

# WHY DO PEOPLE LAPSE THEIR LONG-TERM CARE INSURANCE?

BY WENLIANG HOU, WEI SUN, AND ANTHONY WEBB\*

---

## Introduction

Long-term care, including both nursing home and home health care, is a substantial financial risk for most retired households. Yet few buy long-term care insurance, and many who do let the policies lapse even after holding them for years.

This *brief* summarizes a new study that shows more than one third of individuals with long-term care insurance at age 65 will lapse their policies before death, forfeiting all benefits.<sup>1</sup> Economic theory predicts that individuals at high risk of needing care should retain coverage while those at low risk should lapse, but the data show the *opposite* pattern: people who subsequently use care are more likely to lapse, even though many have a good understanding of their relative risk of going into care. This *brief* seeks to explain why individuals lapse – specifically whether the decision reflects the financial burden of insurance premiums, a strategic calculation, or a deterioration in cognitive ability.

The *brief* proceeds as follows. The first section presents data on lapse rates. The second section lays out alternative explanations for lapse rates. The third section tests these explanations by examining who lapses and then assesses the consequences of lapsing

by exploring who uses long-term care. The final section concludes that two types of individuals are more likely to lapse: 1) those with low cognitive ability, who may lose the capacity to manage their finances; and 2) those with lower incomes and less wealth, who may find that their policy has become unaffordable.

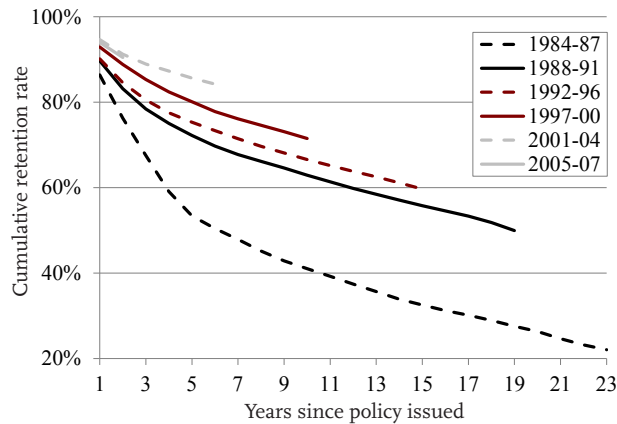
## Lapse Rates

Lapse rates for long-term care insurance policies are substantial. This point can be illustrated using data on retention rates, which represent the percentage of policyholders who *do not* lapse. Figure 1 (on the next page) shows cumulative retention rates by policy duration (the percentage of policies still in force by the number of years the individual has held the policy).<sup>2</sup> It shows that policies issued in the 1980s had substantially lower retention rates than those issued more recently, but retention rates remain relatively low, which means lapse rates are relatively high. At current lapse rates, men and women age 65 have, respectively, a 32- and 38-percent chance of lapsing prior to death, assuming that lapse rates remain at the same levels observed for recent cohorts.<sup>3</sup>

---

\* Wenliang Hou is a senior research advisor at the Center for Retirement Research at Boston College (CRR). Wei Sun is an assistant professor of economics at Renmin University in Beijing, China and an affiliated researcher of the CRR. Anthony Webb is a senior research economist at the CRR.

FIGURE 1. CUMULATIVE RETENTION RATES BY NUMBER OF YEARS SINCE POLICY ISSUED, BY ISSUE YEARS



Source: Authors' calculations based on Society of Actuaries (2011).

## Potential Explanations for Lapse Rates

Individuals with long-term care insurance could let their policies lapse for three reasons. First, over time some purchasers may come to view the premium as a financial burden, even though they may have learned nothing new about their risk of requiring care. If this explanation is correct, one would expect low-wealth and low-income individuals to be more likely to lapse.<sup>4</sup> In the analysis below, these individuals are called “Financial Lapsers.”

A second explanation is that individuals lapse strategically. For example, some policyholders, perhaps those who remain in good health, may believe that their risk of requiring care is lower than originally expected.<sup>5</sup> Seeing less need for insurance, they let their policies lapse.<sup>6</sup> These individuals are called “Strategic Lapsers.”

A third explanation for lapses is that they are unplanned and are due to poor financial decision-making, resulting from cognitive impairment. For example, individuals could forget to pay their premiums or no longer understand the potential value of their policies. In this case, individuals would be more likely to lapse *even though their impairment makes them more likely to need care*; such behavior is the opposite of strategic lapsing. These individuals are called “Forgetful Lapsers.”

