



PRIVATE FINANCING OF LONG TERM CARE: CURRENT METHODS AND RESOURCES

Phase II

January
1985

**U.S. Department of Health and Human Services
Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy**

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I. SUMMARY

A. Background

At the same time that the number of potential users of long-term care is increasing more rapidly than at any time in our history, the government has assumed a growing role in financing these services. For example, as discussed in the Phase I report, only 45 percent of long-term care was financed by private expenditures in 1982.¹ With the projected size of the budget deficits in the 1980s, the federal budget cannot support the potential scale of the long-term care outlays implied by the two trends. New alternatives and existing alternatives for the private financing of long term care will have to be developed and expanded.

This report examines potential barriers to the private financing of long-term care, in particular the barriers to the use of personal resources in financing long term care services. In addition, the report examines the potential effect of reducing these barriers. These barriers include:

- annuity rigidity -- The elderly receive almost one-half of their cash income in the form of fixed monthly payments, such as social security payments and pension benefits. This may be a barrier to private long-term care financing as these funds are not available as a lump sum at the time when large expenditures become necessary.
- illiquid assets -- Many elderly individuals have substantial assets, usually in the form of a home, which are illiquid. However, home equity is not usually considered to be an available asset because elderly individuals must have housing for their remaining lives, and because they may have a spouse who requires housing. Therefore, these assets are not usually available to the elderly when expenditures for long-term care become necessary.
- laws and regulations providing incentives to divest -- It is often thought that estate tax laws and Medicaid eligibility factors create incentives for the elderly to divest their assets. In the case of Medicaid eligibility, it is widely understood that transferring available assets to other family members reduces the need for an individual to use those assets to finance their own long-term care. Any incentives to divest assets mean that funds are not available to finance long-term care when the need arises.

¹ ICF Incorporated, "Private Financing of Long Term Care: Current Methods and Resources: Phase I Report", Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services, June, 1984.

All of these factors potentially increase the elderly's reliance upon public financing for long-term care services.

In addition to identifying the potential impact of the reduction of the barriers identified above, ICF also developed a model which estimates the effects of increased private long-term care financing on government costs. In this report, we present estimates of potential Medicaid savings if there were an increase in the number of elderly individuals purchasing long-term care insurance.

B. Key Findings

1. Analysis of Barriers

This report analyzes the potential barriers cited above to the private financing of long-term care. Analysis of these barriers indicates that:

- Reduction of annuity rigidity from pensions does not seem to be a viable means of increasing private sector financing of LTC currently because only about one-third of the elderly receive pension benefits and, on average, the benefits are not large. For example, only about 13 percent of elderly families' income currently comes from pension benefits. This means that benefits would have to be reduced substantially to provide a substantial lump sum which would be used for long-term care. However, the number of families receiving pension or IRA benefits will increase substantially in the future. In addition, the amount of pension benefits is expected to increase over time. For example, the number of individuals age 65 receiving over \$10,000 (in 1983 dollars) in annual pension benefits will increase from approximately four percent in 1985 to over 25 percent by 2005. As a result, methods to reduce annuity rigidity will prove more beneficial in the next two decades.
- Home equity conversion programs would have an even smaller impact on the ability of the elderly to privately finance long-term care services although we found that over one-half of elderly families have over \$10,000 in home equity. We looked at two types of home equity conversion programs, reverse annuity mortgages (RAMs) and sale/leaseback plans. Looking at the typical plans available, we found that, for example, if an individual owned a \$50,000 home, he or she could expect to receive an annuity upon conversion of between \$195 and \$475 per month, depending upon the plan.
- Current federal tax law provides few incentives to divest income or assets prior to the need for long term care. State tax laws, while they differ from federal law in some states, do not heavily tax the estates of most individuals if the estate is passed on to

a spouse or children at the time of death. State tax laws provide few additional incentives to divest.

- Medicaid eligibility rules may be barriers to the private financing of long term care. These include state Medicaid policies regarding the transfer of assets and other asset considerations. For example, many individuals divest their assets in order to become eligible for Medicaid long-term care benefits. Federal regulations have no restrictions regarding transfer of assets. However, all but five states (Alaska, Arizona, Delaware, Georgia, and the District of Columbia) have restrictions on the transfer of assets for less than fair market value solely for the purpose of becoming eligible for Medicaid. Some states have transfer of asset regulations which put the burden of proof on the state to show that the transfer of assets was made solely for purposes of becoming eligible for Medicaid. Other states specify that the individual show that they did not transfer assets to become eligible. The difference in where the burden of proof lies has an impact on how these regulations can be enforced. If the burden of proof were on individuals, eligibility would be harder to obtain.

Thus, our analyses indicate that there are significant barriers to the elderly in the use of their personal resources to finance long-term care services. Pension and social security benefits are provided in a way that does not make it easy for the elderly to obtain a lump sum payment to use for long-term care. As pensions become a more important source of income, insurance companies are likely to adopt new lump sum annuity options if there is sufficient consumer demand. The elderly have much more of their resources locked up in their home equity. Home equity conversion programs have not been used widely for a variety of reasons. It may be possible for financial institutions to develop plans whereby the elderly can use part of their home equity upon demand (like a line of credit). Finally, we found that the ability to transfer assets to become eligible for Medicaid is a large barrier to the use of personal resources to finance long-term care services.

2. Impact on Medicaid Costs

In exploring opportunities to substitute private LTC financing for public sources, we recognize that not all groups of the population or types of LTC services are potential candidates for such alternatives. However, there is a significant group of the elderly population that enters a nursing home and pays for the early part of their stay using private resources and eventually shifts to Medicaid after spending down their liquid assets and income to meet medically needy eligibility standards. If only a fraction of this group can be encouraged to defer their shift to Medicaid or extend the period of private support for even a brief period, this will contribute substantially to the current and future long-term care financing picture. In this project, we developed a long-term care financing model which we used to measure the potential impact of increased private financing on government costs.

Using this model, we examined the impact of one form of private financing, long-term care insurance, on government long-term care costs. We developed a model to simulate LTC expenses and sources of payment for a cohort of individuals aged 67 to 69 in 1981. The model uses data on representative individuals in this age group to simulate the sources and levels of payment for long term care services. The model also simulates the decision to buy insurance and its effects on the source and levels of payments for nursing home services. Our analysis indicates that:

- Under current financing methods (no long term care insurance), we expect that Medicaid would pay for 43 percent of the total cumulative nursing home expenditures for the age 67-69 cohort, individuals would pay for 55 percent of total cumulative nursing home expenditures out-of-pocket, and Medicare would pay for two percent of expenditures.²
- If long term care insurance were purchased by about 20 percent of this cohort, total cumulative Medicaid expenditures (in nominal dollars) would decline by approximately eight percent. The policy we simulated would provide a nursing home benefit of up to \$40 per day for up to four years of nursing home coverage for a cost of \$480 per year. Both the benefits and premiums were assumed to increase with the CPI.
- If long term care insurance were purchased by approximate half of the individuals in this cohort, total cumulative Medicaid expenditures would decline by approximately 23 percent. This would represent a decline in cumulative nursing home expenditures for this small cohort of the elderly of almost nine billion dollars (in nominal dollars).

This indicates that long term care insurance could have a significant impact on Medicaid expenditures. Significant savings would occur even if only 20 percent of the elderly purchase the insurance. Larger savings would result if more of the elderly purchased the insurance or if the elderly with fewer resources purchased it (we assumed the 20 percent of the elderly who had the highest income and assets purchased the insurance).

If properly structured and integrated with modifications to Medicaid, more of the elderly might purchase this insurance, which would lead to larger savings. At the same time, we note that aggregate dollars spent on nursing home care might increase slightly as private pay days are substituted for Medicaid days. This would also increase the revenues of nursing homes and provide an incentive for the expansion of these homes.

² This assumes no transfer of assets by the elderly; hence it represents an upper bound of the private share.

C. Organization of Study

The following chapters examine all of these issues in detail. We first discuss each of the barriers and how it might affect private financing. We then examine programs or policies which would be expected to reduce the impact of these barriers (such as home equity conversion programs and reduction in annuity rigidity). We then examine the expected impact of reductions in these barriers.

The last section of this report examines how increases in private financing of LTC may affect government long-term care expenditures. This section uses results from a model developed by ICF to forecast potential Medicaid savings due to increased long-term care insurance coverage.

II. ANNUITY RIGIDITY

Long term care often requires elderly households to spend substantial amounts of their resources in a short period of time. The timing of these payments creates a problem for many elderly families because two of the major sources of income of the elderly, employer pensions and social security, provide periodic fixed dollar payments. As a consequence, although on a present value basis many elderly have sufficient resources to pay for long term care, many are unable to finance its costs on a cash flow basis.

For example, to provide a pension benefit of \$6,000 per year for an individual retiring at age 65, a pension fund must have set aside \$52,800.³ A person entering a nursing home at age 65 cannot draw upon this asset, however, except in monthly installments of \$300. We refer to this inability to use one's pension assets when desired as annuity rigidity. This rigidity is a barrier to using personal resources to finance long term care. In this section, we first examine the percentage of the elderly's income which comes from annuities. We then examine the potential impact of reducing the rigidity of the payments.

A. Relative Contribution of Annuities to Income

Two of the most important income sources for the elderly are social security and employer pension benefits. Both pension and social security payments are typically paid in fixed amounts monthly. While social security payments remain nearly constant in real terms, pension benefits often either remain constant or increase in nominal terms.⁴ There are typically no provisions for lump sum payments or borrowing against future payments.

For all elderly families, social security and pension payments make up 49 percent of the elderly's cash income. As shown in Table 1 , for the elderly who are age 70 or older, a majority of cash income comes from these sources for both married and single individuals.. This is significant because these age groups of the elderly are most likely to use long term care services.

Table 1 also shows that the percentage of income from social security and pension benefits decreases as family income increases. Because increases in private LTC financing are probably most attainable in the middle and upper income groups, freeing the rigidity of these annuity payments may meet more LTC financing needs.

³ Assuming a 5 percent interest rate and UP-84 unisex mortality rates.

⁴ Over one-half of all employer pension plan participants are in plans which provide ad-hoc or automatic post-retirement benefit increases.

B. Reducing Annuity Rigidity

To examine the impact that reducing annuity rigidity might have we analyzed the income the elderly received in 1980 from employer pension benefits. While the social security system could also be modified to allow lump sum payments, it would be significantly easier to modify employer pension benefits.

TABLE 1. Percentage of Total Cash Income From Social Security and Pension Plans, by Income Level, Age, and Marital Status, 1980								
	Age 65-69		Age 70-74		Age 75-79		Age 80+	
	Married	Single	Married	Single	Married	Single	Married	Single
FAMILY INCOME LESS THAN \$5,000								
Percent of family income from:								
Social Security	71%	75%	77%	80%	80%	82%	81%	79%
Pension	3	3	2	3	0	2	1	2
Other	26	22	21	17	20	16	18	19
FAMILY INCOME BETWEEN \$5,000-14,999								
Percent of family income from:								
Social Security	55	45	62	52	63	52	65	49
Pension	14	12	13	13	12	14	13	13
Other	31	43	25	35	25	34	22	38
FAMILY INCOME BETWEEN \$15,000-24,999								
Percent of family income from:								
Social Security	30	20	36	23	35	25	36	20
Pension	18	15	18	14	21	14	17	10
Other	52	65	46	63	44	61	47	70
FAMILY INCOME ABOVE \$25,000								
Percent of family income from:								
Social Security	11	8	16	13	16	14	17	12
Pension	11	10	17	11	13	9	18	9
Other	75	82	67	76	71	77	65	79
ALL FAMILIES								
Percent of family income from:								
Social Security	27	34	38	44	39	46	46	45
Pension	15	11	16	11	14	44	15	9
Other	58	55	46	45	47	43	39	46
SOURCE: ICF analysis of March 1981 Current Population Survey.								

We examined a situation in which families could choose to reduce their monthly pension benefits by a given percentage in return for the ability to obtain a lump sum at any time equal to the loss of the expected present value of future income. For example, if an

individual with a \$6,000 annual pension benefit agreed to reduce his or her annual benefit by five percent, this reduction would result, given a five percent interest rate and a UP-84 mortality assumption, in a lump sum of \$2,640 which could be made available to the individual. To make this plan feasible, the money would need to continue earning five percent interest until it was withdrawn.

