physician expenses above Medicare allowable charges, an amount was estimated based on beneficiary expenses for Part B services. The estimated amount of "balanced bill" charges was estimated to be equal to the recorded beneficiary Part B expenses, but was applied only to individuals with higher incomes, because they were more likely to be subject to balanced billing than lower income persons.¹

¹ Data were unavailable on the amount of charges for Part B physician services above Medicare allowable charges, "balanced bills". We based our estimate on a ratio of balanced bills to copayment for physician services of approximately 1 to 1. We based this estimate on findings from an empirical analysis of physician charges to Medicare allowable charges conducted by Holahan and Zuckerman (1989), which estimated average balanced bill amounts in 1985 to be \$168. This amount is approximately the coinsurance amount for persons receiving physician services. That study also found that two-thirds of users of physician services received some balanced bills. Other studies found balanced bills to be more common among individuals who were more affluent (HIBAC 1973). In our analysis we adjusted for the higher risk of balanced bills among the more affluent by assigning the balanced bills to individuals with incomes above the 40th percentile of the income distribution of the elderly.

In an additional analysis not presented here we estimated the proportion of persons exceeding catastrophic cost levels when balanced bills were excluded. We found that the proportion exceeding catastrophic levels because of acute-care expenses alone decreased slightly (from 7 percent to 6 percent) when the balanced bills were dropped from the analysis. The middle income group was most dramatically affected by subtracting out the balanced bills; the proportion facing catastrophic costs dropped from 5 percent to 3 percent.

Other Expenses

Other expenses were estimated from the 1982 and 1984 NLTCS data. Because the survey recorded some expenses only for short intervals, such as a month, caution must be exercised in drawing conclusions for longer periods (i.e., one must assume that the cross-sectional estimate of costs were stable over the period). In the absence of a source of continuous information over the two-year interval between the surveys, we used the available information to estimate out-of-pocket costs for home care and outpatient drugs. For persons in the 1984 community sample, we estimated expenses to be the average of the recorded amounts -from the 1982 and 1984 surveys; that average amount was estimated to be the expected monthly amount over the two years. If the individual was deceased or institutionalized at the time of the 1984 survey, we assumed that the expense recorded in the 1982 survey persisted up to the date of death or institutionalization.²

Data on nursing home length of stay between 1982 and 1984 were available directly from the NLTCS. However, the survey did not always contain accurate information on who paid for the nursing home care. when directly available, payment source information from the survey was used. Otherwise, payment sources for nursing home care were imputed using the characteristics of the individuals (i.e., 1982 income and marital status).³

As noted above, the NLTCS recorded whether or not an individual was covered by a MediGap policy. Because premium payment information was not available, we

² Because of data limitations, we were unable to measure continuous drug expenses over the two year period between 1982 and 1984. We reasoned that, for individuals found in the community in 1982 and in 1984, the average of the one-month windows elicited from the surveys would provide the best available estimate. For persons who were institutionalized in 1984 or had died between 1982 and 1984, only one estimate of outpatient drug costs, elicited in the 1982 survey, was available. We reasoned that because these individuals were likely to experience declining health leading to nursing home admission or death, their drug costs were not likely to decrease; if this were the case, our assumption that the 1982 drug cost estimate was constant may have resulted in an underestimate of average drug costs for these individuals.

³ Payment source information for the nursing home stays recorded in the NLTCS was very uneven. For some cases, dates of Medicaid eligibility were available, whereas for others no payment source information was available at all. In estimating payment source distributions for the stays, we first deducted number of Medicare SNF days (from the Medicare records) from nursing home stays. Then we employed recorded information, when available, to separate segments of use which were Medicaid from those which were privately financed. when this information was unavailable, we estimated the number of months when individuals could afford private payments through liquid assets based on their income in 1982. Specifically, individuals under 100 percent of the poverty level and individuals who indicated that they were Medicaid eligible in 1982 were not assigned any months of private payments; in other words they were Medicaid eligible immediately after admission or after Medicare days were expended. Individuals between 100-150 percent poverty were assigned 1 month private pay; those between 150-200 percent poverty were assigned 5 months private pay; those between 200-300 percent poverty were assigned 12 months private pay; individuals at greater than 300 percent poverty were assigned all private pay nursing home days.