## Determining Why People Lapse and Whether It Matters

To determine why people lapse and whether it affects their welfare, this study tests the potential explanations described above and examines the consequences of lapsing in two separate, but closely related, analyses. The first analysis examines the characteristics of individuals who lapse; the second looks at the characteristics of individuals who end up using long-term care. Both analyses use regression analysis with a set of independent variables that correspond to the potential reasons for lapsing described above.

The data come from the *Health and Retirement Study* (HRS), a nationally representative dataset of older Americans. The study sample is limited to individuals who were age 65 or over in 2002 and who held long-term care insurance at that time.<sup>7</sup>

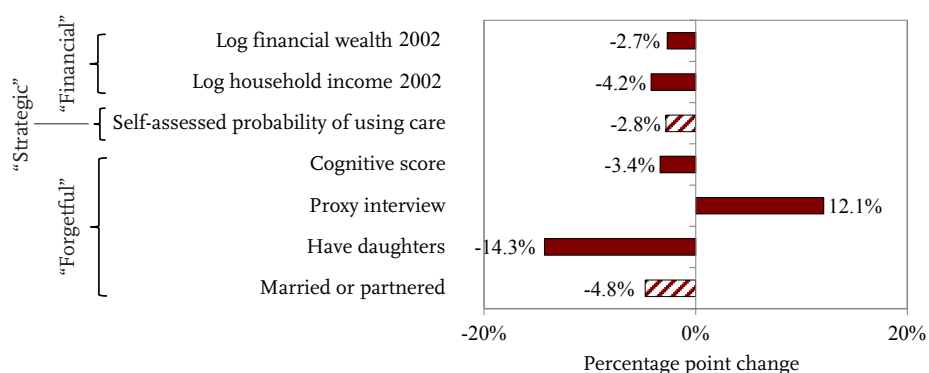
### Who Lapses?

The first analysis addresses who lapses. To test for “Financial Lapsing,” it includes measures of financial wealth and household income. To gauge the influence of “Strategic Lapsing,” it includes the individual’s self-assessed probability of using long-term care in the future. Finally, to identify “Forgetful Lapsing,” the analysis includes survey respondents’ cognitive scores;<sup>8</sup> whether they had another person respond to the questions for them (a proxy interview); and whether they have a spouse or daughters (who may provide and coordinate care and potentially prevent mistakes such as forgetting to pay insurance premiums).

In the regression equation, the dependent variable is whether the policyholder lapsed during 2002-2006; the independent variables include those described above plus a few additional characteristics. Figure 2 (on the next page) reports the effects of the key explanatory variables on the probability of lapsing. (For full descriptive statistics and results, see Appendix Tables 1 and 2.<sup>9</sup>)

The results show that higher financial wealth and higher income are associated with a lower probability of lapsing.<sup>10</sup> For example, relative to individuals at the 25th percentile of the distributions of wealth and income, those at the 75th percentile are, respectively, 2.7 and 4.2 percentage points less likely to lapse. This finding supports the hypothesis of Financial

FIGURE 2. EFFECT OF SELECTED CHARACTERISTICS ON PROBABILITY OF LAPSING, 2002-2006



Notes: The sample consists of 892 insured individuals age 65 or older in 2002. The analysis uses *Health and Retirement Study* sample weights. The bars represent a change from zero to one for dichotomous variables, and the increase from the 25th to 75th percentile for continuous variables. Solid bars are statistically significant.

Source: Authors' calculations based on University of Michigan, *Health and Retirement Study* (HRS), 2002-2006.

Lapsing, which could occur either because the policy was initially unaffordable, the household's financial situation has unexpectedly worsened, or because its gradual (and planned) wealth decumulation has made Medicaid more attractive than continuing the insurance coverage.

Turning to the indicator of Strategic Lapsing, those who think they are more likely to need care are less likely to lapse, but the coefficient is small and not statistically significant. This evidence, thus, does not support the Strategic Lapsing explanation that people lapse because they change their assessment of their future care needs.

Importantly, even after controlling for other plausible factors, a higher cognitive score is associated with lower lapse rates – moving from the 25th to the 75th percentile decreases the risk of lapsing by 3.4 percentage points. Having a proxy interview increases the risk of lapsing by 12.1 percentage points. A plausible interpretation of the relationship between the cognitive measures and lapse rates is that it reflects Forgetful Lapsing.<sup>11</sup> Consistent with this hypothesis, having a daughter is associated with a 14.3-percentage-point decrease in the probability of lapsing.<sup>12</sup>

