State Programs to Encourage Long Term Care Insurance

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Abstract

The aging baby boom and an explosion of Medicaid claims and costs for long term care present a looming fiscal crisis for states. One approach to limiting the damage of this demographic tidal wave is to encourage purchase of private sector long-term care insurance. Many states provide special tax incentives for such policies and a few states have established public-private partnerships for long term care insurance. We examine cross-state variation in long term care insurance sales to assess whether such programs are effective in encouraging more widespread purchase of long term care insurance. We find that neither tax incentives nor long term care partnerships induce any more sales of long term care insurance than could be expected without such incentives. These costly programs have not been prudent uses of public dollars, and have not been helped states cope with the challenge of long term care costs.

Long Term Care Problem

Seventy six million baby boomers are aging and approaching a time in their lives that frequently requires expensive long term care. By 2020, the population over age 65 will grow by more than 60%, to over one in every six Americans (AoA 2005), and the number of seniors over age 85 will grow more than 80% (Sheppach 2005). Right now, nationally, about 15% of citizens over 60 years old live with limitations that require some form of long term care. The U.S. Department of Health and Human Services expects more than 40% of people over 65 to spend some time in a nursing home (CMS 2005). Most nursing home stays are short in duration,

employed for surgery or illness recuperation, and are paid for by Medicare because they are medically necessary.

But a sizeable portion of nursing home stays are for long term custodial care - and are increasingly paid for by Medicaid - the health care provider for the poor. Across the nation, 10% of seniors stay in nursing care at least five years (CMS 2005). Current expenditures for long term care services of all types amount to about 137 billion dollars. Families and individuals cover about one fourth of those costs out-of-pocket, but federal/state funded Medicaid programs cover nearly half (Byers 2003). A little more than 35 percent of Medicaid dollars nationally go to long-term care, and that percentage could explode in coming years, robbing other claimants of benefits or presenting states and the federal government with enormous revenue needs.

Medicaid expenditures are skyrocketing, driven by a potent combination of increasing numbers of elderly, unintended expansion of program eligibility, and rapidly inflating health care costs. The problem presents stark fiscal problems nationally and to state governments in particular. About one out of every four nursing home residents(by far the most expensive type of long term care[1]) are fully covered by Medicaid, and that proportion has been growing about 12% per year (Voudrie 2006). More than two-thirds of nursing home residents receive at least some Medicaid funds (Merline 1995).

Currently, Medicaid provides fees and services to a population far in excess of its original targets. That's because even though Medicaid recipients are to have assets of no more than two thousand dollars (excluding their homes), a cottage industry of medical estate planning has established techniques for evading the intent of those asset limitations. Medicaid is a program established for the impoverished, but exploitation of "medical estate planning" techniques to shield wealth is widespread throughout the country.[2] The federal government and the states have been trying, with limited success, to curtail the explosion of Medicaid costs.

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[1] "The average cost of a nursing home stay is more than $55 thousand per year, and as much as $100 thousand per year in some urban areas" (Kassner 2004); "the average length of stay in a nursing home is 2.4 years" (Adler 2004).

[2] For helpful synopses of asset transfer techniques, see Bond et al 2003 or Merline 1995.

Hawaii Distinctiveness

Hawaii is exceptionally vulnerable to the aging of the population that will buffet many states. A recent study by the Harvard School of Public Health noted that Hawaii already has the longest life expectancy of any U.S. state - 80.0 years on average across all genders and races (Murray et al. 2006). In addition, growth in the elder population of Hawaii is dramatically higher than most places in the U.S. For example, the 60+ population in Hawaii is growing two-and-a-half times faster than the national average (Byers 2003). The Hawaii Executive Office on Aging estimates that the proportion of the population that is 60 years old will grow from around one out of every seven persons today to over one out of very four persons by 2020, and that the size of the 85+ population in Hawaii will more than double in that time frame (EOA 2003).

Hawaii is also culturally distinctive from most mainland states in its respect for the elderly and the responsibility for long term care born by family. Census bureau figures reveal that an unusually high proportion of Hawaiian seniors live with their grown children.[3]

Both because the fiscal situation is alarming and because the manner in which we care for our elders takes on an added cultural importance here, Hawai'i needs to take action early to deal with the boom in the senior population. Hawai'i is a natural place to chart a path for the rest of the nation.

State Implications

Hawaii's share of Medicaid long term care spending in 2001 was $102 million in 2001, and is expected to be $282 million by 2008, and $559 million by 2020 (Byers 2003). While the federal government has taken steps to reign in asset shielding and thus limit expansion of the Medicaid program, the state of Hawaii has limited ability to further tighten eligibility. The Hawaii Department of Human Services has been trying to limit the per-person costs of Medicaid by bolstering various home and community based services, but Medicaid costs are still climbing.

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[3] 14.5% of Hawaiians 65 and over live with a relative. Comparable statistics among mainland states range as low as 2.3% in North Dakota and as high as 11% in California (source: data collected from Census Bureau, Summary File 3, Table P11).

Solution Options

Perhaps borne of a belief in the inefficiency of government programs, many advocate a private market response to the long term care problem, in the form of inducements for employers and individuals to purchase long term care insurance. The American Legislative Exchange Council asserts that "private long-term care coverage would provide consumers and the nation the most cost-effective method of providing long term care services" (Herrera 2006). The American Health Care Association calculates that the percentage of nursing home residents relying on Medicaid could be cut by more than half over the next 25 years if about half of those over 55 could be induced to purchase long term care insurance packages now (quoted in Herrera 2006). The policy question is: *HOW MUCH WILL THE INDUCEMENTS COST THE STATE, AND WILL THE EXPECTED REDUCTIONS IN MEDICAID EXPENDITURES COMPENSATE FOR THOSE COSTS?*

For quite some time, the long term care insurance sector has remained stunted - in part because such policies are considered too expensive by most consumers. Appendix 1 provides an illustration of typical long term care insurance costs. A 40 year-old could expect to pay nearly $1000 per year for a long term care policy with a relatively small lifetime benefit cap.