When individuals were estimated to be on Medicaid, they still contributed private dollars to nursing home care. If they were not married, all of their monthly income minus \$25 (for personal needs) was assigned to the costs of nursing home care. If they were married, their total monthly income minus \$325 (for personal needs and subsistence support for spouse) was allocated to pay for nursing home care.

assigned an average monthly premium of \$36 to each MediGap policyholder.⁴ That amount overstates the actual liability in some cases and understates it in others.

Financial Status

To examine catastrophic costs, we explored the information available in the NLTCs that would reflect financial status. Asset information was very limited; the survey did not measure certain resources, such as savings, that might be available to cover health care costs. However, various measures of income were recorded. We selected the combined income of the sample person and spouse as the standard against which to compare health care costs.⁵ We constructed three income groups for our analysis: (1) less than \$500 per month; (2) \$500-\$1,000 per month; and (3) more than \$1,000 per month.

If the person was an SSI recipient in 1982, we assumed that he or she was categorically eligible for Medicaid and that this status was maintained over the subsequent two year period. Hence, we assumed that Medicaid would cover most of the acute and long-term care costs for SSI recipients. In fact, the only costs assigned to these individuals were out-of-pocket drug costs and home care costs recorded in the NLTCs.

The NLTCs also asked questions about the Medicaid eligibility status of the respondent in both 1982 and 1984. Because Medicaid status data were often inconsistent over the two year period, we could not assume that an individual who indicated Medicaid eligibility in 1982 would still be eligible for Medicaid in 1984. Therefore, we assigned acute-care costs to sample persons regardless of reported Medicaid eligibility status.⁶ However, if individuals indicated that they were eligible for Medicaid support in 1982, we assigned nursing home costs based on the assumption that they would become eligible for Medicaid immediately upon admission to a nursing home.

⁴ Premiums on MediGap policies are known to vary widely. For example, Consumer Reports (June 1989) estimated that policies ranged from \$500-\$1,300 per year in 1989. Most recently, Shikles (1990) of the GAO reported that, based on a survey of 20 insurance companies, the average premium for MediGap policies was \$70.00 per month. For our estimate of MediGap premiums in 1982-84, we deflated the \$70 per month estimate by the Medical Consumer Price Index (MCPI).

⁵ We established income as a continuous variable. When income was missing, it was imputed based on an equation derived with data from the Survey of Income and Program Participation. When income was reported only as a categorical variable in the NLTCs, we imputed the expected amount within the category.

⁶ This assumption overstates the expected out-of-pocket costs of the lowest income persons, because some of them would receive Medicaid assistance over the course of the two-year observation period. In order to estimate the effect of this bias, we conducted a sensitivity analysis in which we assumed that anyone with a history of Medicaid eligibility was also SSI eligible (i.e., they incurred no out-of-pocket costs except those reported in the NLTCs for drugs and home care). The effect of this assumption was to decrease to proportion of persons in the less than \$500 per month category with catastrophic costs from 32 percent to 27 percent.

III. RESULTS

The expected expenses for four different categories of services are presented in Table 1. Out-of-pocket acute-care costs are defined as the sum of beneficiary hospital, SNF, physician, other outpatient costs, balanced bills, Medicare premiums, and MediGap premiums. Other health care costs include estimates of out-of-pocket drug expenses, home health care expenses and nursing home expenses. Table 1 presents the mean of all health care cost components by monthly income status.

Overall, we estimated that chronically disabled elderly persons spent about \$130 per month on acute and long-term care services. The expense per month increased with income. Those in the highest income group (greater than \$1,000 per month) spent about 70 percent more for health care than those with monthly incomes of less than \$500. Among the categories of services, acute care was most expensive at \$55 per month. This was followed by expected nursing home expenses of approximately \$33 per month.