### Who Goes Into Care?

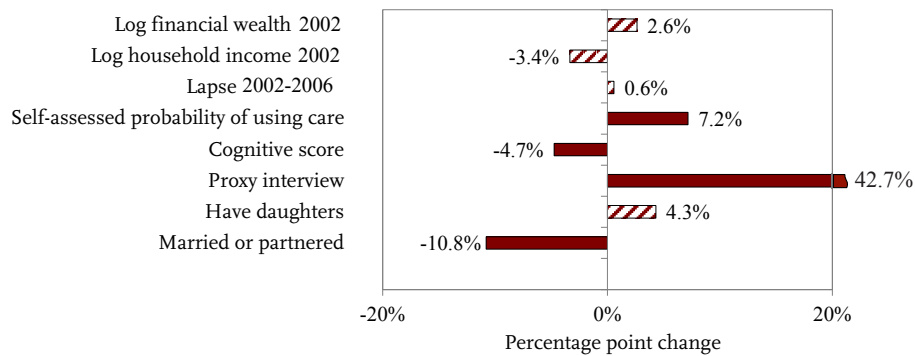
The evidence from the “who lapses” analysis supports the notion that most lapsers are either Financial Lapsers or Forgetful Lapsers. But it does not address the connection between lapsing and subsequent care use, which is important for understanding the consequences of lapsing. Thus, this second analysis addresses who uses long-term care.

Before summarizing the results, it is worth noting a puzzling pattern that appears in the summary statistics: 23 percent of those using care in 2006-2012 lapsed their policy in the preceding four-year period, while only 16 percent of non-care-users lapsed; this pattern is the *opposite* pattern of Strategic Lapsing (see Appendix Table 3).<sup>13</sup> This behavior occurred even though those who used care from 2006-2012 had a higher self-assessed probability of entering care.

In the regression analysis, care use is the dependent variable and the key factors used in the previous analysis, plus lapsing, are independent variables. The main results are presented in Figure 3 (on the next page, with full results in Appendix Table 4).

The results show that neither of the financial indicators – income and wealth – has a significant relationship with care use. With respect to the puzzling correlation between lapsing and subsequent care use identified above, this positive relationship loses statistical significance after controlling for other factors including measures of cognitive ability.

FIGURE 3. EFFECT OF SELECTED CHARACTERISTICS ON PROBABILITY OF NURSING HOME USE, 2006-2012



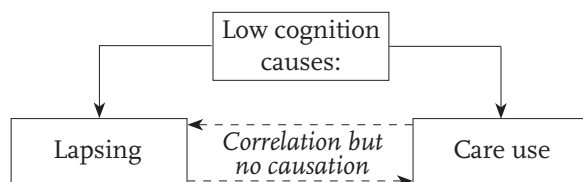
Notes: This sample consists of 824 insured individuals age 65 or older in 2002, which is slightly smaller than the lapsing sample as it excludes those whose care use during 2006-2012 was undetermined. The analysis uses HRS sample weights. The bars represent a change from zero to one for dichotomous variables, and the change between the 25th to the 75th percentile for continuous variables. Solid bars are statistically significant.

Source: Authors' calculations based on 2002-2012 HRS.

Cognitive score has a large impact on using care – moving from the 25th to 75th percentile score decreases the risk of care use by 4.7 percentage points. Having a proxy interview is an extremely strong predictor of using care – it increases the risk of care use by 42.7 percentage points. Married couples are less likely to receive care. Individuals with a higher self-assessed probability of requiring care are more likely to use care – by 7.2-percentage-points moving from the 25th to 75th percentile – so people appear to possess information about their relative risk of requiring care even after controlling for health, cognitive, and marital status.

In short, the results explain the puzzling correlation between lapsing and care use: the answer is cognitive impairments. Cognitive impairments both precipitate lapsing and are predictive of subsequent care use, and these relationships create the apparent link between lapsing and care use (see Figure 4).

FIGURE 4. RELATIONSHIP BETWEEN LOW COGNITION, LAPSING, AND CARE USE



Source: Authors' illustration.

## Conclusion

Individuals with long-term care insurance policies exhibit very high lapse rates, with more than one third of those age 65 lapsing prior to death. The analysis seeks to explain the reason for such high lapse rates. The study has three main findings. First, low-wealth and low-income individuals are more likely to lapse their insurance policies. Second, the study finds no evidence that individuals are lapsing strategically, i.e., because they believe they have a low probability of needing care. Third, and importantly, the study finds that lapses are common among the cognitively impaired, perhaps reflecting poor financial decision-making.

The consequences of lapsing are significant, as those who lapse are also more likely to subsequently use long-term care. So, for many lapsers, having insurance could actually be counterproductive. They not only forfeit anticipated policy benefits, but may also adopt an aggressive path for drawing down their wealth in retirement based on the false premise that they will retain coverage.