In addition to the cost of long term care insurance, the availability of free alternatives is on the rise. A robust "medical estate planning" industry makes reliance on a poverty program, Medicaid, feasible for a large segment of the middle class. As the National Center for Policy Analysis notes, "many nursing home residents who aren't poor at all are receiving financial assistance under the anti-poverty Medicaid program," and "for every extra $1 spent on Medicaid, spending on private [long term] insurance contracts by 50 to 75 cents" (Goodman & Herrick 2005).

Two complementary approaches to the Medicaid problem exist. Some, including NCPA, have advocated reform of the rules for asset assessment. They advocate statutory change to eliminate medical estate planning.[4] The 2005 Budget Reconciliation Act was intended, in part, to

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[4] Medicaid limits one's personal non-home assets to no more than $2,000. A series of regulations collectively referred to as "Miller" rules limit what assets may be transferred to children prior to becoming eligible for Medicaid. Estate planners devised financial trusts into which seniors could deposit their assets without being counted as financial "gifts" to their children, and they became popular in the 1990s. The various vehicles are known as "Miller trusts".

significantly limit the ability of elders to shield their assets for purposes of Medicaid eligibility. For example, the "lookback period" was extended from 3 to 5 years, shielding of homes from asset calculations was limited to $500 thousand, and the ability of states to recover assets from individuals and even annuity trusts was strengthened. But the medical estate planning industry has proved quite inventive in developing new effective asset shielding schemes.[5] The current approach to shielding involves creating trusts for children that are drawn up as pay-ahead caregiving contracts between parent and child - contracts that are intentionally unenforced, but pass assets to children beyond the limits of state action to recover. It is unclear that it is possible to effectively limit asset shielding, and it is likely that state governments are largely powerless to do so on their own (Silverman 2006).

There remains a debate about exactly how many people actually shield their assets to draw Medicaid. One Scholar at the Georgetown University's Long-Term Care Financing Project says there is little or no evidence of widespread exploitation of Medicaid through asset shielding (Weston 2006), and at least one analysis supports this contention (Lee et al. 2006). But it is hard to reconcile the assertion of nonexistence of the practice with the sizeable industry built around precisely this practice (Moses 2005, Wegner & Yuan 2004).

As a solution to the Medicaid problem, others have advocated inducements for individuals to voluntarily give up their asset shielding efforts and pay for care with long term care insurance. Efforts in this direction have been supported by the American Legislative Exchange Council, the National Center for Policy Analysis, and the National Association of Health Underwriters, among others. In the vein of inducements, at least two options have been attempted in other states:

Insurance Tax Credits

At the federal level, long term care insurance may be listed as an itemized deduction on one's income tax return, but only if total medical expenses exceed 7.5% of gross income. As

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[5] Under the 2005 Budget Reduction Act, the federal government now requires Miller and similar trusts to name Medicaid as a beneficiary upon death. In their place, the industry has devised "fee for service" financial arrangements between seniors and their children that are not categorized as trusts. As a result, it seems likely that asset shielding will remain a part of the medical policy landscape.

noted by the American Health Insurance Plans, "because this threshold is so high under current law, fewer than five percent of all tax returns report medical expenses as itemized deductions."[6] Even for those able to claim the federal deduction because of high medical costs, about 10% of long-term care insurance policies do not qualify under rules set by HIPAA and the deduction is limited, based on the taxpayer's age (see Kassner 2004 or IRS Publication 502 for details on the limits). For younger people with lower out-of-pocket health costs, these limitations effectively eliminate the tax advantages provided by the federal government for long term care insurance.[7]

Many states have adopted tax incentives for the purchase of long term care insurance. Details of those policies are contained in Appendix 2. Of the sixteen states with tax incentives available by 2002, eleven states allow premiums to be deducted from state individual income taxes, five or six others provide a tax credit to individuals or employers. There is substantial variation in the level of subsidy provided in these state plans. As Appendix 2 indicates, state subsidies for individual purchase of long term care insurance range from $30 to $250 per year on a $1000 per year policy. The two state subsidies for employer provision of long term care insurance are pegged at $100 per employee.

Hawaii has considered both individual and employer tax incentives for long term care insurance in recent years.[8] The legislative history is contained in Appendix 3, and demonstrates that within the past four legislative sessions, over a dozen distinct plans have been considered to subsidize individual long term care insurance. The subsidies provided in these plans range from as low as $80 and as high as $500 for a $1000 policy, for an individual with moderate income.

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[6] Testimony on Long-Term Care and Medicaid: Spiraling Costs and the Need for Reform. by Karen Ignagni, President and CEO, America's Health Insurance Plans. Before the U.S. House Committee on Energy and Commerce Subcommittee on Health. 4/27/2005.

[7] It is worth mentioning that efforts are underway to change the nature of the federal deduction from a schedule A item to an "above the line" deduction that is not limited by the 7.5% threshold. A policy change like that has the potential to spread the availability and heft of tax advantages for long-term care insurance.

[8] Hawaii has also come close to enacting a mandatory state-sponsored long term care insurance program. In some instances, tax subsidies have been paired with such a program, making the assessment of the value to an individual difficult to ascertain. The appropriateness of a social insurance program is beyond the scope of this paper.