We estimated that both of the higher income groups spent more in absolute terms for acute-care services than persons in the lowest income group. For example, persons with incomes of less than \$500 per month paid about \$40 per month for acute-care services, whereas persons with monthly incomes of more than \$1,000 spent approximately \$72 per month on acute-care services.

Table 1 also shows that the largest difference in expenses among income groups involved the amount spent for home care. Because very few private insurance plans covered home care, income played a large role in determining home-care costs. For example, the lowest income group spent \$8- 9 per month, while those with monthly incomes greater than \$1,000 spent almost \$35 per month.⁷ Smaller differences were found in outpatient drug and nursing home care costs across the income categories.

It is interesting to note that persons with incomes greater than \$1,000 per month spent more for home care than for nursing home care. This result reflects, in part, the broader risk of incurring home care costs, relative to nursing home costs. It also indicates, however, the ability and willingness of many people in this income group to incur out-of-pocket costs for home care.

Expenses Relative to Income

As noted by other researchers (Feder, Moon, Scanlon 1988; Wyszewianski 1986), the financial burden of health care costs cannot be determined without regard to

⁷ The results in Table 1 refer to out-of-pocket costs, and not necessarily to the level of service use. Lower income persons may have received as much formal home care as their higher income counterparts by virtue of subsidies from other payment sources such as Medicaid.

the financial status of the individual. Clearly, a dollar amount that is catastrophic to a low income person may impose little financial strain on a more affluent individual. In this analysis, we define catastrophic costs as those costs that consume more than 20 percent of the sample person's income. For reference, we also provide the percentage of persons whose costs exceed 15 percent of their income. These levels are often used as thresholds for consideration of catastrophic costs (Wyszewianski 1986).

Table 2 presents the proportion of individuals whose out-of-pocket costs exceeded 15 percent and 20 percent of income for each of the cost categories in Table 1. Expenditure patterns for different income subgroups are also presented.

In general, it appears that no single service, by itself, creates financial burdens for large proportions of the disabled elderly. About 7 percent of the population had acute-care expenses that amounted to more than 20 percent of income. Similarly, 7 percent of the population had nursing home costs exceeding 20 percent of income. Relatively high acute-care costs were the main cause of expenditures above 20 percent of income among people in the low income category. For the higher income groups, the greatest risk of catastrophic expenses was associated with nursing home costs.

Acute-care expenses comprise a higher proportion of income for people in the poorest subgroup partly because these people pay out-of-pocket for Medicare premiums, deductibles and coinsurance. Although these costs are not always high enough to qualify for Medicaid, they still can cause serious financial burdens for persons with low incomes. On the other hand, the combination of low incomes and rules governing Medicaid eligibility for nursing home patients render low-income persons more likely to receive assistance from Medicaid if they entered nursing homes. For the higher income groups, the same Medicare premiums and expenses related to private insurance policies are relatively less financially burdensome. However, higher income persons would have to incur substantial private expenses before they became eligible for Medicaid support for nursing home care.

Cumulative Expenses to Income

Although Table 2 indicates that no single service presented a major financial burden for many persons, in reality individuals are faced with out-of-pocket expenses for multiple services. Table 3 presents the ratio of costs to income, first for acute-care expenses only, then for the other cost components added one at a time. This allows us to examine the incremental changes in the cost to income ratio.

Table 3 shows that only 7 percent of the sample spent more than 20 percent of monthly income on acute-care expenses alone. However, after out-of-pocket expenses for drugs were included, one-fifth of disabled elderly persons had catastrophic expenses. As expected, the lowest income group spent the most in proportion to its income. In fact, more than 30 percent of the poorest subgroup spent more than 20 percent of their income on acute care and prescription drugs combined.

The inclusion of home care expenses did not significantly increase the proportion of persons with catastrophic costs. However, it is interesting to note that the addition of home care expenses did have a substantial impact on the high-income subgroup. In particular, the proportion facing catastrophic costs doubled after the inclusion of home care costs (from 3 percent to 6 percent). The proportion of the middle income group that incurred catastrophic expenses increased about 43 percent after home care expenses were added (from 14 percent to 20 percent). In contrast, the poorest subgroup experienced only a 9 percent increase in the proportion who incurred catastrophic costs due to the addition of the home care expenses.