Using the March 1981 Current Population Survey (CPS), we first calculated the percentage of elderly families receiving pension benefits (see Table 2). We then calculated the size of the lump sum an individual could receive if his or her monthly pension benefit was reduced by 5, 10, or 20 percent. We assumed that the employer pension income reported in the CPS had remained constant over time and that individuals began receiving pension income at age 65. We converted the annuity stream into an asset using UP-84 unisex mortality rates and a five percent interest rate.⁵

Table 3 and Appendix Table A-1 , Table A-2 , and Table A-3 show for various age, marital status, and income groups the lump sum payments which could have been derived from reductions in the annual pension income stream in 1980. The tables show that a majority of families age 65-69 in 1980 could not have attained a lump sum payment of \$500 if pension income were reduced by 10 percent. However, these tables include all the elderly age 65-69 in 1980 and thus many individuals who have no pension and, therefore, can get no lump sum.

Appendix Table A-4 , Table A-5 , and Table A-6 show results for only those elderly families who receive pension income. These tables show that:

- Over 90 percent of elderly families who receive pension benefits could get a lump sum of over \$500 at age 65 if they reduced their pension benefit by 10 percent.
- A majority of families at age 65 could only get a lump sum of less than \$5,000 unless pension income were reduced by 20 percent.
- Reductions in pension income of 5 and 10 percent yield at age 65 average sums of \$2,093 and \$4,186 respectively. These sums would not be large enough to privately finance six months in a nursing home.
- Almost no families with less than \$25,000 in retirement income can get lump sums of \$10,000 when pensions are reduced by only 5 percent. When they are reduced by 10 percent, a sizeable percentage of families with over \$15,000 in income can get lump sums of \$10,000.

⁵ The fact that pension income may reflect cost of living adjustments since retirement may bias our results upward to some degree. The fact that many individuals take their pension benefit before 63, on the other hand; may bias our results downward.

TABLE 2. Percent of Elderly Families Receiving Pension Income, by Family Income, Age, and Marital Status, 1980											
Annual Family Income	65-69		70-74		75-79		80+		Total		
	Married	Single	Married	Single	Married	Single	Married	Single	Married	Single	Total
Less than \$5,000	7%	9%	4%	8%	2%	6%	3%	7%	4%	8%	7%
\$5,000-14,999	41	37	44	37	39	41	41	35	42	38	40
\$15,000-24,999	55	45	62	40	63	43	59	38	58	42	53
\$25,000 or More	57	43	64	43	51	49	55	39	58	43	54
TOTAL	46%	29%	48%	26%	40%	26%	39%	21%	44%	26%	34%

SOURCE: ICF analysis of the March 1981 Current Population Survey.

TABLE 3. Percentage of Families Age 65-69 Able to Attain a Lump Sum at Retirement Through a Reduction in Pension Income, 1980^a				
Size of Lump Sum	5% Reduction		10% Reduction	
	Married Couple	Single Individual	Married Couple	Single Individual
Less than \$500	60%	78%	56%	75%
\$500-4,999	33	20	27	19
\$5,000-9,999	6	2	10	4
\$10,000 or More	1	—	7	2
TOTAL	100%	100%	100%	100%

a. This table includes individuals who receive no pension income.
SOURCE: ICF analysis of the March 1981 Current Population Survey.

Reduction of annuity rigidity does not seem to be a viable means of increasing private sector financing of LTC currently. However, as shown in Table 4 , the number of families receiving pension or IRA benefits will increase to over 85 percent by 2015. In addition, the amount of pension benefits is expected to increase over time. For example, the number of individuals receiving over \$10,000 (in constant 1983 dollars) annually will increase from approximately four percent in 1985 to over 25 percent by 2005. As a result, reduction in annuity rigidity will prove more beneficial in the future.

Before a policy of reducing annuity rigidity could be implemented, a number of issues would need to be addressed. First, administrative costs associated with such a plan might

require less than an actuarially fair lump sum payment. This might further reduce the number of individuals who would desire such an option. Second, it might be desirable to have incentives to make it appropriate to use the money for LTC services. Otherwise, individuals might seek to take their lump sum immediately upon retirement.

TABLE 4. Expected Levels of Annual Pension and IRA Benefits at Age 65, 1985-2015				
Size of Pension/IRA Benefits^a	1985	1995	2005	2015
None	52%	30%	17%	13%
\$1-2,499	27	29	24	23
\$2,500-4,999	11	14	17	18
\$5,000-7,499	5	8	10	10
\$7,500-9,999	2	5	6	7
\$10,000 and over	4	14	26	30
TOTAL	100%	100%	100%	100%
a. Estimates are in constant (1983) dollars. SOURCE: ICF estimates using the PRISM model.				

III. HOME EQUITY CONVERSION

A. The Elderly's Home Equity

Based on the analysis in the Phase I report, it is clear that a substantial portion of the elderly have sufficient assets to finance long term care. However, many of these assets may be illiquid and thus difficult to use. This section discusses the extent of home equity, an illiquid asset which comprises much of the elderly's assets.

Table 5 shows the levels of home equity owned by the elderly in various age and marital status groups. Overall, 51 percent of elderly families had over \$10,000 of home equity in 1980. Over 50 percent of married individuals in the age 80 or over group had home equity in excess of \$10,000 as did over 35 percent of single individuals in this age group. This is significant because these individuals are the most likely to use LTC services.

A further question of interest is whether the low and middle income elderly have housing assets which could finance LTC. Table 5 indicates that many low and middle income elderly have substantial equity in their homes. For instance, more than half the married couples with between \$5,000 and \$15,000 in income had home equity of more than \$10,000 in 1980.

Until recently, the only way to use one's housing equity was to sell the house. This opinion is particularly unappealing to some elderly individuals who have strong ties to their homes and must have a place to live for their remaining years. This provides a strong barrier against use of these assets to finance LTC. However, new types of loan and sales/leaseback arrangements have been designed to allow elderly individuals to remain in their homes and supplement their incomes by using their housing assets. Below we describe several of these home equity conversion arrangements and then discuss their potential for increasing the private financing of LTC services.

TABLE 5. Home Equity Levels by Age, Marital Status, and Family Income, 1980								
Family Income Level by Home Equity Level	65-69		70-74		75-79		80+	
	Married	Single	Married	Single	Married	Single	Married	Single
LESS THAN \$5,000								
No Home Equity	42%	46%	35%	42%	33%	44%	29%	40%
1-9,999	26	26	30	29	32	30	32	32
10,000-24,999	9	14	14	12	20	11	15	10
25,000-49,999	16	9	15	12	10	11	19	14
50,000+	8	5	5	4	4	4	5	4
\$5,000-14,999								
No Home Equity	14	35	17	30	17	31	15	34
1-9,999	26	21	26	22	29	26	30	23
10,000-24,999	18	14	17	16	15	13	18	13
25,000-49,999	28	23	25	22	26	21	26	21
50,000+	15	6	15	10	12	8	11	10
\$15,000-24,999								
No Home Equity	10	26	10	18	11	25	16	22
1-9,999	21	11	17	17	34	28	34	21
10,000-24,999	9	13	14	18	17	18	15	17
25,000-49,999	33	28	34	21	22	18	23	18
50,000+	27	22	25	25	15	12	14	21
MORE THAN \$25,000								
No Home Equity	5	15	4	13	10	13	15	11
1-9,999	18	9	20	21	29	24	22	27
10,000-24,999	10	7	10	4	9	17	14	13
25,000-49,999	23	26	29	22	25	22	22	27
50,000+	43	43	36	40	26	25	27	20
ALL FAMILIES								
No Home Equity	13	36	15	33	17	35	8	35
1-9,999	23	21	24	24	30	28	30	28
10,000-24,999	13	13	15	14	15	13	16	12
25,000-49,999	27	19	27	18	24	16	24	18
50,000+	24	11	19	11	13	7	12	8
SOURCE: ICF analysis of an enhanced version of the March 1981 Current Population Survey.								

B. Home Equity Conversion

The two general home conversion models are reverse annuity mortgages and sales/leaseback plans. Reverse annuity mortgages are much like conventional loans except that monthly payments are made by the bank to the seller. Sale/leaseback plans

involve giving up title to the home but retaining guaranteed lifetime residency. Each of these programs are discussed in the following sections.

1. Reverse Annuity Mortgages

Reverse annuity mortgages (RAM) involve monthly payments from a buyer, usually a bank, to the elderly seller. In the simplest form of RAM, the bank makes equal monthly payments to the elderly homeowner over a fixed period of time. At the end of the period, the homeowner must pay back the principal of the loan plus all accumulated interest. Usually, this requires selling the home at the elderly person's death. If the elderly person outlives the loan period, he or she may either take an additional loan against appreciation in the house since the start of the loan or sell the home at that point.

The monthly payment made to the elderly homeowner is a function of the interest rate, term of the loan, and value of the house. Typically, the loan can only have an outstanding balance equal to 80 percent of the home value. This allows closing costs and real estate commissions to be paid along with the loan balance from proceeds from the sale of the house.

The general formula for monthly payments to the elderly homeowner (MP) is:

$$MP = rL / (1 + r)^n - 1$$

where r = monthly interest rate
 L = maximum loan balance
 n = number of months in term of the loan

For example, as shown in Table 6, an individual with a \$100,000 home might have a final outstanding loan balance of \$80,000. If he or she agreed to a 10 year loan term at 10 percent interest, the monthly payment he or she would receive would be \$391.

Other types of RAMs involve deducting interest each month from the payment received from the bank so that the outstanding loan balance remains unchanged. The net payment received by the elderly person under this scheme is equal to:

$$MP = L / n - L / n(rn^*)$$

where rn^* is equal to the month in question and L, n, and r are as defined above. Net payments are largest in the early years of the RAM and decline as the RAM nears maturity. Indeed, at high interest rates, the monthly payments become negative before the end of the loan term. For example, the individual with a \$100,000 home could take out a 10 year RAM with final balance of \$80,000. In the first month, his or her payment would be \$661.

This would decline and become zero by the last month. (If the interest rate were 14 percent, the payments would become negative sometime during the seventh year.)

TABLE 6 . Summary of Home Equity Conversion Plans						
	Lump Sum	Monthly Payment	Total Payments	Amount Due at End of Program	Title to Home at End of Program	Responsibility for Taxes & Maintenance
RAM with Deferred Interest ^a	0	\$391	\$46,800	\$80,000	Elderly Resident	Elderly Resident
RAM with Interest Payments ^a	0	Vary from \$661 to 0	\$40,000	\$80,000	Elderly Resident	Elderly Resident
Sales/ Leaseback Plan ^b	\$8,000	\$952	\$114,200	None	Buyer	Buyer
<p>a. Assumes a 10 year loan at 10 percent on \$100,000 house with an 80 percent loan-to-value ratio.</p> <p>b. Assumes a 10 year loan at 10 percent on \$100,000 house with an 80 percent sales price to value ratio and a 10 percent down payment.</p>						

A third type of RAM involves the bank providing a lump sum payment to the elderly seller who then purchases an annuity from an insurance company. This type of RAM is usually only practical for older individuals because the annuity level is typically too small to repay the loan for younger individuals. For example, a 63 year old who has a \$100,000 house may borrow \$80,000 against it at a 10 percent interest rate for a 10 year loan period. Each month he or she would have to pay back \$1,057. An annuity purchased at 3 percent would yield \$757 per month. At this age and with this disparity in interest rates, this scheme results in a negative cash flow and is thus impractical. There are many other variations in potential RAM programs. These include such things as variable interest rates and variable length loans.

All these RAMs keep the title of the property with the elderly seller. Any appreciation in value to the house is usually available to the elderly person or their estate upon sale of the house. Maintenance and taxes remain the responsibility of the homeowner.

A variation of a RAM program is being run by American Homestead Corporation in Mount Laurel, New Jersey. This program is available for individuals or married couples who are over age 62 and reside in a debt free home in good condition. The term of the loan given by AMC is variable. Principal and interest payments are due when the elderly individual or couple leaves their home. They are guaranteed monthly payments until age

100 and can continue to get payments after that if they remain in the home. Interest on the monthly payments is based on a below market interest rate and remains constant over the length of the loan. This plan also has a feature called Shared Appreciation which is not usually included in what is considered a RAM. This feature can give AMC either 50 or 100 percent of the increase in value of the home over the loan period. Monthly payments to the elderly person are higher the older the person is, the higher the appraised value of the house, and the higher the percentage of appreciation given to AHC.

2. Sales/Leaseback Arrangements

The other major approach to home equity conversion is sales/leaseback plans. Under these plans, elderly homeowners sell their home to an investor but retain guaranteed lifetime residency. The investor pays the elderly resident each month and receives rent from them. Upon death or change of residence, the title of the house reverts to the investor. All appreciation in value from the time of the initial agreement also belong to the investor. The investor takes over responsibility for maintenance and taxes at the time of initial purchase.