An additional handful of plans have been considered to subsidize employer-provided long term care insurance, with effective subsidies as low as $50 as high as $500 per employee.

But no existing research assesses whether or to what extent any tax incentives in any of these states will induce more widespread purchase of long-term care insurance. The Ohio Legislative Budget Office, for example, generated forecasts of sales for such insurance based only on existing trends (OLBO 1999). The Hawaii Department of Taxation's impact assessments similarly contain no projections for *increased* sales of long term saying only that "the revenue loss [resulting from tax credits] *may* increase as more taxpayers take advantage of the credit."[9]

One would hope that long term care insurance sales would grow in response to state tax incentives - otherwise, the incentives are a waste of taxpayer dollars. Indeed, the total value to the state and its residents for the additional insurance policies needs to exceed the cost in tax subsidies in order for the program to be effective. Our research report is the first of its kind to specifically estimate how many NEW policies are sold as a result of tax incentives.

There is reason to believe purchase of long term care insurance can be induced by tax incentives. For example, increases in available income have the greatest impact on the likelihood of long term care insurance purchase for the least wealthy (Mellor 2000). Even though individual tax incentives cost the state in lost revenues, one study suggests that the eventual return in lower Medicaid expenditures creates a net, albeit slight, gain to the state (Cohen and Weinrobe 2000). In two surveys in 2000 and 1995, over 80% of potential buyers reported a greater willingness to purchase long-term care insurance if their premiums were tax-deductible (DHHS 2004a).

But tax incentives have been viewed skeptically by many. One study has shown demand for long-term care insurance to be price inelastic, concluding that "state initiatives that effectively subsidize premiums as a way of stimulating purchases are likely to meet with very limited success" (Cramer & Jensen 2006). The National Conference of State Legislatures takes the position that "tax incentives alone may have limited potential for significantly influencing the number of people covered by private policies" (Grooters 1999). Similarly, the Center on Budget and Policy Priorities espouses the view that long term care premiums are so high and the tax

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[9] Kawafuchi, Kurt. 2005. Director, Department of Taxation. Testimony on HB728 Relating to a Long-Term Care Tax Credit. House Committees on Human Services and Health, February 5, 2005.

advantages are so limited that the only people able to take advantage of the tax deductions or credits are those in high income brackets who would have already purchased long-term care insurance. CBPP says that "the primary beneficiaries of the proposed [federal] deduction [for long term care insurance premiums] are likely to be higher income taxpayers who currently carry long-term care insurance" (Lav 1999)

Insurance Partnerships

Since 1990, four states (NY, CA, IN, and CT) have implemented pilot projects on long term care that directly tackle the asset shielding issue, in order to induce individuals to privately purchase long term care insurance and relieve the state of the burdens they would be placing on the Medicaid program. The pilot projects were funded by the Robert Wood Johnson Foundation, authorized by DHHS, and are known as Partnerships for Long Term Care.[10] Individuals who purchase long term care insurance policies are allowed to draw on Medicaid without depleting their assets - the limit on their assets is increased by an amount equal to the policy value.[11] Because typical policies cover from one to three years of nursing home care, and because typical nursing home stays are shorter than that, very few purchasers of partnership policies have had to apply for medicaid benefits (GAO 2005). It remains an open question how many of the partnership purchasers *would have* applied for Medicaid in the absence of the state program.

Federal legislation in 2005[12] allows all states to establish Partnership programs. Organizations like the National Association of Health Underwriters have been pushing for this opportunity, and they are even advocating that states establish partnership programs by executive action ("in the majority of states, the process of implementing a partnership program can strictly

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[10] Originally developed under Robert Wood Johnson Foundation grants (Program to Promote Long-Term Care Insurance for the Elderly), and authorized by an HHS Medicaid waiver in 1990

[11] This description is based on the dollar-for-dollar variant of the partnership program used by CA and CT. NY allows unlimited asset shielding, but requires policies to cover a minimum of 3 years of nursing home care and/or 6 years of home care. IN uses a hybrid of the two approaches, and the unlimited asset shielding variation has been more successful than the dollar-for-dollar variant (GAO 2005). See Goodman et al. 2006 for more details. Beneficiaries must still have limited income in order to be eligible for Medicaid.

[12] 2005 Deficit Omnibus Reconciliation Act, or 2005 Deficit Reduction Act.

be done through the regulatory authority and state Medicaid agencies" - NAHU 2006). AARP provides a good description of the federal requirements for new state partnership programs, including compound inflation protection, tax qualification, reciprocity, and other consumer protections (Kassner 2006).

The General Accountability Office has held a skeptical view of Partnership programs, based on their concerns that the asset shielding scheme be limited to avoid expanding the range of eligible Medicaid claimants even further. Their cautions at the onset of the four pilot projects in 1990 were that "the proposed demonstrations should not become vehicles for higher income persons to protect their incomes and assets through the Medicaid program. The risk of this occurring could be significant." "If higher income individuals predominate among the projects' participants, they could add to Medicaid rolls and hence to overall Medicaid costs" (GAO 1990). A recent Research Report by The AARP Public Policy Institute referred to the consequences of partnership programs as a **major unanswered policy question** ("so far, the data are inconclusive because the programs are still relatively new and few purchasers have begun to use benefits" - Kassner 2006). Like AARP, GAO says "there is insufficient data to determine whether and to what extent the long-term care partnership program has resulted in cost savings to the Medicaid program" (GAO 2005). Some simulations in the 1980s showed that state expenses are reduced when Medicaid is paired with these kinds of private sector policies. But the earlier simulations were logically flawed (Nyman 1994), and more recent simulations suggest that partnership policies do not reduce expected Medicaid claims (Weiner et al 1994). A recent assessment confirmed GAO's initial concerns - purchasers of long term care partnership policies are heavily skewed towards upper-income individuals (GAO 2005).