Nursing home expenses are similar to home care expenses in that they cause relatively greater proportions of higher income groups to incur catastrophic expenses. As Table 3 shows, the proportion of the high income group experiencing catastrophic health care costs nearly doubled after the addition of nursing home costs. In contrast, the distribution of cost-to-income ratios for the lowest income group (10-20 percent) was much less affected by the inclusion of nursing home costs. Specifically, among low-income elderly, 42 percent incurred catastrophic costs after including nursing home expenses, as compared with the 35 percent who incurred catastrophic costs from all other health care expenses.

In summary, the combined impact of acute-care expenses and prescription drug expenses caused one-fifth of the disabled elderly to incur catastrophic health care costs. With the inclusion of long-term care costs, close to one-third of the total disabled elderly population encountered health care costs that consumed over 20 percent of their total income.

Vulnerable Subgroups: Age and Disability Levels

To develop insights into the risks of catastrophic health care costs associated with income and other characteristics, we calculated, by age and ADL level, the proportion of persons in each income subgroup whose costs exceeded 20 percent of income. The top panel of Table 4 presents the results of this analysis for subgroups by age. Within each income category, the proportion of persons who had catastrophic costs for acute-care and drug expenses did not vary much across age groups. However, the addition of long-term care costs notably increased the proportion of persons exceeding catastrophic levels at older ages. This increase occurred across all income groups. For example, the proportion of those aged 85 and older who had catastrophic costs was consistently 11 to 14 percentage points higher than it was for the 65-74 year old subgroup.

The effects of functional status on catastrophic health care costs were more striking. The lower panel of Table 4 shows that persons with 3 or more ADLs were more likely to incur catastrophic health care costs due to acute care and drugs than those with fewer ADLs. This relationship was observed for all income subgroups. The addition

of long-term care costs increased the differences between ADL levels. For example, in the middle income group, 7 percentage points (20 percent vs. 13 percent) separated those with high and low ADL levels in the proportion of people with costs exceeding 20 percent of income. In contrast, the addition of long-term care costs increased the difference to 16 percentage points (41 percent vs. 25 percent). The impact of long-term care costs was particularly notable for persons in the highest income group. Whereas only 8 percent of this income group incurred catastrophic health care costs if they have less than 3 ADLs, 24 percent with 3 or more ADLs experienced catastrophic costs. This result indicates that even high income elderly have a significant risk of incurring catastrophic health care costs if they become severely disabled.

IV. IMPACT OF SPECIFIC POLICIES

In this section, we present simulations of the potential impact of changes in Medicare policies on the proportion of disabled elderly persons who experience catastrophic costs. We selected features that resemble various provisions of the 1988 MCCA. Christensen and Kasten (1988) have conducted comprehensive simulations of the effects of the MCCA on the acute-care costs of all disabled and aged Medicare beneficiaries; our simulations examine the effectiveness of particular policies in reducing the risk of catastrophic costs of the chronically disabled elderly who are faced with both acute-care and long-term care costs.

The specific policies that we simulated were a cap on Medicare Part A and Part B cost sharing, a drug cap, and a policy in which Medicaid paid the premiums and coinsurance for low income persons (such as the Medicaid buy-in provision in the MCCA). In these simulations, we estimated the 1983 equivalent dollar amount of the caps or income levels that would correspond to amounts specified in the MCCA. Specifically, the Part A hospital deductible was set at \$260 per year and the Part B physician cap was set at \$700 per year. The Part A cap also limits spending for Medicare SNF beneficiary costs. If a person had any Medicare SNF covered days, we assigned costs of 20 percent of the average daily SNF cost for the first 8 days; no beneficiary costs were assigned thereafter. We established a drug cap of \$272 per year to approximate the level in 1983 that would correspond to the \$600 cap specified for 1991 under the MCCA. Although the MCCA stipulated that the beneficiary would eventually pay 20 percent of drug costs after they reach the cap, we did not assign, in this simulation, additional drug costs to the sample person beyond the cap.