One way of eliminating lapses would be to pay premiums in a lump sum. Most likely candidates for long-term care insurance have accumulated significant financial wealth by retirement. From the insurance company's perspective, the problem with this approach is that, in contrast to policies with monthly premiums, it would be difficult to increase premiums should claims be higher than expected.

## Endnotes

- 1 Friedberg et al. (2015).
- 2 The data are from a 2011 Society of Actuaries study. The Society of Actuaries collects and pools data from companies selling long-term care insurance.
- 3 The study assumes population average mortality for the 1940 birth cohort, who turned 65 in 2005. It makes the conservative assumption that recent percentage declines in lapse rates will persist as the duration of recently issued policies increases.
- 4 This explanation is consistent with hyperbolic discounting models of household behavior in which households commit to good future financial behavior but renege on that commitment when the financial obligation falls due.
- 5 This study shows that it would require very large changes in subjective beliefs to justify cancelling a policy, due to the loss of very substantial “aging reserves.” Aging reserves accumulate because the premium on newly issued policies is much more than the expected cost of that year’s care (the cost of care, multiplied by the probability of needing care) since the risk of requiring care increases dramatically with age. The excess forms a reserve, which is drawn down in later years when the expected cost of care exceeds the premium. An individual who lapses his policy forfeits this reserve.
- 6 If such rational calculations are the main cause of high lapse rates, insurers will anticipate this strategic behavior and will increase premiums to compensate. If premiums are increased, fewer consumers will purchase the product and the size of the market will be smaller than in the absence of strategic lapsing.
- 7 The study does not use HRS data prior to 2002. Previous years’ questions were less detailed and yield estimates of lapse rates that are substantially higher than those reported in the 2011 Society of Actuaries experience study. Finkelstein, McGarry, and Sufi (2005) analyze HRS data for 1996-2000 and find that lapsers are less likely to enter a nursing home. We attribute the difference between their and our results to misreporting of insurance coverage in earlier HRS waves. For the same reason, the estimates of lapse rates in McNamara and Lee (2004) appear to be much too high. The current study defines an individual as having lapsed between 2002 and 2006 if they report that: 1) they do not have insurance in 2004 or 2006, or 2) they have insurance in 2004 or 2006 but also report that their policy is a regular health insurance policy. Our results are very similar if, instead, 2004 or 2006 respondents who say that their policy is a regular health insurance policy are coded as having long-term care insurance or if they are dropped altogether.
- 8 The cognitive ability test measures mental impairment rather than intellectual ability. For example, participants are asked to name the president and vice president.
- 9 Appendix Table 2 reports marginal effects for all the variables used in the model. We do not condition on health status at the time the policy was purchased. It is difficult to identify the date of purchase in the HRS data, and it is likely that policyholders were in uniformly good health at that time.
- 10 The findings are robust to alternative definitions of lapses. The sample comprises 1,048 individuals age 65 or older in 2002 with long-term care insurance. The study drops those whose long-term care status was unknown in 2006, and those who lacked a self-assessed nursing home probability or cognitive score in any wave, yielding a sample of 892.
- 11 The findings reported in Figure 2 are consistent with those of Cramer and Jensen (2008) who used HRS data for 2002-2004 and found that low-wealth individuals and those with difficulty performing activities of daily living were more likely to lapse. However, Cramer and Jensen also found that very high-wealth individuals were more likely to lapse. The results are also consistent with Konetzka and Luo (2011) who, using HRS data from 1996-2006, found that poorer and less healthy people were more likely to lapse.
- 12 The study found no statistically significant evidence that the relationship between daughters and care use varied with cognitive score.
- 13 Similarly, as shown in Table A-1 for the first analysis, individuals who lapsed were more likely to use care: 41 percent of lapsers ended up using care compared to only 30 percent of non-lapsers.

## References

- Cramer, Anne Theisen, and Gail A. Jensen. 2008. "Why Do People Change Their Minds? Evidence from the Purchase of Long-Term Care Insurance." In *Psychology of Decision Making in Economics, Business and Finance*. P. Hofmann Klaus, ed., 179-193. Hauppauge, NY: Nova Science Publishers.
- Finkelstein, Amy, Kathleen McGarry, and Amir Sufi. 2005. "Dynamic Inefficiencies in Insurance Markets: Evidence from Long-Term Care." *American Economic Review* 95(2): 224-228.
- Freidberg, Leora, Wenliang Hou, Wei Sun, and Anthony Webb. 2015 (forthcoming). "Why Is There Dynamic Advantageous Selection in the Long-Term Care Insurance Market?" Working Paper. Chestnut Hill, MA: Center for Retirement Research at Boston College.
- Konetzka, R. Tamara and Ye Luo. 2011. "Explaining Lapse in Long-Term Care Insurance Markets." *Health Economics* 20: 1169-1183.
- McNamara, Paul E. and Nayoung Lee. 2004. "Long-Term Care Insurance Policy Dropping in the U.S. from 1996-2000: Evidence and Implications for Long-Term Care Financing." *The Geneva Papers on Risk and Insurance* 29(4): 640-651.
- Society of Actuaries. 2011. "Long-Term Care Inter-company Study Report and Tables." Chicago, IL.
- University of Michigan. *Health and Retirement Study*, 2002-2012. Ann Arbor, MI.