ASSESSMENT

Data recently collected by America's Health Insurance Plans on long term care insurance premium sales, allows at least a cursory examination of the link between state programs to encourage purchase of long term care insurance and actual sales. In its most recent Research Report, AHIP provides data on the market penetration for long term care insurance in each state

(total premium sales divided by total over-50 population) (Coronel 2004). By regressing market penetration on a 0-1 indicator for state tax incentives[13] (each state with a significant tax incentive is coded 1, all other states are coded 0), we can test whether there is a significant relationship between tax incentives and sales, and get a very rough estimate of the magnitude of the relationship.

This research design also allows a test for whether the long-term care Partnerships implemented in four states are associated with more widespread use of long-term care insurance. Thus, our regression also includes a 0-1 indicator for the four states with long-term care partnerships (NY, CA, IN, & CT).[14]

Of course, variation in state programs are only part of the explanation for variation in long-term care insurance across the states. It should come as no surprise that income and assets have a substantial impact on insurance sales (DHHS 2006). In a 2005 policy brief, DHHS examined characteristics of buyers in the new Federal Long Term Care Insurance Program, and found that almost 60%[15] had incomes greater than $75,000 and 54.4% of purchasers had non-home assets greater than $100,000 (DHHS 2005). Income and assets vary considerably across the states, and must be controlled for in a model of cross-state variation in long-term care insurance purchases. We therefore included as a control the median household income among each state's senior population.[16]

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[13] We do not distinguish in this study between employer incentives and individual incentives. First, it is unlikely that we have sufficient data to make the distinction. Second, as AARP point out, nine states have no broad-based state income tax, which makes the provision of an individual tax incentive impossible there (AARP 2003). We also do not distinguish between the generosity of state tax incentives, which varies widely (see Appendix 2). But when we substituted the typical value of a state's tax incentive for the simpler existence of the incentive, the results are essentially identical.

[14] There is insufficient data in this design to distinguish between dollar-for-dollar and total asset protection variants of partnership programs.

[15] 74% of DC residents, 53% of residents in the rest of the country. The DC residents constituted 30.9% of the sample

[16] From Summary File 3 of the 2000 Census, we obtained a measure of median household income among those 65-74 as an indicator of assets and income. It is not possible to generate an income measure that incorporates the 55+ population from census data. This is unfortunate because in three separate surveys, AHIP found that the 55-64 age group constituted a large (33%) and growing portion of

In addition to purely pecuniary predictors, many studies have demonstrated that several key attitudes are at least as important in predicting who will purchase long-term care insurance. For example, potential buyers are more likely to become actual buyers if they have heightened perceptions of their own risk for needing long-term care, if they adopt a long-term outlook on the rest of their financial planning, if they have personal experience with the financial and emotional hardships associated with long-term care, and if they are less willing or able to rely on their children for long-term care.[17]

It seems plausible to expect regional variation in some key determinants of long term care insurance purchases. While one policy brief about the federal Long Term Care Insurance Program concludes that "there are few geographic differences in the attitudes and opinions of buyers and non-buyers of the federal program regarding retirement planning and LTC " (DHHS 2004b), they note that Washington DC residents have greater experience with long-term caregiving and are more likely to have experienced financial hardship, or know someone who has, as a result of long-term care.

One regionally varying factor stands out as an important component of long term care insurance: availability and use of family support for long-term caregiving. The experiences across the states are strikingly different. In South Dakota, less than 3% of the elderly live with their relatives, while over 10% of California's elderly live with their relatives. Hawaii is particularly distinctive in this regard - 14.5% of those 65 and over in Hawaii live with relatives. We therefore include in our regression a measure of the proportion of the elderly population living with relatives as a control for family support.[18]

We also control for expected need for long term care. "Limitations on daily living" are the key criterion for Medicaid and long term care insurance policies, and the National Health

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the long-term care insurance market (Coronel 2004). For that matter, it is not possible to generate any non-home asset indicators from Census estimates. We note that inclusion of home value as a proxy for non-home assets fails as a predictor in our subsequent analyses.

[17] But one study finds no link between availability of children for one's care and purchase of long-term care insurance (Mellor 2001).

[18] From Summary File 3, Table P11 of the 2000 Census.

Interview Survey reports the percentage of those 65 years and older in each state who experience at least one limitation.[19] Again, there is significant variation across the states. In many southern states, about 40% of the over-65 population experiences a limitation on daily living and therefore is likely requiring long term care. But only about 30% of Pennsylvanians are experiencing such limits, according to the most recent NHIS study. That factor is included in the regression as a predictor for the number of people willing to purchase long term care insurance.

As our analysis demonstrates later, it turns out that the health factor alone is unrelated to insurance sales, because the availability of children powerfully conditions its effects. Expectations about the need for long term care, as indicated by the NHIS indicator are significantly related to long term care insurance sales, but only in those state contexts where availability of children as caregivers is relatively low. Among those states where availability of children is greatest, the effect of greater daily living limitations declines to nil. We include in our regression an interaction between daily living limitations and availability of children, to allow discovery of this important dynamic.

An ordered logit regression appears in Table 1, and an OLS regression (for which coefficients are more readily interpreted) appears in Table 2.