Net monthly payments to the elderly resident are determined by the interaction of a variety of factors. First, the elderly person's age affects the ratio of the selling price to house value. In general, the younger the resident, the lower the loan-to-value ratio will be because a longer time is likely to pass before the house can be sold and the return in the investment recouped. Once the loan to value ratio is determined, the monthly payment is calculated using the formula:

$$MP = Lr / 1 - (1 + r)^{-n}$$

where L = loan value
 r = monthly interest rate
 n = months in period of loan

The investor pays a set monthly amount over the loan term and buys a deferred annuity which will continue payments at the end of the period. The resident's current age determines the factor to be used in pricing the deferred annuity.

A second factor which affects the size of the payment to the elderly resident is the current value of the home and the investor's projection of potential appreciation. The higher the housing value the higher the stream of payment which will be made.

A third factor affecting the size of payments is the market value of rent for the home. This determines the amount the elderly person must pay the investor. This amount can rise over time to reflect increases in rental value.

For example, an 80 year old individual with a \$100,000 home could sell it for \$85,000 and be guaranteed lifetime occupancy. The buyer would pay the elderly homeowner an \$8,500 down payment and a monthly payment of \$1,011 for 10 years. (This assumes a 10 percent interest rate.) The buyer would also purchase a deferred annuity which would begin monthly payments in 10 years if the elderly resident was still alive. If fair market rent is determined to be \$500, net monthly payments will be \$511. When the resident dies, the buyer takes over title and is entitled to all appreciation in value.

We examined two working sales/leaseback programs. The first is run by a profit making firm while the second is administered by a public sector organization. The private plan is run by the Fouratt Corporation in Carmel, California. It is available to individuals or married couples over age 70 who have little or no remaining mortgage on their home. The Fouratt Corporation serves as a realtor, finding buyers for elderly person's homes who are willing to make a sales/leaseback arrangement within fixed guidelines. The elderly family sells their home at below market value in return for lifetime residency. Market value is determined by an independent appraisal and the reduction factor is a function of the seller's age. The seller pays rent based on a fair market, rental value.

The buyer pays a small down payment and then, monthly payments over a fixed term. The term is based on the elderly person's life expectancy and is typically shorter than conventional mortgages. The monthly payments include both principal and interest. If the seller dies before the end of the loan term, the remaining money owed on the home is paid to their estate. If the seller outlives the loan term, they begin receiving payments equal to the monthly payments under the loan from an annuity purchased by the buyer at the time of the original sale. The buyer assumes responsibility for property taxes, major maintenance and fire insurance.

The second sales/leaseback program is being run by the City of Buffalo. Individuals are eligible for the program if they are at least 60 and have little or no mortgage on their home. There are currently 65 homes included under the program. The City of Buffalo is the buyer for all houses in the plan. It is responsible for maintenance, insurance, and property taxes. The cash payments to the seller are based on the house value, the life expectancy of the seller, and projected management costs over that life span. The homeowner can choose to get benefits in the form of monthly payments guaranteed for life or as a single lump sum. In either case, the seller has lifetime occupancy.

Upon death of a seller, the city will take title and sell the property to regain its investment. The Buffalo program is designed both to aid senior citizens and to promote urban revitalization.

C. The Potential Impact on LTC Financing

The various forms of home equity conversion are designed to provide elderly homeowners an increased income stream over their remaining lifetime. In Phase I of this study, we determined the percentage of elderly households who could afford to purchase private long term care insurance. Here, we examine how this percentage would increase if elderly homeowners were able to increase their current income through home equity conversion.

We examined two simplified home equity conversion plans. Using data from an enhanced version of the March 1981 CPS, we examined how each affects income streams and the ability to pay for LTC insurance. We did this by assuming that anyone age 65 or over is eligible for the program if they have at least \$10,000 of home equity. The income generated by the RAM was examined based on equal monthly payments by the financier over the loan term at a fixed interest rate. The elderly resident pays back the loan principal plus interest at the end of the loan term. We assumed a loan-to-value ratio of eighty percent. Four combinations of loan term and interest rate were used: (1) 10 percent interest and 10 year loan; (2) 10 percent interest and a 15 year loan; (3) 14 percent interest and a 10 year loan; and (4) 14 percent interest and a 15 year loan.

Table 7 and Table 8 indicate that under all RAM plans, there is a slight increase in the percentage of people who can afford LTC insurance. Depending on age group and plan, up to three percent more married couples can buy LTC insurance with less than 5 percent of their income while up to four percent more single individuals can purchase LTC insurance after home equity conversion. The RAM aids more people the shorter the loan term and the lower the interest rate.

The sales/leaseback plan we examined is slightly more complicated. We assumed that the buyer pays the seller an initial downpayment of 10 percent of the sale price. We set the sale price equal to 70, 75, 80, or 85 percent of the home equity value for age groups 65-69, 70-74, 75-79 and 80+ respectively. The monthly rent paid by the elderly seller is equivalent to one-half of one percent of equity value. We again used four combinations of interest rate and loan payback period which are identical to those for the RAM and correspond to Plan 1 to 4 in Table 7 and Table 8 .

One can see that this type of program also has a small impact on the ability of elderly people to purchase LTC insurance. Depending on the plan assumptions and age group, up to five percent more married couples and seven percent more single individuals could buy LTC insurance with less than five percent of their income after the addition of monthly payments from the sales/leaseback program. Here, the percentage increases the shorter the loan term, and opposite to the RAM, the higher the interest rate. This phenomena occurs because here the elderly resident receives interest payments while under the RAM, the resident pays interest. Appendix Table A-7 and Table A-8 provide a breakdown of Table 8 by income group.

In sum, the two major current forms of home equity conversion, RAMs and sales/leaseback arrangements do not easily provide increased financing for long term care. They typically provide annuities over long periods of time, while long term care services often require a lump sum over a 6-12 month period. To be particularly useful for long term care, it would probably be more useful if financial institutions allowed homeowners to use their home equity as a line of credit that could be drawn upon when necessary. This option seems to have more potential to increase private financing of long term care than RAMs or sales/leaseback arrangements.

TABLE 7. Percentage of Families Who Could Purchase LTC Insurance With Less Than 5 Percent of Their Current Income ^a									
	Cash Income Only	Cash Income with RAM				Cash Income with Sales/Leaseback Plan			
		Plan 1 ^b	Plan 2 ^c	Plan 3 ^d	Plan 4 ^e	Plan 1 ^b	Plan 2 ^c	Plan 3 ^d	Plan 4 ^e
AGE 65-69									
Married	41%	45%	43%	44%	42%	44%	43%	46%	44%
Single	36	40	38	40	38	40	38	42	40
AGE 70-74									
Married	28	32	30	31	29	32	30	33	32
Single	28	33	30	31	29	33	30	35	33
AGE 75-79									
Married	22	24	22	23	22	24	23	27	24
Single	27	31	28	30	28	32	29	33	32
AGE 80+									
Married	16	18	17	18	17	19	18	20	19
Single	23	27	24	26	24	28	26	30	28
TOTAL									
Married	31	34	32	33	32	34	33	36	34
Single	29	33	30	32	30	33	31	35	33

a. Assumes a premium of \$450 for single individuals and \$900 for married couples (in 1980 dollars). This is the premium for the 100 day deductible Fireman's Fund plan if it is purchased at age 65.

b. 10 percent interest and a 10 year loan.

c. 10 percent interest and a 15 year loan.

d. 14 percent interest and a 10 year loan.

e. 14 percent interest and a 15 year loan.

SOURCE: ICF analysis of an enhanced version of the March 1981 Current Population Survey.

TABLE 8. Percentage of Families Who Could Purchase LTC Insurance with Less Than 10 Percent of Their Current Income ^a									
	Cash Income Only	Cash Income with RAM				Cash Income with Sales/Leaseback Plan			
		Plan 1 ^b	Plan 2 ^c	Plan 3 ^d	Plan 4 ^e	Plan 1 ^b	Plan 2 ^c	Plan 3 ^d	Plan 4 ^e
AGE 65-69									
Married	76%	80%	79%	80%	78%	80%	78%	81%	80%
Single	70	74	72	74	72	74	72	75	74
AGE 70-74									
Married	69	75	72	74	71	75	72	76	75
Single	67	73	71	72	70	73	71	73	73
AGE 75-79									
Married	62	68	65	67	64	69	67	70	69
Single	64	70	68	69	67	70	69	71	70
AGE 80+									
Married	54	62	58	61	56	63	61	65	63
Single	58	66	63	65	61	67	65	68	67
TOTAL									
Married	69	74	72	73	71	74	72	76	74
Single	65	71	69	70	67	71	69	72	71

a. Assumes a premium of \$450 for single individuals and \$900 for married couples (in 1980 dollars). This is the premium for the 100 day deductible Fireman's Fund plan if it is purchased at age 65.

b. 10 percent interest and a 10 year loan.

c. 10 percent interest and a 15 year loan.

d. 14 percent interest and a 10 year loan.

e. 14 percent interest and a 15 year loan.

SOURCE: ICF analysis of an enhanced version of the March 1981 Current Population Survey.

IV. INCENTIVES TO DIVEST

One potential barrier to private financing of long term care is any policy which provides incentives to the elderly to divest themselves of assets prior to or during their use of long term care. This section discusses two policies which might provide such incentives: estate taxes and Medicaid eligibility rules.

A. Estate Taxes

Federal estate tax law prior to 1981 provided the elderly with incentives to pass on a small portion of their estates to their children or relatives each year. In this way, taxation of the estate at the time of their death did not occur. Changes made in 1981 to the estate tax law removed these incentives because estate taxes and gift taxes were combined into a single schedule.

Under current federal tax law, estates up to \$323,000 can be passed on tax free (in 1984).⁶ If an estate is passed on to a spouse and a child, this amount can be even higher due to the marital exclusion clause. Under this clause, an individual can pass on \$325,000 to a spouse, which is not taxed, and another \$323,000 to his children, which is also not taxed. In fact an unlimited amount of the estate can be passed on to a spouse tax-free. Table 9 shows how federal taxes would be computed on a sample estate for an individual dying in 1984 under two cases. The first is the case where the estate is divided evenly between the spouse and the children. Case 2 provides an example of the use of the unlimited marital deduction. There are two major differences between pre-1981 tax law and current law: first, current law is more generous in the amount of the estate that is tax free; and second, after 1981 an estate is defined as the value of an individuals' estate at the time of death plus the value of any gifts given to others after 1976. Federal laws therefore no longer provide any incentive to divest assets prior to the time of death. Table 10 shows the amount of tax on various estate levels in 1984.

⁶ Scheduled to increase to \$400,000 in 1985, \$500,000 in 1986 and \$600,000 in 1987. However, Congress is reconsidering these limits.

TABLE 9. Example of the Computation of Federal Taxes (1984) ^a		
	Case 1	Case 2
Value of Estate	\$790,000	\$790,000
Marital Deduction	-\$395,000	-\$465,000
	-----	-----
Value of Estate Passed on to Child	\$395,000	\$325,000
Exclusion	\$325,000	\$325,000
Taxable Estate	\$70,000	\$0
Estate Tax Paid in 1984	\$23,800	\$0
<p>a. This assumes no state taxes. State taxes are considered a deduction from the estate and therefore reduce the amount of federal taxes paid. SOURCE: ICF estimates.</p>		

State tax laws vary and may require taxes to be paid on a smaller estate than is taxable under federal law. In general, state tax laws fall into three types of policies:

- states which tax estates an amount equal to the allowable federal state tax credit -- Under federal law, a tax credit is allowed for payment of state estate taxes. Seventeen states tax individuals an amount exactly equal to the federal credit. In these states, individuals would pay no taxes on an estate of up to \$100,000 and only \$1,200 on an estate of \$200,000.
- states which assess a flat estate tax -- Six states require payment of a flat tax on estates. This tax ranges from one percent in Maryland to 12 percent in Oregon. However, Oregon is abolishing the state estate tax in 1987.
- states with a graduated estate tax law -- The remaining thirty states have estate tax rates which vary depending upon the amount of the estate, but which differ from the federal estate tax credit.

TABLE 10. Federal Estate Taxes, 1984			
Value of Estate	Amount of Tax	Amount of Credit	Total Taxes
\$100,000	\$23,800	\$23,800	\$0
\$200,000	\$54,800	\$54,800	\$0
\$300,000	\$87,800	\$87,800	\$0
\$400,000	\$121,800	\$96,300	\$25,500
\$500,000		\$96,300	\$59,500
\$600,000			\$96,500

SOURCE: U.S. Tax Code.

Table 11 provides an illustration of the effects of various state estate tax laws. It shows for each state the amount of tax an individual would have to pay on an estate of \$100,000 and \$200,000. Individuals in Pennsylvania have to pay the largest amount on an estate of \$100,000 (taxes of \$3,880). On a \$200,000 estate, individuals in Massachusetts have to pay \$12,300, the highest for all states. Some states require no taxes for the inheritance of an estate by the spouse. In all states, taxes for estates less than \$100,000 are not substantial.