Table 5 presents the simulation results for the total disabled elderly population and for specific subgroups by income. For comparison, the top rows present the estimated proportions (from Table 3) of the disabled elderly whose costs exceeded 20 percent of their income (1) when only acute-care and drug costs were included, and (2) when long-term care costs were also included.

The first simulation is the application of the Medicare Part A and Part B caps, in which beneficiaries were not liable for Medicare allowable costs beyond the caps. The results indicate that this provision of the MCCA would have had a negligible impact on the proportion of the disabled elderly whose overall acute-care costs exceeded 20 percent of their income. For the total population, the proportion reaching catastrophic levels was reduced from 20 percent to 19 percent in the case where only acute care and drugs are included. Similarly, this option did not have a notable impact when long-term care costs were also included. This simulation demonstrates that the acute-care cap would be ineffective at the level stipulated by the MCCA. For example, persons who were too poor to afford MediGap insurance would probably incur catastrophic costs before they hit the acute-care cap. For wealthier individuals, whom we assumed retained their MediGap insurance, few received benefits from the acute-care cap.

In this simulation, the costs and benefits of MediGap policies were retained for the individuals who reported owning such policies. We did not assume any changes in the costs of the MediGap premiums. In reality, it is unlikely that many individuals who possessed MediGap policies would drop them because the acute-care caps of the MCCA did not provide the first dollar protection of the MediGap policies.

In a second simulation, we examined the effect of the prescription drug cap. In this case, the proportion of the disabled elderly whose overall acute care and drug costs exceeded 20 percent of income dropped noticeably from 20 to 13 percent. The impact of this cap was particularly strong for persons with incomes of less than \$1,000 per month. For persons with less than \$500 income per month, the proportion with catastrophic costs declined from 32 percent to 22 percent. For those with incomes between \$500 and \$1,000, the proportion with catastrophic costs was halved, from 15 percent to 7 percent. This policy option resulted in similar percentage point decreases in the proportion of people exceeding catastrophic cost levels when long-term care costs were included.

The results of the second simulation reflect the fact that most elderly persons pay out-of-pocket for prescription drugs. These out-of-pocket expenses are unavoidable because Medicare does not cover outpatient drugs and many MediGap insurance policies provide little or no coverage for drugs. Although the actual amounts paid for prescription drugs may not be catastrophic by themselves, the simulation shows that the incremental burden of paying for most drug costs out-of-pocket presents a serious problem for low income disabled elderly persons.

The third simulation in Table 5 reflects a scenario in which Medicaid pays Medicare premiums and coinsurance for persons with incomes below the poverty line. This exercise provides insight into the impact of the Medicaid buy-in provisions of the MCCA. This provision was among the few not repealed and is now being phased in by the States. As expected, the results of the simulation show that low income persons (e.g., less than \$500) benefit from this option. The proportion of persons with acute-care and drug costs exceeding 20 percent of income declined from 32 percent to 11 percent because of the buy-in provision.⁸ This large impact reflects the fact that the costs of Medicare premiums and coinsurance, as well as prescription drugs, are a major financial burden for disabled elderly persons with low incomes.

The results of this simulation are consistent with the conclusions of Feder, Moon and Scanlon (1987). They pointed out that many of the out-of-pocket costs paid by low-income elderly are for services not covered by Medicare. Moreover, these relatively small expenses often constitute a large proportion of their low income.

⁸ This simulation does not take into consideration the fact that some states were already buying-in low income persons before the enactment of the MCCA. As a result the impact of this scenario is overstated. Moreover, the scenario implies total participation of the eligible persons; recent assessments indicate that the participation level in the Medicaid buy-in benefit is less than half of the eligible population (Families USA 1991).