With respect to state programs, we conclude that the impact of either individual or employer tax incentives for purchase of long term care insurance appears extremely minor across the 50 'laboratories of democracy'. If tax incentives were significantly linked to sales and had a sizeable impact, the tax incentive factor in our regression would appear statistically significant and sizeable. Instead, the factor is statistically insignificant and modest. If any state were to enact either individual or employer based tax incentives comparable to what have been enacted in the 16 states indicated in Appendix 2, the OLS point estimates tell us that the market would expand by a mere one half of one percent. It is clear that the impact of these state tax incentives is nil. In all likelihood (50.2%) the very slight positive impact of tax incentives that we observe in our

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[19] source: Office of Analysis and Epidemiology, National Center for Health Statistics, Centers for Disease Control and Prevention.

ordered logit regression is purely coincidence. It is clear that these STATE TAX INCENTIVES HAVE NOT INDUCED A SINGLE NEW PERSON TO PURCHASE LONG TERM CARE INSURANCE.

Replacing the variable indicating *existence* of a state subsidy with one that measures the typical *value* of the subsidies does not alter our conclusions about the impact of tax incentives. The independent variable is not significantly related to long term care insurance sales (p=.36). Now, if tax incentives were beginning to have an appreciable impact on insurance sales near the upper range of generosity, we might see evidence for it in the form of a significantly positive coefficient when the squared value of the state tax incentive is included as in independent variable in the regression alongside the linear measure. The additional independent variable is not significant (p=.60). Thus, not only is the existence of state tax incentives for long term care insurance ineffective, there is not even any evidence for effectiveness of the subsidies at the most generous end of the scale, among the state incentives we examined.

The same picture emerges about long-term care partnerships. If any state were to take advantage of the opportunity to create a long-term care partnership similar to New York or California, our OLS estimate suggests that the market for long term care insurance would actually contract about a tenth of a percent. For this kind of program too, there is in all likelihood (92.6% chance, based on the results of analysis) no relationship between long term care partnerships and sales of long term care insurance, and that a STATE LONG TERM CARE PARTNERSHIP PROGRAM WOULD NOT INDUCE A SINGLE NEW PERSON TO PURCHASE LONG TERM CARE INSURANCE.

Sales of long term care insurance policies are explicable across the U.S. - but they are not driven by state policies. Instead, financial, health, and family structure factors drive the market. States with relatively more wealthy seniors experience significantly more long term care insurance sales. Those states with a more limited availability of children for caregiving and in which the senior population is more likely to require long term care experience a significantly larger market for long term care insurance. But in states with a greater availability of children for caregiving, health limitations are not a significant factor in the long term care insurance market.[20]

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[20] A subjective measure of health, such as the self-reported "good health/bad health" survey results of the Behavioral Risk Factor Surveillance Survey (1997-2003) is a significantly worse predictor

Overall, in states where seniors are more likely to live with their children, sales of long term care insurance is significantly lower.[21]

Our assessment clearly conflicts with impressions gathered in a nonsystematic way by program managers and insurance advocates. For example, a VP for Genworth Financial - a large private sector provider of long term care insurance, was quoted as saying "we believe this [partnership program in NY] will sell policies to people who would not have bought them otherwise" (Kertesz 2006). The executive continued: "we sold more long-term care insurance in those [partnership] states". We are confident asserting that impressionistic accounts like this are in error. Genworth Financial did not sell more long-term care insurance in Partnership states. Neither does the company sell more long-term care insurance in states that subsidize premiums.

We follow our conclusions with three caveats:

a) It is possible for there to be a reverse relationship between long term care insurance sales and tax credits. That is, those state populations with larger numbers of purchasers of long-term care insurance may have successfully demanded tax incentives from their state governments. Our analysis does not account for this possibility, but in ignoring that aspect, we are in fact overestimating the impact that state programs have on insurance sales.

b) Owing to the very different market statistics in states with or without tax incentives, there is substantial uncertainty about how many long term care insurance policies might be sold in response to a state tax incentive. No additional policies is the most likely scenario. But our 95%

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of long term care insurance sales. When the proportion of a state's 65+ population reporting their health in only fair or poor condition is substituted for the NHIS variable, the coefficients are statistically indistinguishable from zero. Source: Division of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention.

[21] The coefficient for availability of children is positive, but only because of the presence of the interaction with daily living limitations. A proper interpretation of the average effect of availability of children shows that the factor has a negative impact on sales. Exclusion of the interaction term accomplishes the same thing - the coefficient for availability of children is negative and highly significant in such a regression.

confidence interval extends on the positive side all the way to a 2.72% expansion of the market. This constitutes the likely upper limit on how far the long term care insurance market might expand in response to a state tax incentive. Within this design, it is not possible to generate a more precise estimate because the experiences across the states are quite disparate in ways not understood by existing research.

c) our results are probably only applicable to tax incentives comparable to what has been implemented in the states. As Appendix 2 illustrates, those incentives have been relatively modest - subsidies for a $1,000 per year premium are no more than $250 in the most generous state and decline to virtually nothing for the lowest income individuals in states with a tax deduction. Because state taxes are deductible on federal income tax returns, even these subsidies should technically be reduced by the percentage of one's federal tax bracket, in order to assess their true value (Claveria 1987).

Because the long term care crisis facing Hawaii is more severe than the rest of the country, most of the proposed incentives have been far more generous, and it is possible that such generosity will be more successful than the modest attempts in other states. For example, many state tax incentives are deductions from state income, rather than tax credits. Tax credits are equally valuable to all taxpayers, whereas deductions are least valuable to those least able to afford long term care insurance and most likely to eventually claim Medicaid benefits (ie those with lower incomes) (Claveria 1987). Hawaii has focused on tax credits, rather than income deductions. In addition, the bills proposed by the governor in the past two sessions are means-tested credits that are most valuable to those with lower incomes - an approach that focuses the incentive better than in most states. Finally, the tax credits that have been considered by the Hawaiian legislature have simply been unusually generous, relative to other states (25% of premium in the first year of the program, phasing in to 50% of premium for those with incomes under $40,000). For a $1,000 policy, that's a $500 credit - twice as generous as the most generous tax incentive in the country. It is possible that these unique features of the Hawaiian tax incentives that have been proposed in recent years will make them more successful. We can only say with certainty that the existing tax incentives in other states have failed, and that there is no

evidence that the most generous subsidies are beginning to be effective. Unless a state substantially increases its subsidy, or enacts a new tax incentive substantially more generous than what has been tried so far, their modest efforts will be a waste of taxpayer dollars.