In order to estimate the number of individuals potentially affected by these estate taxes, Table 12 shows the number of individuals with estates of various levels. As shown, only 14 percent of all individuals have estates with a value of more than \$100,000. Only four percent have estates of more than \$200,000.

TABLE 11 . State Estate Taxes^a			
State	Exemption	Tax on \$100,000	Tax on \$200,000
Alabama	60,000	0	1,200
Alaska	60,000	0	1,200
Arizona	60,000	0	1,200
Arkansas	60,000	0	1,200
California	60,000	0	1,200
Colorado	60,000	0	1,200
Connecticut	100,000 (20,000)	0 (2,350)	3,500 (5,850)
Delaware	70,000 (3,000)	600 (2,470)	3,600 (7,470)
District of Columbia	5,000	2,200	7,200
Florida	60,000	0	1,200
Georgia	60,000	0	1,200
Hawaii	60,000	0	1,200
Idaho	total estate (30,000)	0 (2,700)	0 (10,100)
Illinois	60,000	0	1,200
Indiana	total estate (5,000)	0 (2,100)	0 (5,100)
Iowa	120,000 (50,000)	0 (1,575)	3,125 (7,825)
Kansas	total estate (30,000)	0 (1,350)	0 (5,050)
Kentucky	50,000 (5,000)	0 (4,050)	6,400 (11,000)
Louisiana	5,000	2,650	5,650
Maine	50,000 (25,000)	2,500 (4,000)	9,500 (11,500)
Maryland	---	1,000	2,000
Massachusetts	30,000	3,900	12,300
Michigan*	75,000 (10,000)	500 (2,600)	4,000 (6,600)
Minnesota	275,000	0	0
Mississippi	60,000	400	2,200
Missouri	60,000	0	1,200
Montana**	total estate (7,000)	0 (4,080)	0 (11,940)
Nebraska	total estate (10,000)	0 (900)	0 (1,900)
Nevada	---	---	---
New Hampshire	total estate	0	0

State	Exemption	Tax on \$100,000	Tax on \$200,000
New Jersey	15,000	2,200	6,700
New Mexico	60,000	0	1,200
New York	500	2,500	6,000
North Carolina	3,150	3,030 (3,150)	8,000 (8,150)
North Dakota	60,000	0	1,200
Ohio***	related to IRS code (0)	N.A.	N.A.
Oklahoma	total estate (60,000)	0 (450)	0 (3,050)
Oregon	236,000	0	0
Pennsylvania	2,000	5,880	11,880
Rhode Island	200,000 (25,000)	0 (2,250)	0 (7,000)
South Carolina	120,000	0	5,200
South Dakota	total estate (30,000)	0 (2,850)	0 (8,850)
Tennessee	325,000	0	0
Texas	60,000	0	1,200
Utah	6,000	0	1,200
Vermont	60,000	0	1,200
Virginia	60,000	0	1,200
Washington	60,000	0	1,200
West Virginia	30,000 (10,000)	3,100 (3,700)	9,100 (9,700)
Wisconsin	total estate (10,000)	0 (5,375)	0 (15,375)
Wyoming	200,000 (33,300)	0 (1,340)	0 (3,340)

a. Parentheses show exemption amounts and taxes owed for individuals other than spouse and children who inherit estates. In these states inheritance taxes vary depending upon the relationship of the individual who inherits the estate to the deceased.

* Total estate is exempt under certain conditions.

** Estates passed onto a spouse or child are completely exempt from taxes.

*** Ohio's estate taxes for spouse depend upon federal estate tax law.

SOURCE: Commerce Clearinghouse Inc., Inheritance, Estate and Gift Tax Reporter, Seventh Edition.

TABLE 12. Distribution of Estates for Individuals Age 65 and Over in 1981		
Value of Wealth ^a	Number (in millions)	Percent
None	2.1	12%
0-50,000	9.6	56
50,000-100,000	3.1	18
100,000-200,000	1.7	10
200,000+	0.7	4
TOTAL	17.2	100%

a. Wealth includes savings, stocks, and bonds, home equity and other wealth.
SOURCE: ICF estimates using an enhanced version of the March 1981 Current Population Survey.

This analysis indicates that current federal tax law provides no incentives to divest income or assets prior to the need for long term care. State tax laws, while they differ from federal law in some states do not heavily tax the estates of most individuals if the estate is passed on at the time of death. It seems unlikely therefore that state tax laws provide any additional incentives to divest. In addition, even in states with relatively high estate taxes, such as Pennsylvania and Massachusetts, the crucial issue is not whether they tax estates heavily, but the definition used for an estate. As long as the federal definition is used, individuals have no incentive to divest their estates prior to the time of death.

B. Medicaid Regulations

1. Eligibility Factors

It is widely believed that individuals divest their assets in order to become eligible for Medicaid long term care benefits. In states with medically needy programs, individuals can divest their assets, thereby becoming eligible for Medicaid long term care benefits. In addition, the knowledge that Medicaid will pay for a nursing home stay may prevent an individual from purchasing any type of insurance to cover long term care. Thirty-one states currently have some type of medically needy program. These states are shown in Table 13.

There are other Medicaid eligibility rules which may be barriers to the private financing of long term care. These include state Medicaid policies regarding the transfer of assets, and other asset considerations. In addition, policies regarding deeming of spousal income can affect the decision to purchase LTC insurance. Table 13 shows which states have medically needy programs, transfer of asset requirements and whether homes are included as assets.

Federal regulations have no restrictions regarding transfer of assets. However, all but five states have restrictions on the transfer of assets for less than fair market value solely for the purpose of becoming eligible for Medicaid. In other words, if a state believes that an individual transferred their assets for less than those assets were worth with the intention of becoming eligible for Medicaid, the state need not determine the individual eligible. State regulations in this area differ.

Some states have regulations stipulating the delay of eligibility for a specific number of months if assets were transferred for less than the fair market value. For example in Missouri, if assets are transferred at less than fair market value with the intention of becoming eligible for Medicaid, can be included at full market value when determining eligibility for up to 60 months. In some cases such as Tennessee and California the length of time the individual is ineligible depends upon the difference between the fair market value and the amount for which the asset is transferred.

Some states have transfer of asset regulations which put the burden of proof on the state to show that the transfer of assets was made solely for purposes of becoming eligible for Medicaid. Other states specify that the individual show that they did not transfer assets to become eligible. The difference in where the burden of proof lies has an impact on how these regulations can be enforced. If the burden of proof were on individuals, eligibility would be harder to obtain. As shown in Table 13 , currently all but seven states place the burden of proof on the individual.

In addition, as shown in Table 13 most states do not count the value of housing as part of an individual's assets in determining Medicaid eligibility. This makes sense if the individual is living in the home, or expects to return to his or her home. However, it minimizes the incentives for an institutionalized individual to use these assets to finance long term care. Therefore, while states have some means of regulating the transfer of assets, how they enforce these regulations depends upon the state and their budgetary constraints.

Federal law requires that the income of a spouse (or parent) be considered "as available if they are actually contributed to the individual".⁷ In addition, they allow that states may consider the resources of a spouse (or parent) "even if they are not actually contributed to the individual".⁸ Therefore, the state may, if it chooses, consider the income of a non-institutionalized spouse in determining the eligibility of an institutionalized person. However, to date only a few states actually have taken advantage of this provision in the federal regulations, including Utah and Minnesota.⁹ In contrast, California recently passed

⁷ 42 CFR, 435.821.

⁸ Ibid.

⁹ In Minnesota one-third of the excess resources of a spouse may be considered.

legislation specifically stating that income of a spouse was not to be considered in determining eligibility.

TABLE 13. Summary of State Medicaid Regulations				
State	Medically Needy Program	Transfer of Assets Requirements	Homes Not Considered as Assets ^b	States Required to Prove Transfer of Assets
Alabama	---	X	---	X
Alaska	---	---	---	---
Arizona	---	---	X	---
Arkansas	X	X	X	---
California	X	X	X	---
Colorado	---	X	---	---
Connecticut	X	X	X	---
Delaware	---	---	---	---
District of Columbia	X	---	X	---
Florida	---	X	---	---
Georgia	---	X	---	---
Hawaii	X	X	X	---
Idaho	---	X	---	---
Illinois	X	X	X	---
Indiana	---	X	X	---
Iowa	---	X	---	---
Kansas	X	X	---	---
Kentucky	X	X	X	---
Louisiana	X	X	X	---
Maine	X	X	X	---
Maryland	X	X	X	---
Massachusetts	X	X	X	X
Michigan	X	X	X	X
Minnesota	X	X	X	---
Mississippi	X ^a	X	---	---
Missouri	---	X	---	---

State	Medically Needy Program	Transfer of Assets Requirements	Homes Not Considered as Assets ^b	States Required to Prove Transfer of Assets
Montana	X	X	X	---
Nebraska	X	X	X	---
Nevada	---	X	---	---
New Hampshire	X	X	X	X
New Jersey	---	X	---	X
New Mexico	---	X	---	---
New York	X	X	X	---
North Carolina	X	X	X	---
North Dakota	X	X	X	---
Ohio	---	X	---	X
Oklahoma	X	X	X	---
Oregon	---	X	---	---
Pennsylvania	X	X	X	---
Rhode Island	X	X	X	---
South Carolina	---	X	---	---
South Dakota	---	X	---	---
Tennessee	X	X	X	X
Texas	---	X	---	---
Utah	X	X	X	---
Vermont	X	X	X	---
Virginia	X	X	X	---
Washington	X	X	X	---
West Virginia	X	X	X	---
Wisconsin	X	X	X	---
Wyoming	---	X	---	---
TOTAL NUMBER OF STATES	31	46	31	7

a. Limited to children under 18 (ambulatory services) and pregnant women (pre-natal care and delivery).
b. States which do not count homesteads as part of assets in determining eligibility.

No states have taken advantage of changes in federal regulations which allow states to require children to contribute to the cost of their parent's care. Idaho recently passed legislation to this effect, but the law was overturned.

Requirements for a non-institutionalized spouse or child to contribute to the cost of care provide additional incentives for persons to purchase some form of insurance. If a husband knows that the cost of nursing home care for himself will leave his wife with nothing upon his death, he may choose to protect his income and assets by purchasing insurance.

V. IMPACT OF INCREASED PRIVATE FINANCING ON GOVERNMENT COSTS

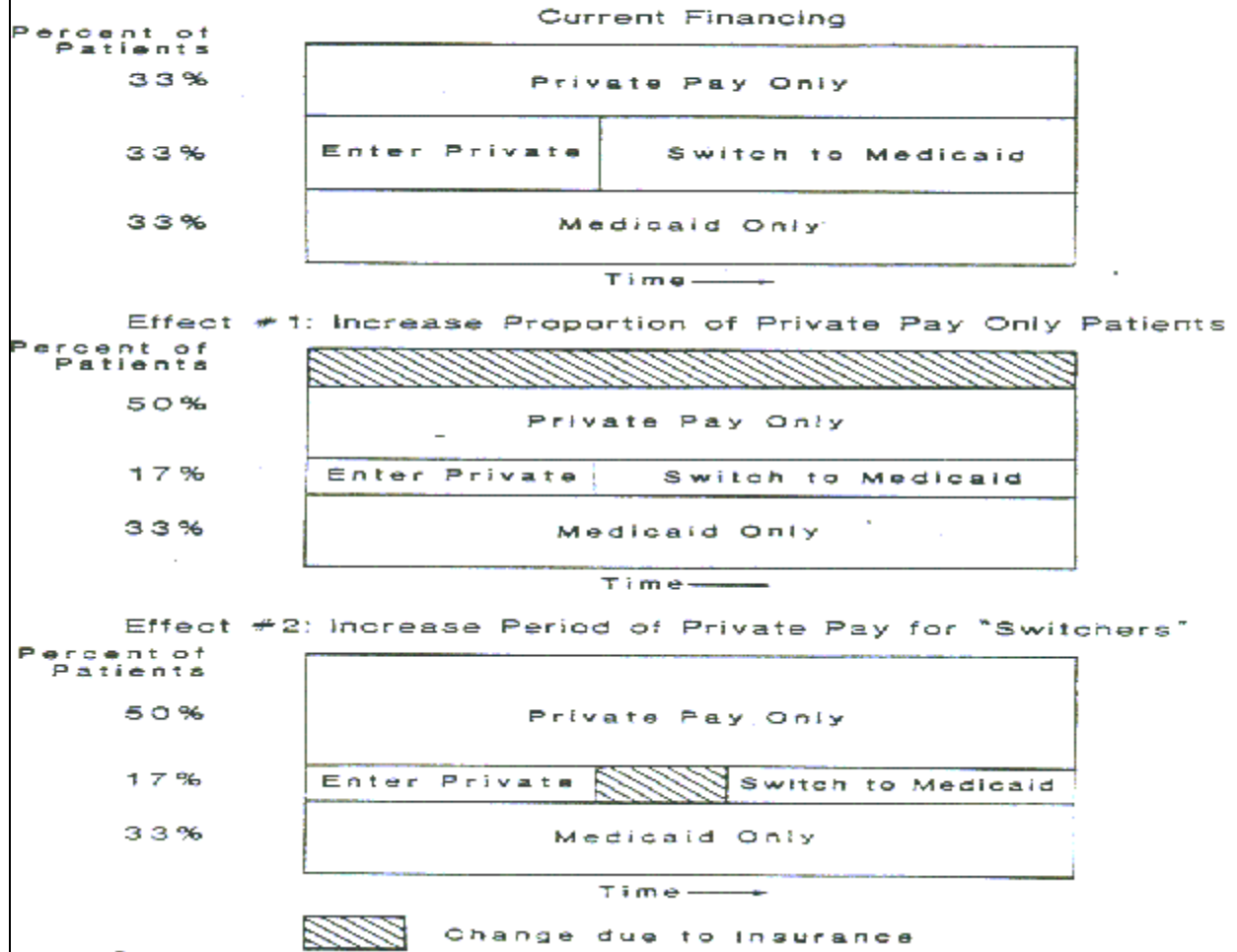
A. Background

At the same time that the number of potential users of long term care services is increasing more rapidly than at any time in our history, the state and federal governments have assumed a growing role in financing these services. It does not seem likely that government budgets can support the potential scale of the LTC outlays implied by the two trends. New alternatives and existing alternatives for the private financing of long term care will have to be developed and expanded.