The final simulation in Table 5 presents the proportion of disabled elderly persons who would be subject to catastrophic costs if all of the Policies were in effect. The combination of these benefits resulted in a large decline--from 20 percent to 4 percent--in the proportion of the disabled elderly who experienced catastrophic costs when only acute-care costs were considered.

The principal beneficiaries of the combined policies, reflecting the MCCA revisions, were elderly persons with incomes of less than \$1,000 per month. Persons with high incomes did not benefit notably, but these persons had a small risk of incurring catastrophic costs in the first place (3 percent in the base case). This result helps to explain why the MCCA was unpopular among the more affluent elderly.

Table 5 also highlights the fact that the provisions of the MCCA were directed toward the risks of catastrophic costs from acute-care services. Although the combined provisions in the MCCA could be effective in shielding many disabled elderly persons from catastrophic level costs from acute care, these people would still be left with the risk of long-term care costs. Although only 4 percent of the disabled elderly incurring catastrophic costs if all MCCA provisions were in effect and only acute-care costs were measured, 15 percent of the disabled elderly would incur catastrophic costs if long-term care costs are included.

V. DISCUSSION AND CONCLUSIONS

Our analysis of out-of-pocket costs shows that the disabled elderly are vulnerable to catastrophic health care costs. Estimates of their acute-care and outpatient drug costs indicate that, even before long-term care expenses are included, the disabled elderly have higher-than-average private expenses for health care. We found that 20 percent of the disabled elderly had acute-care and drug costs that exceeded 20 percent of their income. In contrast, Feder, Moon and Scanlon (1988) found that 10 percent of the total elderly population incurred private expenses of more than 20 percent of income. Moreover, the differences are probably understated because we compared costs to family income whereas Feder, Moon and Scanlon compared estimated costs to per capita income.

Because of their functional status, disabled persons are at risk of using long-term care services. The inclusion of long-term care costs greatly increased the proportions of people whose private expenses exceed 15 or 20 percent of their incomes. Whereas 20 percent of the disabled elderly had acute-care and drug costs exceeding 20 percent of income, 30 percent incurred such costs after long-term care was included in the analysis.

Our results indicate that different income groups tend to incur catastrophic health care costs for different reasons. Any public policy option that attempts to address the problems of catastrophic health care costs should consider these differences.

We estimated that for the lowest income (less than \$500 per month) group, private cost sharing for basic Medicare covered services is sufficient to cause catastrophic levels of expense. One out of five incurred costs exceeding 15 percent of income and one in ten incurred costs exceeding 20 percent of income for acute care alone. Moreover, the addition of drug costs greatly increased the proportion exceeding catastrophic cost levels. This group appeared to have two problems: ineligibility for Medicaid until they spent down and inability to afford Medicare supplemental insurance. An expansion of Medicaid eligibility (or other similarly targeted approaches) to cover this group appears to be the most efficient way to reduce their risks. In our simulations, the Medicaid buy-in provision in the MCCA had the potential to significantly reduce the burden caused by acute-care costs for this group.

For persons in the middle income category, \$500-\$1,000 per month, the highest risks of incurring catastrophic costs were associated with incremental drug costs. The additional costs of outpatient drugs greatly increased the proportion of persons who experienced costs exceeding more than 20 percent of their income. Although repealed, the drug cap provision of the MCCA would have provided some relief for people in this income group.

For the highest income category, acute-care costs and drugs caused only a small proportion to incur costs exceeding 20 percent of income. Moreover, many of these

people (20 percent) had policies for which part or all of the premium costs were paid by current or former employers (Christensen and Kasten 1988). However, long-term, care costs increased notably the proportion exceeding catastrophic cost levels, although the proportion of such persons was still only 10-15 percent.

Finally, our simulations showed that, despite the effects of the MCCA provisions, a high proportion of disabled elderly persons remained subject to catastrophic health care costs because of long-term care services. This type of service was not addressed by the MCCA and was one reason for its repeal. This appears the major need of the more affluent elderly. If income-related financing is to be a feature of future policies, it seems important that long-term care benefits be included.