Table 1: Ordered Logit Model of Long-Term Care Insurance Market Penetration

dependent variable: market penetration, grouped into categories 1-5%, 6-9%, 10-14%, 15%+

independent variables	unstandardized coefficient	standard error	p-value
state tax incentive	.459	.683	.502
state LTC partnership	-.100	1.08	.926
median household income among 65-74	.180	.103	.081*
% of 65+ who live with family	6.81	2.56	.008***
% of 65+ experiencing a "limitation on activity"	1.13	.392	.004***
interaction between % living with family and % experiencing limits	-.221	.076	.004***

n   51
logL   -43.5
$\chi 2$ 29.7 (p=.0001)

NOTE: The results are robust to exclusion of the District of Columbia or to treatment of Maryland as a state without tax incentives. They are also robust to weighting the observations by total population. There are also no significant changes to the results if one includes median housing value as a proxy for assets. We prefer to include a measure of median non-home assets for the population 55+, but such data is not available. Values for the dependent variable are reported in Coronel, 2004. But the underlying percentages are not reported and are unavailable, so an ordered logit model of the grouped categories is the appropriate model. A generalized ordered logit regression indicates that no factors exhibit a significant violation of the parallel regression assumption. Heteroscedasticity and serial correlation tests are not feasible for an ordered logit regression, but were conducted for the linear version (see NOTE of Table 2).

Table 2: Ordinary Least Squares Model of Long-Term Care Insurance Market Penetration

dependent variable: market penetration, grouped into categories 1-5%, 6-9%, 10-14%, 15%+

independent variables	unstandardized coefficient	standard error	p-value
state tax incentive	.574	1.07	.593
state LTC partnership	-.206	1.79	.909
median household income among 65-74	.263	.149	.084*
% of 65+ who live with family	9.60	3.10	.003***
% of 65+ experiencing a "limitation on activity"	1.75	.496	.001***
interaction between % living with family and % experiencing limits	-.313	.089	.001***

n	51
R^2	.486
adjusted R^2	.416
F	6.95 (p=.0000)

NOTE: Values for the dependent variable are reported in Coronel, 2004. But the underlying percentages are not reported and are unavailable, so an ordered logit model of the grouped categories is the appropriate model, and is reported in Table 1. OLS results are presented here in Table 2 because the coefficients are more readily interpreted. To model with OLS, we transformed the dependent variable by translating AHIP's market penetration categories into 2.75%, 7.5%, 12% and 17% (midpoints of the respective categories). The residuals of this regression do not exhibit significant heteroscadasticity, based on a White test (p=.10), nor do they exhibit significant serial/spatial correlation, based on Moran's I and employing a simple contiguity spatial weight matrix among the lower 48 states (p=.39).

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APPENDIX 1: Illustration of Costs for Long Term Care Insurance

Figure 1: Annual Premiums for a Selected Policy
(based on the '150+' Federal Long Term Care Insurance policy)
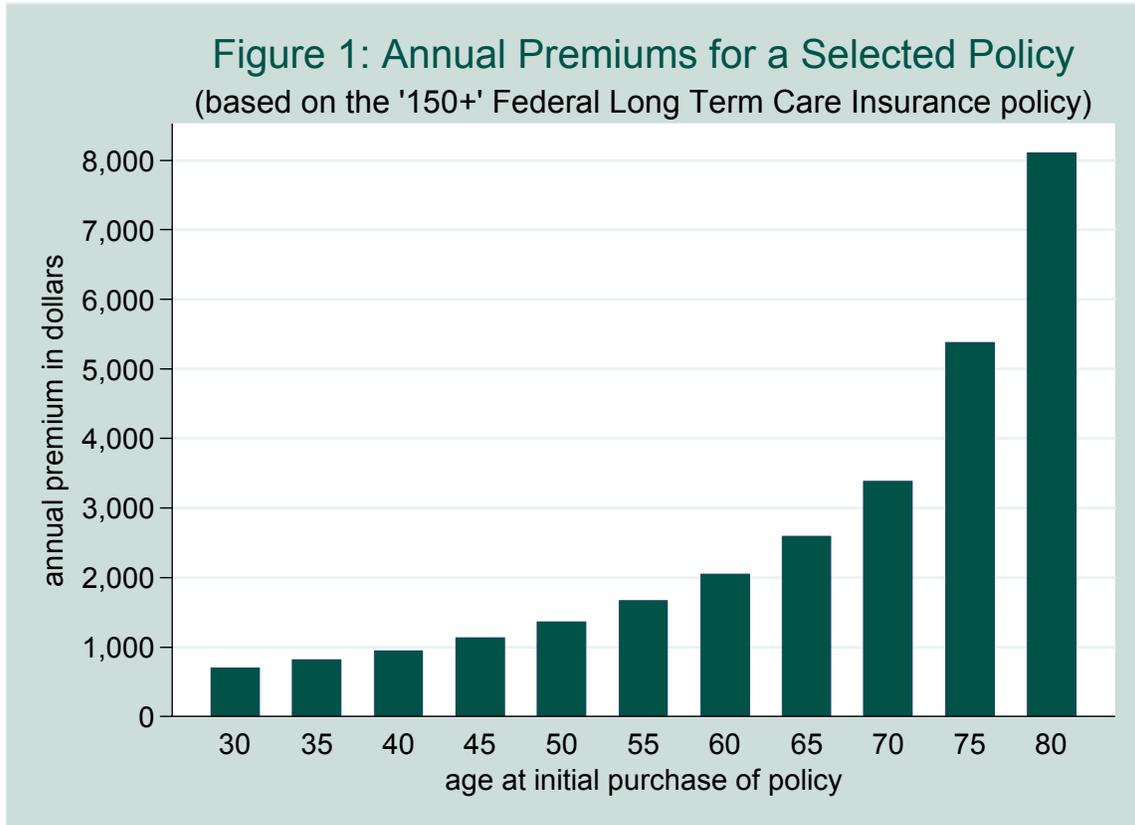
NOTE: Figure 1 premiums based on the "150+" policy available to all federal employees through the Federal Long Term Care Insurance Program. The policy provides comprehensive coverage (both nursing home and at-home services) at a level not exceeding $150 per day for a period not exceeding 5 years, with total lifetime benefits not exceeding $273,750, and features compound inflation protection. A 40 year-old could expect to pay $950.40 per year for such a policy. **Source**: premium calculator at https://www.ltcfeds.com.