In exploring opportunities to substitute private LTC financing for public sources, we recognize that not all groups of the population or types of LTC services are potential candidates for such alternatives. However, there is a significant group of the elderly population that enters a nursing home and pays for the early part of their stay using private resources and eventually shifts to Medicaid after spending down their liquid assets and income to medically needy eligibility standards. If only a fraction of this group can be encouraged, to defer their shift to Medicaid or extend the period of private support for even a brief period, this will decrease Medicaid expenditures.

One way to increase private financing of LTC services is through long-term care insurance. An increase in the purchase of long term care insurance is likely to have effects on two potential groups of nursing home patients. First, as shown in Figure 1 , an increase in long term care insurance is likely to increase the percentage of individuals who use only their own private resources to finance long term care services because individuals who previously would have used Medicaid funds to finance part or all of their nursing home stay would use the insurance to pay for their nursing home expenditures. A second group of affected patients are those who enter as private pay patients and then switch to Medicaid. If these individuals purchase insurance, it will decrease or eliminate the period during which they most rely on Medicaid. Both of these effects will increase the number of private pay nursing home patients. Two other potential effects of this type of insurance may be to increase the length of stay for private pay patients and to increase the number of individuals entering nursing homes as private pay patients due to the moral hazard effects of insurance.

**Figure 1
POTENTIAL EFFECTS OF INCREASES IN
LTC INSURANCE ON LTC FINANCING**



The first two effects can be seen in the example shown in Table 14. In this example, we assumed a nursing home had 300 patients, each of whom had an average stay of 360 days. Under current financing, we assumed that one-third of the patients were on Medicaid during the entire year, one-third were private pay patients for the entire year, and one-third were "switchers," who spent six months as private pay patients and six months as Medicaid patients.

In this example, under current financing, the home generates annual revenues of \$4.54 million, of which \$1.80 million comes from Medicaid. If we assume that the purchase of long term care insurance leads 50 patients to shift from being "switchers" to private pay status (Case 1), then the home's Medicaid revenues would decline to \$1.575 million. If we further assume that insurance leads the average switcher to spend three-quarters of the

year as a private pay patient and only one-quarter of the year on Medicaid (Case 2), then the home's Medicaid revenues would decline to \$1.418 million.

TABLE 14. Potential Effects of Long-Term Care Insurance on a Hypothetical Nursing Home				
Current Financing	Number of Patients	Average Length of Stay	Average Daily Cost	Annual Revenues (millions)
Private Pay Only	100	360	\$50	\$1.8
Medicaid Only	100	360	35	1.26
Switchers	100	360		
• Private		180	50	0.9
• Medicaid		180	35	0.63
TOTAL	300	360	\$42.50	\$4.590
CASE 1: 50 PATIENTS SWITCH TO PRIVATE PAY ONLY				
Private Pay Only	150	360	\$50	\$2.7
Medicaid Only	100	360	35	1.26
Switchers	50	360		
• Private		180	50	0.45
• Medicaid		180	35	0.315
TOTAL	300	360	\$43.75	\$4.725
CASE 2: SAME AS CASE 1 EXCEPT LONGER PRIVATE STAY FOR SWITCHERS				
Private Pay Only	150	360	\$50	\$2.7
Medicaid Only	100	360	35	1.26
Switchers	50	360		
• Private		270	50	0.675
• Medicaid		90	35	0.158
TOTAL	300	360	\$44.38	\$4.793
SOURCE: ICF assumptions.				

As this simple example shows, long term care insurance will have a direct impact on government expenditures. However, because the real world it much more complicated than the example in Table 14 , ICF developed a model for DHHS to examine the potential Medicaid savings from long term care insurance. This model uses data from an enhanced version of the March 1981 CPS to examine the potential effects on Medicaid costs of the increased purchase of LTC insurance. This model. and its results are presented below.

B. Methodology

To model the potential impact of long term care insurance on LTC financing, we simulated the cumulative nursing home expenditures by source of payment for each individual in a representative sample of individuals who were in the age 67-69 cohort in 1981. We selected the cohort of individuals age 67 to 69 because most of them have stopped working, yet have not entered nursing homes. We simulated their cumulative nursing home expenses over a 35 year period because this allowed us to follow this cohort until the individuals were age 102-104, when almost all its members had died.

As shown in Figure 2, the model consists of three parts. The first part of the model is a data base which contains information on the individuals to be simulated. The representative individuals who are simulated are drawn from an enhanced version of the March 1981 Current Population Survey (CPS), a representative sample of the U.S. population. ICF has enhanced this data set so that it contains data on both the income and assets of individuals and their spouses.

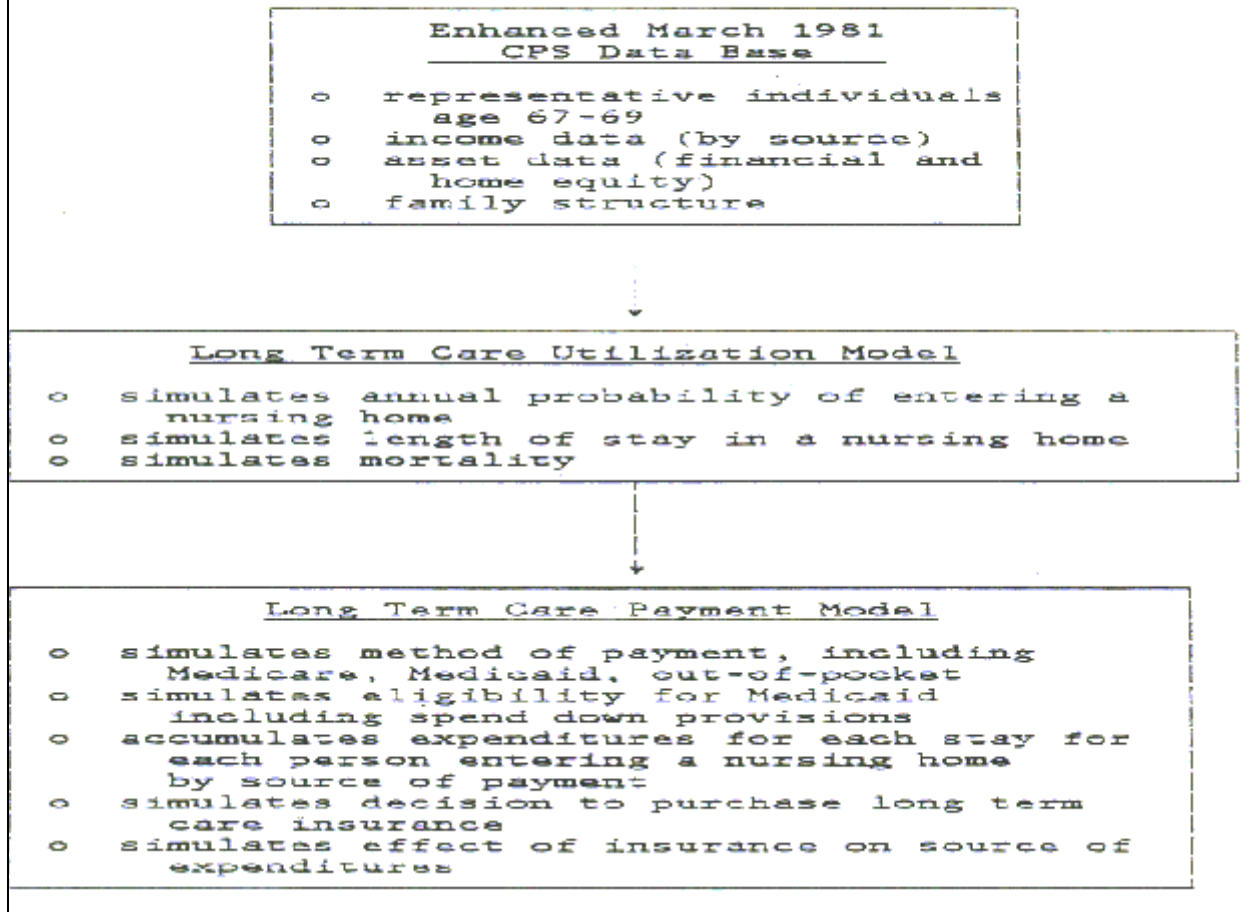
The second part of the model simulates whether or not each individual in the age 67-69 cohort enters a nursing home during the 35 year simulation period. The model is a microsimulation model in that Monte Carlo simulation techniques are used to model the decision of each individual in the data base to enter a nursing home.¹⁰ If the individual does enter a nursing home" the model uses similar processes to simulate the length of the stay. This part of the model also simulates the deaths of individuals.

The third part of the model uses the output of the first two parts to calculate the cumulative sources and levels of payment for nursing home services. For each individual who enters a nursing home, this part of the model simulates whether: (1) the individual enters a Medicare bed; (2) the individual pays for nursing home services using Medicaid, private resources, or both (for "switchers"). This part of the model also accumulates the cost of the nursing home care by source of payment.

In examining the effects of long term care insurance, this third part of the model also simulates the decision to buy insurance and its effects on the source and levels of payments for nursing home services for those who enter a nursing home. A more detailed description of the model and its assumptions follows.

¹⁰ For example, suppose the annual probability of a 67 year old unmarried man entering a nursing home is 1.32 percent. If this type of individual were selected from the data base, a random number between 1 and 10,000 would be drawn. If the random number were 132 or less, then the individual would be simulated to enter a nursing home in that year. If the number selected were greater than 132, the individual would not enter a nursing home in that year.

FIGURE 2
FLOWCHART FOR MEDICAID SAVINGS MODEL



1. Income and Assets

ICF enhanced a version of the March 1981 Current Population Survey (CPS) so that it contains detailed data on the income and assets of each of the representative individuals in that survey in 1980. In order to model the financing of nursing home services one needs to know not only the income and assets of representative individuals in 1980 but also information on each individual's income and assets from 1980 to 2015 (or until death). To model family income and assets in future years, we used the following assumptions:

- Social security income increases with the Consumer Price Index (CPI). This is consistent with current law.
- The CPI increases 5 percent per year.

- Pension income increases at 50 percent of the increase in the CPI. This is consistent with ICF's findings on cost of living increase in retirement plans.¹¹
- For each individual, income from financial assets is equal to the same percentage of non-home equity assets as it was in 1980. This implies that individuals hold homogeneous assets that have a constant percentage yield. For example, if an individual received an eight percent yield in 1980 from his or her financial assets, we would assume that he or she would always receive a yield of eight percent on his or her financial assets.
- Individuals spend all their income in a given year. This means that no additional savings are accumulated after the simulation period begins. Consequently, financial assets do not increase. Assets can decrease if an individual enters a nursing home, but not for other reasons.
- For individuals less than age 65, income from employment increases with the CPI until age 63 when the individual is assumed to retire. For those over 63 who were working in 1980, we assumed that income from employment would increase with the CPI until the earlier of (1) retirement at age 69 or (2) the date an individual entered a nursing home. We assumed that individuals who entered the model with earnings and no social security income and then stopped working at age 69 or upon entering a nursing home received a social security benefit that replaced 42 percent of their earnings in the final year of employment. This payment was limited in real terms so that it could not exceed the level of the maximum social security benefit.
- Each spouse owns one-half of the couple's assets. Upon death, the surviving spouse receives all the couple's assets.