In conclusion, the Congress has indicated that it will address both acute and long-term care costs in future deliberations concerning the issue of catastrophic health care costs. Results from this study corroborate the importance of that decision.

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TABLES

TABLE 1. Average Private Expense Per Month for Health Care by Category of Expense and Income				
Category of Expense ^a	Income per Month			
	All Persons	<\$500	\$500-1,000	>\$1,000
Acute (84%)	\$54.65	\$40.38	\$61.95	\$72.04
Out-of-Pocket Drugs (74%)	25.35	20.71	28.26	29.97
Out-of-Pocket Home Care (18%)	17.98	8.51	19.93	34.84
Nursing Home Costs (other than Medicare SNF) (12%)	32.58	27.77	38.36	32.33
Total Expenses (94%)	\$129.56	\$96.37	\$148.11	\$166.82

a. Numbers in parentheses are percentages with non-zero expenses; category-specific cost entries do not necessarily add up to total expenses.

TABLE 2. Percentage of Disabled Elderly Persons with Private Expenses Exceeding 15% and 20% of Income, by Service and Income Categories				
Category of Expense	Income per Month			
	All Persons	<\$500	\$500-1,000	>\$1,000
Acute Care				
>15%	13%	22%	9%	3%
<20%	7%	12%	5%	1%
Out-of-Pocket Drugs				
>15%	7%	12%	3%	1%
<20%	4%	7%	2%	0%
Out-of-Pocket Home Care				
>15%	4%	4%	5%	3%
<20%	3%	3%	4%	2%
Nursing Home Care				
>15%	8%	9%	8%	4%
<20%	7%	8%	7%	4%

TABLE 3. Percentage of Disabled Elderly Persons with Private Expenses Exceeding 15% and 20% of Income, by Cumulative Services and Income Categories				
Category of Expense	Income per Month			
	All Persons	<\$500	\$500-1,000	>\$1,000
Acute Care				
>15%	13%	22%	9%	3%
<20%	7	11	5	1
Acute & Drugs				
>15%	31	45	28	7
<20%	20	32	14	3
Acute, Drugs & Home Care				
>15%	36	48	34	13
<20%	24	35	20	6
Acute, Drugs, Home Care & Nursing Home Care				
>15%	41	53	40	18
<20%	30	42	27	11

TABLE 4. Percentage of Disabled Elderly Persons by Age & ADL Level with Private Expenses Exceeding 20 Percent of Income								
	All		<\$500		\$500-\$1,000		>\$1,000	
	Acute & Drugs	Acute & Drugs & LTC	Acute & Drugs	Acute & Drugs & LTC	Acute & Drugs	Acute & Drugs & LTC	Acute & Drugs	Acute & Drugs & LTC
Age								
65-74	16%	21%	30%	34%	15%	22%	3%	7%
75-84	21%	34%	34%	45%	13%	29%	3%	16%
85+	24%	41%	32%	46%	13%	36%	4%	18%
ADL Status								
ADL <3	18%	28%	31%	40%	13%	25%	2%	8%
ADL ≥3	26%	43%	40%	54%	20%	41%	10%	24%

**TABLE 5. Simulation of Policy Options: Percentage of Disabled Elderly Exceeding 20% of Income with Acute Care and LTC Expenses
Assume Medigap is Kept***

	Income per Month			
	All Persons	<\$500	\$500-1,000	>\$1,000
Current Liability Base Case				
Without LTC	20%	32%	15%	3%
With LTC	30	42	27	11
Acute Care Cap Only				
Without LTC	19	31	14	3
With LTC	29	41	26	10
Drug Cap Only				
Without LTC	13	22	7	2
With LTC	23	33	20	9
Medicaid Buy-in Only				
Without LTC	11	11	14	3
With LTC	21	22	27	11
Acute Care Cap, Drug Cap, and Medicaid Buy-in Combined				
Without LTC	4	3	6	2
With LTC	15	16	19	9

* Except for Medicaid buy-in people (whom we assume drop their Medigap policies when those provisions go into effect).