Appendix 2: State Tax Incentives

The National Conference of Insurance Legislators identified eight states with tax incentives in 1999 (NCOIL 1999); America's Health Insurance Plans claimed in 2005 that twenty states have some tax incentive for long term care insurance[22] (Ignagni 2005), but seems to be considering "tax incentives" in an exceedingly broad sense; AARP identified twenty-four[23] states that provide "tax credits or deductions more generous than federal incentives", but did not provide details on those programs sufficient to assess their comparability (AARP 2003). The AARP list overlaps significantly with the AHIP list, and is likely also overly broad. For example, AHIP listed Hawaii as a tax incentivizing state, based on the actions taken in 1998 to synchronize state deductibility with federal standards. But virtually every state has done that, by now; NCSL identified fifteen states that provide individual or employer tax incentives above and beyond federal incentives, and detailed the provisions of those plans in an October 1999 brief[24]. Our own careful documentation of state long term care insurance subsidies is detailed in Table A1.

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[22] "As Congress considers federal tax incentives, we urge lawmakers to recognize that more than 20 states have enacted enhanced tax incentives for the purchase of long-term care insurance. These states are: Alabama, California, Colorado, Hawaii, Idaho, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Minnesota, Missouri, Montana, New York, North Carolina, North Dakota, Ohio, Oregon, Utah, Virginia, West Virginia, and Wisconsin." At the time AHIP made this statement, it seems clear they were considering "enhanced tax incentives" in the broadest possible way. For example, AHIP recognizes Hawaii as having "enacted tax incentives", even though they have not yet followed the path of states like Alabama (which allows deduction from state income tax returns for the full premium) or North Dakota (which allows a tax credit equal to 25% of premium). The only long-term care tax incentive Hawaii has enacted is its 1998 legislation to synchronize state and federal tax deductions to allow the same deductions for long term care insurance that are allowed on federal tax returns. By now, almost every state has followed through with this minimal change in state tax code (AARP 2003).

[23] Alabama, Arizona, Colorado, Idaho, Illinois, Indiana, Iowa, Kentucky, Maine, Maryland, Minnesota, Missouri, Montana, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oregon, Utah, Virginia, West Virginia, Wisconsin. It turns out that the Arizona incentives are available only to public employees, and are thus limited in scope. Idaho allows full deductibility of premiums from state tax returns, but became effective in January 2004 - beyond the range of the available insurance sales data. Similarly, Oregon and Virginia's 15% tax credits became effective in 2003 and 2006, respectively. New Mexico's deduction is available only after age 65 and only for those with more than $28,000 per year in medical expenses, and is therefore limited in scope.

[24] NCSL identified Alabama, Colorado, Illinois, Indiana, Iowa, Kentucky, Maine, Maryland, Minnesota, New York, North Carolina, North Dakota, Ohio, West Virginia, and Wisconsin. Illinois was identified by NCSL as a tax incentivizing state, while AHIP does not regard them as such. The incentive is limited to self-employed, and is thus severely limited in scope. Like AHIP, we do not "count" Illinois as having a tax incentive for LTCI. New York was identified as a tax incentive state by NCSL, but they merely allow the same deductions as on the federal return. They are, thus, similar to Hawaii and are not "counted" as having a tax incentive for LTCI. Missouri, Montana, and Utah established their tax incentives shortly after the NCSL report was published.

Table A1: State Tax Incentives for Long Term Care Insurance

State	Provisions[25]	State Subsidy for $1000 long term care insurance premium[26]
Alabama	an individual may deduct all premium costs from state adjusted gross income	$50
Colorado	an individual may take a tax credit of 25% of premium, or $150, whichever is less	$150
Indiana	an individual may deduct all premium costs from state adjusted gross income	$34
Iowa	an individual may deduct all premium costs from state adjusted gross income that are not already deducted on their federal return	$79.20[27]
Kentucky	an individual may deduct all premium costs from state adjusted gross income	$60
Maine	an individual may deduct all premium costs from state adjusted gross income	$85
	an employer may take a tax credit of 20% of premium, or $100 per employee, whichever is less	$100
Maryland	an employer may take a tax credit of 20% of premium, or $100 per employee, whichever is less	$100
Minnesota	an individual may take a tax credit of 25% of premium, or $100, whichever is less, and only for costs not already deducted on their federal return	$100
Missouri	an individual may deduct 50% of premium costs from state adjusted gross income	$30

[25] adapted from Grooters, 1999, and updated to 2002, the most recent year of available insurance sales data..