2. Nursing Home Entry and Length of Stay

The second part of the model uses Monte Carlo simulation techniques to simulate entry to a nursing home. Almost all studies of nursing home entry indicate that health status, age, and marital status are important variables which influence the probability of entry to a nursing home. In our model we do not simulate health status. However, we do know the age and marital status of individuals in the first year of the model and simulate these variables in future years.

Unfortunately, we could find no study that contained data on the probability of entry to a nursing home by age and marital status. Mark Meiners of NCHSR has analyzed data

¹¹ See ICF's analysis of the characteristics of non-federal retirement plans for the U.S. Office of Personnel Management (forthcoming).

from the National Nursing Home Survey (NNHS). He has calculated the probability of entering a nursing home by age. These admission rates are shown in the column labeled "NNHS Data" in Table 15 and are taken from NCHSR analysis of the National Nursing Home Survey.

Because all studies cite the importance of marital status, we modified these admission rates. As shown in Table 15 under the columns labeled "ICF-modified data", we assumed that the probability of a married person entering a nursing home was 10 percent less than the average NNHS rate for that age group and that the probability of a single person entering a nursing home would be 10 percent more than the NNHS's rate for that age group. As a consequence of these modifications, an unmarried individual of a given age has about a 22 percent greater chance of entering a nursing home as a married person of that age. The modified rates we used are shown in Table 15 . We conducted simulations under both the NNHS age specific entry rates and the ICF modified age and marital status specific entry rates and found that they produced almost identical entry rates in the aggregate. For individuals less than age 65, we assumed that the probability of entering a nursing home is zero.¹²

TABLE 15. The Annual Probability of Entering a Nursing Home, by Age			
Age Group	NNHS Data	ICF-Modified Data	
		Married Individuals	Single Individuals
65-74	1.2%	1.08%	1.32%
75-84	4.8%	4.32%	5.28%
85 or over	10.1%	9.09%	11.11%

SOURCE: NNHS data from Meiners and Trapnell, "Long Term Care Insurance: Premium Estimates for Prototype Policies".

We also used Monte Carlo simulation techniques to simulate the length of stay in the nursing home. We calculated the probabilities of different lengths of stay using data from NCHSR's analysis of NNHS data. We did not use marital status as a variable in estimating length of stay. The data used to estimate the length of stay are shown in Table 16 . For example, if an individual age 65-74 was simulated to enter a nursing home, we estimated the probability of staying in the nursing home for 1-30 days and leaving the nursing home alive was equal to $31,950 / (87,106 + 85,581)$ or 18.5 percent. We assumed that an individual simulated to enter a nursing home stayed the midpoint number of days in the simulated length of stay category. Individuals who were simulated to stay more than five years were assumed to stay in a nursing home for eight years.

¹² We modeled some individuals who were less than age 67 because some individuals in the 67-69 cohort are married to younger individuals.

TABLE 16. Population of Nursing Home Entrants by Length of Stay and Survival						
Length of Stay	Age 65-74		Age 75-84		Age 85 and Over	
	Live	Dead	Live	Dead	Live	Dead
1-30 days	31,950	17,448	52,183	35,545	26,684	22,945
31-60 days	10,213	9,471	23,702	17,246	10,968	14,467
61-90 days	8,588	5,605	10,783	10,092	5,503	8,603
91-183 days	10,452	8,224	18,366	22,786	9,125	15,408
184-365 days	6,756	10,432	16,858	22,582	7,146	16,827
≥1-2 years	8,122	9,889	11,080	23,995	6,785	22,201
≥2-3 years	3,544	7,393	4,886	15,764	2,887	12,107
≥3-4 years	1,663	2,902	4,022	13,651	1,932	11,028
≥4-5 years	1,724	2,785	3,598	10,774	994	6,243
≥5 years	4,094	11,432	3,457	23,485	692	8,077
TOTAL	87,106	85,581	148,935	195,920	72,716	137,906
SOURCE: Meiners and Trapnell, "Long Term Care Insurance: Premium Estimates for Prototype Policies."						

We assumed that individuals only entered a nursing home once each year. Individuals were allowed to reenter a nursing home in years following discharge from a nursing home with the same probabilities used for their age group.¹³ This assumes that previous admittance to a nursing home does not affect the probability of subsequently entering a home.

The probability of surviving the stay was based on the data in Table 16 . For individuals who did not enter a nursing home, we used the mortality table shown in Table 17 to simulate death.

¹³ For example, assume the probability of entering a nursing home for a 74 year old married individual is 1.08 percent and that for a 75 year old individual it is 4.32 percent. Further assume that a 74 year old man is simulated to enter a nursing home and that he is simulated to stay for 61-90 days. The probability of this individual entering a nursing home in the next year is 4.32 percent, the same probability as for a 75 year old who had never entered a nursing home.

TABLE 17 . Mortality Rates by Sex and Single Years of Age ^a					
Age	Male	Female	Age	Male	Female
65	0.02797	0.01364	82	0.10569	0.06717
66	0.02988	0.01448	83	0.11230	0.07293
67	0.03216	0.01559	84	0.11929	0.07916
68	0.03498	0.01707	85	0.12663	0.08603
69	0.03829	0.01888	86	0.13435	0.09353
70	0.04186	0.02084	87	0.14260	0.10152
71	0.04563	0.02294	88	0.15153	0.10989
72	0.04977	0.02545	89	0.16119	0.11871
73	0.05434	0.02845	90	0.17145	0.12875
74	0.05933	0.03190	91	0.18218	0.14010
75	0.06492	0.03570	92	0.19342	0.15169
76	0.07095	0.03972	93	0.20401	0.16249
77	0.07696	0.04387	94	0.21653	0.17201
78	0.08260	0.04806	95	0.22526	0.17958
79	0.08793	0.05233	96	0.22948	0.18570
80	0.09342	0.05688	97	0.23133	0.19148
81	0.09942	0.06184	98	0.23528	0.19957
			99	0.24429	0.21106

a. Each rate is interpreted as the probability that an individual who is living at the start of the year will die by the end of the year.
 SOURCE: John C. Wilkin, United States Population Projection by Marital Status for OASDI Cost Estimates, 1980, Actuarial Study No.84, SSA Pub.11-11531, Washington, D.C.: Social Security Administration Office of the Actuary, October 1980.

3. Nursing Home Expenditures and Financing

The third part of the model simulates nursing home expenditures and the source of payment. It then accumulates these expenditures by source of payment for each of the individuals in the cohort.

We assumed nursing home charges per day in the first year of the simulation (1981) were equal to \$33 per day for Medicaid and \$43 per day for Medicare and private

patients. These were the average revenues per patient day in California in 1981.¹⁴ These charges were assumed to increase with the CPI. Expenditures per stay were set equal to the number of days multiplied by the charges per day.

To model the method of payment for nursing home LTC services, we allocated charges to Medicare, Medicaid, and out-of-pocket private financing. We assumed that 50 percent of individuals entering a nursing home did so under Medicare coverage and that individuals in Medicare beds remained under this coverage for 26 days, the national average for Medicare patients. For patients in Medicare beds, we assumed Medicare paid the entire charge for the first 20 days and the difference between charges and \$32.50, for the next six days. We assumed that the Medicare deductible increased with increases in the CPI.

Medicaid was assumed to finance nursing home charges for individuals qualifying as categorically needy or as medically needy. To be eligible for Medicaid coverage as categorically needy, a single individual's financial assets (non-home equity) may not exceed \$1,500 (\$2,250 for married couples) while the annual income cut off was set at \$3,172 (\$4,764 for married couples) in 1981.¹⁵ These limits are assumed to increase at the rate of increase in the CPI. For a qualifying individual, Medicaid is assumed to finance the difference between nursing home charges and the sum of the beneficiary's income (less a \$30 per month personal allowance).

Beneficiaries not qualifying as categorically needy may qualify as medically needy, if their cost of their nursing home stay exceeds the difference between their income and assets (non-home equity assets) and the medically needy income and asset limits. The medically needy income limits are \$4,228 for a single individual and \$6,350 for married couples. The asset limits for the medically needy are the same as those for the

¹⁴ California Health Facilities Commission, "Aggregate Long-Term Care Facility Data for California", December 1982. We used data for California because of their accuracy and currency.

¹⁵ Income refers to yearly net countable income (MCI) as determined by the Social Security Administration in calculating SSI benefits. It is equal to the sum of all unearned income (less a \$20/month unearned income deduction) and earned income (less a \$65/month earned income deduction plus ½ of the remainder). Mathematically,

$$\text{YNCI} = [(P + A + S) - \$240] + [(E - \$780) / 2]$$

where E = earnings
P = pension income
A = asset income
s = social security

See Vee Burke, "Cash and Non-Cash Benefits for Persons with Limited Income: Eligibility Rules, Recipient and Expenditure Data, FY 1977-79" Report No. 81-44 EPW, Washington, D.C.: Congressional Research Service, the Library of Congress, 1981, p. 47.

categorically needy. For these beneficiaries, the model simulates Medicaid spend-down coverage. We assume that all states have spend-down provisions and that, under these provisions, an individual pays for a nursing home stay with his income and assets until he has spent down to the medically needy limits. At this point, Medicaid is assumed to pay the difference between nursing home charges and the beneficiary's income (less a \$30 per month personal allowance) just as it does for the categorically needy. Married individuals are assumed to spend not only their own assets, but also those of their spouse.

Individuals not eligible for Medicaid were assumed to use their pension, social security, and asset income to finance their period of stay. If this were still less than required nursing home charges, and the individual had spent down his or her assets to below the requirements for Medicaid's medically needy program, we assumed Medicaid assisted in the payment of all remaining costs.¹⁶ Married individuals were assumed to spend down not only their own assets, but those of their spouse.

4. Long Term Care Insurance

We modeled the potential impact of long term care insurance under two assumptions about its purchase. In the first case, we assumed that all individuals/couples who met two conditions would purchase long term care insurance: (1) if the premiums were less than 10 percent of their income; and (2) if they had financial assets of \$3,000 or more. In the second case, we assumed that all individuals/couples who met two similar conditions would purchase long term care insurance: (1) if the premiums were less than five percent of their income; and (2) if they have financial assets of \$3,000 or more. We assumed that individuals began purchasing insurance in the first year of the simulation.

We assumed that individuals purchased policies that after a 26 day deductible began payment of a fixed \$40 per day for nursing home care and that the benefits would last for four years. We assumed the cost of this policy was \$480 per year in 1980.¹⁷ We assumed individuals stopped paying premiums upon entry to the nursing home. We assumed that both the costs of the insurance and the value of the benefit increased with the CPI.

5. Methodological Limitations

Some of the most important limitations to this methodology include:

- we did not change entry or survival probabilities for individuals who have already had a nursing home stay; this may tend to understate Medicaid expenditures because, if

¹⁶ Medicaid was assumed to pay the difference between nursing home charges and the beneficiary's income (less a \$30 per month personal allowance).

¹⁷ This is the cost of the Fireman's Fund policy for a \$40 indemnity with a 20 day deductible purchased at age 65-69.

individuals who enter nursing homes are more likely to reenter them, then their resources will have already been depleted. This would make them more likely to be on Medicaid.

- we did not account for potential increases or decreases in savings during the retirement years; although evidence indicates; that many of the elderly continue to save during retirement this probably does not have a large effect on our results.
- we assumed that everyone is covered by a medically needy program and that all states had the same Medicaid policies (see Table 13 on page 34); this probably overstates Medicaid costs.
- we did not assume that the purchase of the insurance had any behavioral effects on its purchasers; this may understate aggregate nursing home costs if there is more usage of nursing homes by insured patients.
- we did not assume that individuals transferred their assets; this understates Medicaid costs.
- we assumed that all individuals who purchased insurance continued to renew their policies each year; this probably overstates the impact of the insurance. On the other hand, we did not allow individuals who did not purchase the insurance in the first year of the simulation to purchase it in later years. This understates the impact of insurance.

The understanding of how long term care insurance would affect government costs would be aided greatly if there were better information on the characteristics of individuals who enter nursing homes as private pay patients and then shift to Medicaid. Currently, little is known about this group of patients and how they differ from other nursing home patients.

C. Results

1. Utilization and Expenditures with No Long Term Care Insurance

We conducted three simulations of the cumulative (33 year) nursing home expenditures for the age 67-69 cohort. In the first simulation, we assumed that no one purchased long term care insurance. In the second simulation, we assumed that individuals would purchase the insurance if it cost less than 10 percent of their income and that they had \$3,000 or more in financial assets. In the third simulation, we assumed that individuals would purchase the insurance if it cost less than five percent of their income. This section presents the results of the first simulation. The results of the second and third simulations are described in the next section.

We found that 39 percent of the age 67-69 cohort entered a nursing home at some time during the 35 year simulation period. We also found that at some time during the simulation period approximately one-third of all men and approximately 44 percent of all women entered a nursing home. Although the probability of a man or a woman entering a nursing home at a given age and marital status is equal in our simulation, more women enter nursing homes because they live longer and because they are more likely to be unmarried.

We also examined the percentage of the age 67-69 cohort that are alive in future years and the percentage that are living in nursing homes. Table 18 shows that a 35 year simulation is an appropriate period to examine this cohort because less than one-half of one percent of the cohort is still alive after 35 years. Table 18 also shows that the percentage of individuals in a nursing home increases rapidly over time. These simulated results are consistent with data from the National Nursing Home Survey, as shown in Table 19.

TABLE 18. Simulated Future Status of Cohort Age 67-69 in 1980		
Age of Cohort	Percentage of Cohort Still Alive	Of Those Alive, Percent in Nursing Home
71-73	84%	1.4%
76-78	62	5.7
81-83	38	7.9
86-88	18	11.2
91-93	7	14.2
96-98	2	N/A
101-103	0.4	N/A
SOURCE: ICF simulations.		

TABLE 19. Percent of the Population in a Nursing Home, 1977			
Age Group	Nursing Home Residents (000)	Total Population (000)	Percent of Total in Nursing Home
65-74	211.4	14,585	1.5%
75-84	464.7	6,831	6.8
85 and Over	449.9	2,079	21.6
TOTAL	1,126.0	23,494	4.8

SOURCE: The National Center for Health Statistics, "The National Nursing Home Survey: 1977 Summary for the U.S.", p.28.

Table 20 presents data on the length of stay of three groups of individuals: (1) those who use Medicare only to pay for their stay (shown in the Medicare only column); (2) those who use Medicaid to finance part or all of their stay (Medicaid and Switchers column); and (3) all others (Private Pay column). In our simulation we found that the average total length of stay in a nursing home was 555 days for those individuals who entered nursing homes. We found that 38 percent of the stays were for 90 days or less, 23 percent were for 3-12 months, and the remaining 39 percent of stays were for one year or more.

TABLE 20. Length of Stay, by Patient Status for the Age 67-69 Cohort ^a				
Length of Stay	Patient Status			Total
	Private Pay	Medicaid and Switchers	Medicare Only	
3 Months or Less	17%	10%	10%	38%
3-12 Months	9	14	0	23
More Than 1 Year	8	31	0	39
TOTAL	35	55	10	100
Average L.O.S.	306 days	874 days	15 days	554 days

a. This table reflects the total length of stay of individuals entering a nursing home throughout the entire 35 year period.
SOURCE: ICF simulations.

We also found that Medicare funds will finance the stay of 10 percent of individuals who enter nursing homes during the 35 year simulation. These individuals who rely entirely on Medicare have an average length of stay of only 15 days. Private pay patients (those who never use Medicaid, although they may use Medicare) have an average length of stay of approximately 300 days, which is about half the 554 day average for all individuals

entering nursing homes. We found that over 50 percent of individuals use Medicaid to finance part or all of their stay. These individuals have an average length of stay of over 800 days.

Table 21 examines the Medicare, Medicaid, and out-of-pocket expenditures for these three groups of nursing home patients. We found that Medicare will pay for two percent of the nursing home charges for this cohort, Medicaid will pay for 43 percent of charges, and 55 percent of charges will be paid out-of-pocket. Because of their long lengths of stay, the Medicaid and switchers group of patients account for 80 percent of all expenditures. We found that these simulated estimates were consistent with aggregate, national data.

TABLE 21. Percentage of Nursing Home Expenditures Paid by Different Sources of Payment for the Age 67-69 Cohort^a				
Source of Payment	Patient Status			All Patients
	Private Pay Patients	Medicaid and Switchers	Medicare Only Patients	
Medicare	0.6%	1%	0.3%	2%
Medicaid	0	43	0	43
Out of Pocket	19	36	0	55
TOTAL	20	80	0.3	100
a. This table reflects the total length of stay of individuals entering a nursing home throughout the entire 35 year period. SOURCE: ICF simulations.				

2. Impact of Long Term Care Insurance

To examine the impact of long term care insurance we assumed that individuals would purchase the insurance if (1) it cost less than five percent of their income and they had \$3,000 or more in financial assets or (2) if it cost less than 10 percent of their income and they had \$3,000 or more in financial assets. Under these assumptions, 21 and 47 percent of individuals in the cohort were assumed to purchase the insurance policy. (See Table 22.)

TABLE 22. Percentage of Individuals Purchasing Insurance, by Individual Income Level in 1980		
Individual Income in 1980	Percentage Buying LTC Insurance	
	5% Assumption	10% Assumption
Less than \$3,000	3%	13%
\$3,000-4,999	5	22
\$5,000-8,999	7	55
\$9,000-12,999	41	80
\$13,000 or More	77	91
TOTAL	21	47

a. The "5% Assumption" assumes that individuals/couples will purchase long term care insurance if its annual premiums are less than five percent of their income and they have \$3,000 or more in financial assets. The "10% Assumption" is similar except that it assumes individuals/couples will purchase the insurance if its premiums are less than 10 percent of their income and they have \$3,000 or more in financial assets.

SOURCE: ICF simulations.

The effect of the insurance on the source of nursing home payment is shown in Table 23 . This table shows that the percentage of individuals who rely on Medicaid for part or all of their care would be reduced from 33 to 50 or 42 percent under the 5 percent of income and 10 percent of income assumptions respectively. If we had assumed that a broader cross-section of the elderly purchased the insurance, the effect of the insurance on the sources of payment would have been more pronounced. In particular, the percentage who rely on Medicaid for part or all of their nursing home stay would have been reduced even further.

TABLE 23. Effect of LTC Insurance on Source of Payment (percent of patients)			
Type of Patient	No Insurance	With LTC Insurance^a	
		5% Assumption	10% Assumption
Private Pay	35%	19%	11%
Medicaid/Switchers	55	50	42
Medicare Only	10	10	10
Private Pay and Insurance	0	18	35
Other^b	0	3	3
TOTAL	100	100	100

a. The "5% Assumption" assumes that individuals/couples will purchase long term care insurance if its annual premiums are less than five percent of their income and they have \$3,000 or more in financial assets. The "10% Assumption" is similar except that it assumes individuals/couples will purchase the insurance if its premiums are less than 10 percent of their income and they have \$3,000 or more in financial assets.

b. Includes primarily those who use insurance and Medicaid.

SOURCE: ICF simulations.

Table 24 shows the impact of long term care insurance on nursing home expenditures. The estimates in Table 24 are shown in nominal dollars and represent the cumulative nursing home expenditures for this cohort during the 35 year simulation period. It shows that in the aggregate, long term care expenditures would increase by up to four percent because private pay days would substitute for Medicaid days (private pay days are approximately 30 percent more expensive than Medicaid days). For this reason, nursing home revenues would also increase if long-term care insurance were widely purchased. We note that these estimates do not assume that the elderly's rate of admission or length of stay would increase if these were long-term care insurance. Due to the moral hazard effects of insurance, there may be some increases in both of these factors.

Table 24 also shows that total cumulative Medicaid expenditures would decline by up to 23 percent, depending upon the number of individuals purchasing the insurance. This would lead to savings of almost nine billion dollars (in nominal dollars) for this small cohort of the elderly during the 35 year period of the simulation. These savings would be even larger if we assumed that a broad cross-section of the elderly purchased the insurance, rather than just those with the highest incomes and assets as we did here.¹⁸

¹⁸ On the other hand, we estimate that if only 50 percent of the individuals who were assumed to purchase the insurance under the "10% assumption" actually purchased it, the Medicaid savings would decline from 23

The Medicaid savings shown here could also be larger if the purchase of long-term care insurance led to less transferring of assets by the elderly. If Medicaid's eligibility provisions were also modified, this could also lead to the increased purchase of long-term care insurance and further Medicaid savings.

TABLE 24. Effect of LTC Insurance on Cumulative Medicaid Costs for Nursing Home Patients in the Age 67-69 Cohort^a			
Source of Payment	No LTC Insurance	With LTC Insurance	
		5% Assumption^b	10% Assumption^b
Medicare	\$1.9	\$1.9 (0%)	\$1.9 (0%)
Medicaid	37.6	34.7 (-8%)	28.9 (-23%)
Out-of-Pocket	47.4	29.9 (-37%)	19.6 (-59%)
Insurance	0	20.6 (N/A)	39.5 (N/A)
TOTAL	\$86.9	\$87.2 (+1%)	\$90.0 (+4%)
<p>a. This table reflects the cumulative nursing home expenditures (in billions of nominal dollars) for all individuals in the age 67-69 cohort who enter a nursing home throughout the entire 35 year period.</p> <p>b. The "5% Assumption" assumes that individuals/couples will purchase long term care insurance if its annual premiums are less than five percent of their income and they have \$3,000 or more in financial assets. The "10% Assumption" is similar except that it assumes individuals/couples will purchase the insurance if its premiums are less than 10 percent of their income and they have \$3,000 or more in financial assets.</p> <p>SOURCE: ICF simulations.</p>			

percent to 12 percent. This would still result in substantial savings to the Medicaid program.

APPENDIX A. DETAILED TABLES

TABLE A-1. Percentage of Families Able to Attain a Lump Sum Payment at Retirement Through a 5 Percent Reduction in Pension Income, 1980 ^a								
	Age 65-69		Age 70-74		Age 75-79		Age 80+	
	Married	Single	Married	Single	Married	Single	Married	Single
FAMILIES WITH INCOME LESS THAN \$5,000								
Lump Sum of:								
Less than \$500	97%	96%	98%	95%	99%	97%	99%	97%
\$500-1,999	3	4	2	4	1	2	1	3
\$2,000-4,999	0	0	0	0	0	0	0	0
\$5,000-9,999	-	-	-	-	-	-	-	-
\$10,000+	-	-	-	-	-	-	-	-
FAMILIES WITH INCOME \$5,000-14,999								
Lump Sum of:								
Less than \$500	66	71	63	71	70	70	70	72
\$500-1,999	23	22	30	21	22	23	20	20
\$2,000-4,999	11	7	7	7	8	7	9	8
\$5,000-9,999	1	-	-	-	-	-	1	-
\$10,000+	-	-	-	-	-	-	-	-
FAMILIES WITH INCOME \$15,000-24,999								
Lump Sum of:								
Less than \$500	50	58	43	65	43	62	48	68
\$500-1,999	19	18	25	12	18	15	24	13
\$2,000-4,999	24	16	26	16	30	16	24	17
\$5,000-9,999	7	8	6	7	9	7	3	2
\$10,000+	-	-	-	-	-	-	1	-
FAMILIES WITH INCOME GREATER THAN \$25,000								
Lump Sum of:								
Less than \$500	48	65	39	62	51	56	46	62
\$500-1,999	15	8	14	12	11	13	10	8
\$2,000-4,999	17	14	23	12	15	26	26	19
\$5,000-9,999	17	7	17	9	17	5	10	9
\$10,000+	4	3	7	5	5	-	8	3
ALL FAMILIES								
Lump Sum of:								
Less than \$500	60	78	58	80	66	81	69	84
\$500-1,999	18	14	24	14	18	13	17	10
\$2,000-4,999	15	6	13	5	11	5	11	5
\$5,000-9,999	6	2	4	1	4	1	2	-
\$10,000+	1	-	1	-	1	-	1	-
<p>a. This table includes individuals who receive <u>no</u> pension income. SOURCE: ICF analysis of March 1981 Current Population Survey.</p>								

TABLE A-2. Percentage of Families Able to Attain a Lump Sum Payment at Retirement Through a 10 Percent Reduction in Pension Income, 1980 ^a								
	Age 65-69		Age 70-74		Age 75-79		Age 80+	
	Married	Single	Married	Single	Married	Single	Married	Single
FAMILIES WITH INCOME LESS THAN \$5,000								
Lump Sum of:								
Less than \$500	96%	94%	97%	94%	98%	96%	98%	95%
\$500-1,999	2	5	2	5	2	3	1	4
\$2,000-4,999	2	1	1	1	0	0	1	1
\$5,000-9,999	-	-	-	-	-	-	-	-
\$10,000+	-	-	-	-	-	-	-	-
FAMILIES WITH INCOME \$5,000-14,999								
Lump Sum of:								
Less than \$500	61	66	59	65	65	63	65	67
\$500-1,999	15	15	17	14	15	17	16	14
\$2,000-4,999	19	14	20	17	16	15	14	14
\$5,000-9,999	5	5	4	4	4	4	4	5
\$10,000+	1	-	-	-	-	-	1	-
FAMILIES WITH INCOME \$15,000-24,999								
Lump Sum of:								
Less than \$500	48	55	39	61	39	57	44	66
\$500-1,999	6	12	11	7	10	9	10	3
\$2,000-4,999	21	12	25	11	22	15	20	17
\$5,000-9,999	18	12	19	14	20	12	21	12
\$10,000+	7	8	6	7	9	7	4	2
FAMILIES WITH INCOME GREATER THAN \$25,000								
Lump Sum of:								
Less than \$500	45	61	38	57	49	51	46	61
\$500-1,999	10	5	4	6	4	12	8	3
\$2,000-4,999	11	11	16	16	9	6	11	12
\$5,000-9,999	14	11	18	7	13	26	18	12
\$10,000+	21	12	24	14	23	5	18	12
ALL FAMILIES								
Lump Sum of:								
Less than \$500	56	75	55	76	62	76	65	81
\$500-1,999	11	10	12	10	11	10	12	8
\$2,000-4,999	16	9	19	10	14	8	13	7
\$5,000-9,999	10	4	9	3	7	4	7	3
\$10,000+	7	2	5	1	5	1	3	-
a. This table includes individuals who receive <u>no</u> pension income. SOURCE: ICF analysis of March 1981 Current Population Survey.								