[26] data on state tax rates, necessary for calculating the value of a state tax deduction, comes from salary.com [http://swz.salary.com/salarywizard/layouthtmls/swzl_statetaxrate_AL.html].

[27] based on income tax rate for an individual earning between $37,261 and $55,890 (taxed at 7.92%). If an individual earned more than $55,890, their tax rate (the top rate in the state) would be 8.98%, translating into an effective tax subsidy of $89.80 on every one thousand dollars of long term care insurance. The next lowest rate (for earnings between $24,841 and $37,260) is 6.8%.

Montana	an individual may deduct all premium costs from state adjusted gross income	$90[28]
North Carolina	an individual may take a tax credit of 15% of premium	$150
North Dakota	an individual may take a tax credit of 25% of premium	$250
Ohio	an individual may deduct all premium costs from state adjusted gross income	$52.01[29]
Utah	an individual may deduct all premium costs from state adjusted gross income	$70
West Virginia	an individual may deduct all premium costs from state adjusted gross income	$60[30]
Wisconsin	an individual may deduct all premium costs from state adjusted gross income that are not already deducted on their federal return	$65

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[28] based on income tax rate for an individual earning between $32,100 and $40,000 (taxed at 9.0%). The top tax rate (10.0%) applies to those earning more than $40,000, and would translate into an effective tax subsidy of $100 for every $1000 of long term care insurance. The next lowest rate (for earnings between $22,900 and $32,100) is 8.0%.

[29] based on income tax rate for an individual earning between $40,000 and $80,000 (taxed at 5.201%). The top tax rate (7.5%) applies to those earning more than $200,000, and would translate into an effective tax subsidy of $75 for every $1000 of long term care insurance. The next lowest rate (for earnings between $20,000 and $40,000) is 4.457%.

[30] based on income tax rate for an individual earning between $40,000 and $60,000 (taxed at 6%). If an individual earned more than $60,000, their tax rate (the top rate in the state) would be 6.5%, translating into an effective tax subsidy of $65 on every one thousand dollars of long term care insurance. The next lowest rate (for earnings between $25,000 and $40,000) is 4.5%.

Appendix 3: Hawaii Legislative History

Bill	Provisions	Subsidy for a $1000 long term care insurance premium
2003		
SB1399 & HB1228 (Governor's proposals)	an individual may take a tax credit of 30% of premium	$300
HB1364	an individual may take a tax credit of full premium, up to $250	$250
HB90 & SB1020	an individual may take a tax credit of 50% of premium, up to $2500	$500
SB1088	combination of HB90 tax credit and a mandatory state-supported long-term care program	$500
2004		
HB2510 & SB2985 (Governor's proposals)	an individual may take a tax credit between 5% (for highest income) and 20% (for lowest income), up to $2500	$200
SB2455 & HB1785	an individual may take a tax credit of 50% of premium, up to $2500 (SD1 limited the tax credit to those earning less than $36000, and reduced the maximum credit to $1000)	$500
HB2109	an individual may take a tax credit of between 10% (for oldest age bracket) and 40% of premium (for youngest age bracket), up to $2500 (HD1 incorporated the income tiers contained in HB2510)	$100[31]
HB1768	an individual may take a tax credit of 20% of premium, up to $200	$200
SB2456 & HB1714	an individual may deduct all premium costs from state adjusted gross income	$82.50[32]
SB2457 & HB1716	an employer with fewer than 100 employees may take a tax credit of 50% of premium, or $500 per employee, whichever is less. (SD1 raised the number of employees to 1000, but limited the maximum credit to $50)	$500 $50
HB2111 & SB2609	an individual may take a tax credit of $180 (tied to a mandatory state-supported long term care program)	$180

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[31] Tax credit calculated for the oldest age bracket (46+), who constitute the vast majority of the long term care insurance market.

[32] Based on the maximum state income tax rate of $8.25% (for those earning more than $40,000. The next lowest rate (for earnings between $30,000 and $40,000) would be 7.9%, translating into an effective subsidy of $79.

2005

HB728 & SB837 (Governor's proposals)	an individual may take a tax credit between 5% (for highest income) and 50% (for lowest income), up to $500	$500
HB732 & SB841 (Governor's proposals)	an employer may take a tax credit of 50% of premium, or $50 per employee, whichever is less.	$50
HB97	an individual may take a tax credit of 50% of premium, up to $2500, and only for those earning less than $50,000 annually (HD1 substituted the governor's individual and employer proposals)	$500
HB1514 & HB200	an individual may take a tax credit between 5% (for highest income) and 30% (for lowest income), up to $2500	$300
HB95 & SB1678	an employer may take a tax credit of 50% of premium, or $500 per employee, whichever is less.	$500
SB1101 & SB105	an individual may take a tax credit of 50% of premium, up to $2500	$500
HB1116	an individual may take a tax credit of $120 (combined with a mandatory state-supported long term care program)	$120
HB96 & SB1674	an individual may deduct all premium costs from state adjusted gross income	$82.50[33]

2006

HB2414 & SB2377 (Governor's proposals)	an individual may take a tax credit between 5% (for highest income) and 50% (for lowest income), up to $500	$500
	an employer may take a tax credit of 50% of premium, or $50 per employee, whichever is less.	$50
HB3129 & SB3243	essentially the same as Governor's proposals	

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[33] Based on the maximum state income tax rate of $8.25% (for those earning more than $40,000. The next lowest rate (for earnings between $30,000 and $40,000) would be 7.9%, translating into an effective subsidy of $79.