TABLE A-3. Percentage of Families Able to Attain a Lump Sum Payment at Retirement Through a 20 Percent Reduction in Pension Income, 1980 ^a								
	Age 65-69		Age 70-74		Age 75-79		Age 80+	
	Married	Single	Married	Single	Married	Single	Married	Single
FAMILIES WITH INCOME LESS THAN \$5,000								
Lump Sum of:								
Less than \$500	94%	92%	97%	93%	98%	95%	98%	94%
\$500-1,999	4	4	1	3	1	2	1	3
\$2,000-4,999	1	3	2	4	1	3	1	3
\$5,000-9,999	1	-	-	1	-	-	-	1
\$10,000+	-	-	-	-	-	-	-	-
FAMILIES WITH INCOME \$5,000-14,999								
Lump Sum of:								
Less than \$500	59	64	57	63	62	60	60	66
\$500-1,999	6	7	6	8	8	9	11	7
\$2,000-4,999	13	16	19	14	14	16	13	12
\$5,000-9,999	15	8	14	11	12	10	12	11
\$10,000+	6	5	4	4	4	4	5	5
FAMILIES WITH INCOME \$15,000-24,999								
Lump Sum of:								
Less than \$500	47	55	38	61	38	57	43	64
\$500-1,999	3	3	4	4	5	5	5	4
\$2,000-4,999	8	13	12	5	12	8	7	6
\$5,000-9,999	17	8	21	10	16	11	19	12
\$10,000+	25	21	24	20	29	18	26	14
FAMILIES WITH INCOME GREATER THAN \$25,000								
Lump Sum of:								
Less than \$500	44	58	36	57	49	51	45	61
\$500-1,999	4	8	3	4	3	5	1	1
\$2,000-4,999	8	2	7	4	7	7	7	4
\$5,000-9,999	10	10	12	14	6	6	11	9
\$10,000+	34	23	42	20	36	31	36	24
ALL FAMILIES								
Lump Sum of:								
Less than \$500	55	72	53	75	60	75	62	80
\$500-1,999	5	5	5	5	6	6	7	5
\$2,000-4,999	10	10	14	8	11	9	10	7
\$5,000-9,999	13	6	14	7	10	6	11	6
\$10,000+	17	6	14	5	12	5	10	4
a. This table includes individuals who receive <u>no</u> pension income. SOURCE: ICF analysis of March 1981 Current Population Survey.								

TABLE A-4. Percentage of Families Receiving Pensions Able to Attain a Lump Sum Payment at Retirement Age Through 5 Percent Pension Income Reductions, 1980

	Age 65-69		Age 70-74		Age 75-79		Age 80+	
	Married	Single	Married	Single	Married	Single	Married	Single
FAMILIES WITH INCOME LESS THAN \$5,000								
Lump Sum of:								
Less than \$500	59%	62%	45%	41%	53%	58%	67%	53%
\$500-1,999	41	38	55	59	47	42	33	47
\$2,000-4,999	0	0	0	0	0	0	0	0
\$5,000-9,999	-	-	-	-	-	-	-	-
\$10,000+	-	-	-	-	-	-	-	-
FAMILIES WITH INCOME \$5,000-14,999								
Lump Sum of:								
Less than \$500	18	22	17	22	23	26	29	21
\$500-1,999	55	59	67	57	57	58	50	55
\$2,000-4,999	26	18	16	20	19	16	21	24
\$5,000-9,999	1	1	1	1	1	1	1	-
\$10,000+	-	-	-	-	-	-	-	-
FAMILIES WITH INCOME \$15,000-24,999								
Lump Sum of:								
Less than \$500	9	7	8	13	9	13	11	16
\$500-1,999	35	39	40	31	29	36	40	36
\$2,000-4,999	44	36	43	39	48	36	41	44
\$5,000-9,999	13	18	9	17	14	15	5	4
\$10,000+	-	-	-	-	-	-	3	-
FAMILIES WITH INCOME GREATER THAN \$25,000								
Lump Sum of:								
Less than \$500	9	18	4	11	5	9	2	3
\$500-1,999	25	20	22	29	21	26	18	19
\$2,000-4,999	30	33	37	29	29	54	48	48
\$5,000-9,999	29	15	27	21	34	11	18	22
\$10,000+	7	14	11	11	10	-	15	8
ALL FAMILIES								
Lump Sum of:								
Less than \$500	13	24	12	22	16	26	22	25
\$500-1,999	40	49	51	52	43	51	44	49
\$2,000-4,999	32	20	27	21	28	20	28	24
\$5,000-9,999	13	5	8	4	10	3	4	2
\$10,000+	2	1	2	1	2	-	2	-
SOURCE: ICF analysis of March 1981 Current Population Survey.								

TABLE A-5. Percentage of Families Receiving Pensions Able to Attain a Lump Sum Payment at Retirement Age Through 10 Percent Pension Income Reductions, 1980

	Age 65-69		Age 70-74		Age 75-79		Age 80+	
	Married	Single	Married	Single	Married	Single	Married	Single
FAMILIES WITH INCOME LESS THAN \$5,000								
Lump Sum of:								
Less than \$500	49%	40%	29%	19%	-	38%	40%	30%
\$500-1,999	22	52	38	65	100	59	28	63
\$2,000-4,999	29	8	33	16	0	3	32	7
\$5,000-9,999	-	-	-	-	-	-	-	-
\$10,000+	-	-	-	-	-	-	-	-
FAMILIES WITH INCOME \$5,000-14,999								
Lump Sum of:								
Less than \$500	5	10	9	6	9	9	15	7
\$500-1,999	37	41	37	38	40	43	39	39
\$2,000-4,999	45	36	46	44	41	38	35	41
\$5,000-9,999	13	12	8	10	9	10	11	14
\$10,000+	1	1	1	1	1	1	1	-
FAMILIES WITH INCOME \$15,000-24,999								
Lump Sum of:								
Less than \$500	5	2	3	4	2	1	4	10
\$500-1,999	11	26	18	17	17	22	17	10
\$2,000-4,999	38	26	40	28	35	35	35	44
\$5,000-9,999	33	27	30	33	32	27	36	32
\$10,000+	13	18	9	17	14	15	7	4
FAMILIES WITH INCOME GREATER THAN \$25,000								
Lump Sum of:								
Less than \$500	3	10	3	1	1	-	1	-
\$500-1,999	18	11	6	15	10	24	13	8
\$2,000-4,999	19	25	25	38	18	11	20	30
\$5,000-9,999	24	25	29	15	26	54	34	32
\$10,000+	36	29	37	31	44	11	32	30
ALL FAMILIES								
Lump Sum of:								
Less than \$500	5	12	6	7	6	10	11	11
\$500-1,999	23	36	26	37	28	40	31	38
\$2,000-4,999	35	30	40	38	36	32	33	34
\$5,000-9,999	22	15	18	12	18	14	19	15
\$10,000+	15	6	10	5	12	3	7	2

SOURCE: ICF analysis of March 1981 Current Population Survey.

TABLE A-6. Percentage of Families Receiving Pensions Able to Attain a Lump Sum Payment at Retirement Age Through 20 Percent Pension Income Reductions, 1980

	Age 65-69		Age 70-74		Age 75-79		Age 80+	
	Married	Single	Married	Single	Married	Single	Married	Single
FAMILIES WITH INCOME LESS THAN \$5,000								
Lump Sum of:								
Less than \$500	12%	18%	29%	11%	-	24%	32%	12%
\$500-1,999	47	45	16	30	53	34	36	41
\$2,000-4,999	21	34	55	51	47	42	33	39
\$5,000-9,999	20	-	-	8	-	-	-	7
\$10,000+	-	-	-	-	-	-	-	-
FAMILIES WITH INCOME \$5,000-14,999								
Lump Sum of:								
Less than \$500	2	3	3	1	2	3	3	1
\$500-1,999	16	19	14	21	21	23	26	19
\$2,000-4,999	31	42	42	36	37	39	31	34
\$5,000-9,999	37	22	33	31	30	24	28	31
\$10,000+	14	13	9	11	10	11	12	14
FAMILIES WITH INCOME \$15,000-24,999								
Lump Sum of:								
Less than \$500	3	-	1	4	-	-	2	4
\$500-1,999	5	7	8	9	9	13	9	12
\$2,000-4,999	15	29	20	12	19	19	12	16
\$5,000-9,999	31	18	33	24	25	25	33	32
\$10,000+	46	46	39	51	47	43	44	36
FAMILIES WITH INCOME GREATER THAN \$25,000								
Lump Sum of:								
Less than \$500	1	1	-	-	-	-	-	-
\$500-1,999	8	17	4	11	5	9	2	3
\$2,000-4,999	14	5	10	10	14	15	12	11
\$5,000-9,999	17	23	19	32	11	11	20	23
\$10,000+	60	54	66	47	70	65	66	62
ALL FAMILIES								
Lump Sum of:								
Less than \$500	2	4	2	3	1	4	3	3
\$500-1,999	11	19	10	20	15	22	19	21
\$2,000-4,999	21	36	30	33	29	35	25	31
\$5,000-9,999	29	19	30	27	25	21	28	27
\$10,000+	37	21	29	18	30	18	26	17
SOURCE: ICF analysis of March 1981 Current Population Survey.								

TABLE A-7. Percent of Families with Income of Less Than \$5,000 Who Could Purchase LTC Insurance With Less Than 10 Percent of Their Current Income ^a									
	Cash Income Only	Income with RAM				Income with Sales/Leaseback Plan			
		Plan 1	Plan 2	Plan 3	Plan 4	Plan 1	Plan 2	Plan 3	Plan 4
AGE 65-69									
Married	0%	0%	0%	0%	0%	0%	0%	0%	0%
Single	15	27	22	26	20	26	22	29	26
AGE 70-74									
Married	0	0	0	0	0	0	0	0	0
Single	18	33	28	31	25	33	28	34	33
AGE 75-79									
Married	0	0	0	0	0	0	0	0	0
Single	18	31	25	29	23	31	28	34	31
AGE 80+									
Married	0	0	0	0	0	0	0	1	0
Single	17	33	27	32	24	36	32	37	36
<p>a. Assumes a premium of \$450 for single individuals and \$900 for married couples (in 1980 dollars). See text for explanation of plans.</p> <p>SOURCE: ICF analysis of an enhanced version of the March 1981 Current Population Survey.</p>									

TABLE A-8. Percent of Families with Income of \$5,000-14,999 Who Could Purchase LTC Insurance With Less Than 5 Percent of Their Current Income ^a									
	Cash Income Only	Income with RAM				Income with Sales/Leaseback Plan			
		Plan 1	Plan 2	Plan 3	Plan 4	Plan 1	Plan 2	Plan 3	Plan 4
AGE 65-69									
Married	60%	70%	66%	69%	64%	69%	65%	71%	69%
Single	100	100	100	100	100	100	100	100	100
AGE 70-74									
Married	58	69	64	67	62	69	65	73	69
Single	100	100	100	100	100	100	100	100	100
AGE 75-79									
Married	54	65	61	63	58	66	63	69	66
Single	100	100	100	100	100	100	100	100	100
AGE 80+									
Married	50	63	57	61	53	64	61	67	64
Single	100	100	100	100	100	100	100	100	100

a. Assumes a premium of \$450 for single individuals and \$900 for married couples (in 1980 dollars). See text for explanation of plans.

SOURCE: ICF analysis of an enhanced version of the March 1981 Current Population Survey.