---

# APPENDIX

---

APPENDIX TABLE 1. SUMMARY STATISTICS FOR LAPSE REGRESSION BY LAPSE STATUS, 2002-2006

	Do not lapse	Lapse
Log financial wealth 2002	11.16	10.09***
Log household income 2002	10.78	10.51***
Self-assessed probability of using care	19.63	18.69
Cognitive score	6.67	6.36***
Proxy interview	0.08	0.16***
Have daughters	0.79	0.65***
Married or partnered	0.71	0.58***
Using care 2006-2012	0.30	0.41***
Male	0.41	0.39
Less than high school education	0.08	0.10
Some college	0.59	0.51*
Fair or poor health 2002	0.12	0.18
Have children	0.93	0.90
Log medical expenditure	7.14	7.10
Using care 2002-2006	0.06	0.09*

APPENDIX TABLE 2. PROBIT MARGINAL EFFECTS FOR LAPSE REGRESSION, 2002-2006

	Probit marginal effect
Log financial wealth 2002	-0.0121***
Log household income 2002	-0.0441**
Self-assessed probability of using care	-0.0010
Cognitive score	-0.0703***
Proxy interview	0.1210**
Have daughters	-0.1430***
Married or partnered	-0.0477
Male	0.0324
Less than high school education	-0.0209
Some college	-0.0127
Fair or poor health 2002	0.0580
Have children	0.0576
Log medical expenditure	0.0016
Using care 2002-2006	0.0177
Pseudo R <sup>2</sup>	0.0890
Wald chi <sup>2</sup>	60.39

Notes: Sample = 892 insured persons age 65+ in 2002. Significance at 10 percent (\*), 5 percent (\*\*), or 1 percent (\*\*\*).  
 Source: Authors' calculations based on 2002-2006 HRS.



APPENDIX TABLE 3. SUMMARY STATISTICS FOR CARE USE REGRESSION BY CARE USE STATUS, 2006-2012

	Do not use care	Use care
Log financial wealth 2002	10.93	11.11
Log household income 2002	10.80	10.65**
Lapse 2002-2006	0.16	0.23***
Self-assessed probability of using care	16.93	23.75***
Cognitive score	6.74	6.45***
Proxy interview	0.04	0.23***
Have daughters	0.77	0.76
Married or partnered	0.75	0.58***
Male	0.41	0.37
Less than high school education	0.07	0.09
Some college	0.58	0.59
Fair or poor health 2002	0.08	0.20***
Have children	0.95	0.90*
Log medical expenditure	7.05	7.21
Using care 2002-2006	0.01	0.19***

APPENDIX TABLE 4. PROBIT MARGINAL EFFECTS FOR CARE USE REGRESSION 2006-2012

	Probit marginal effect
Log financial wealth 2002	0.0112
Log household income 2002	-0.0355
Lapse 2002-2006	0.0057
Self-assessed probability of using care	0.0025**
Cognitive score	-0.1490***
Proxy interview	0.4270***
Have daughters	0.0430
Married or partnered	-0.1080**
Male	0.0202
Less than high school education	0.0301
Some college	0.0525
Fair or poor health 2002	0.1350**
Have children	-0.1730*
Log medical expenditure	0.0027
Using care 2002-2006	0.5620***
Pseudo R <sup>2</sup>	0.1978
Wald chi <sup>2</sup>	160.40

Notes: Sample = 824 insured persons age 65+ in 2002. Significance at 10 percent (\*), 5 percent (\*\*), or 1 percent (\*\*\*).  
 Source: Authors' calculations based on 2002-2012 HRS.

### About the Center

The mission of the Center for Retirement Research at Boston College is to produce first-class research and educational tools and forge a strong link between the academic community and decision-makers in the public and private sectors around an issue of critical importance to the nation's future. To achieve this mission, the Center sponsors a wide variety of research projects, transmits new findings to a broad audience, trains new scholars, and broadens access to valuable data sources. Since its inception in 1998, the Center has established a reputation as an authoritative source of information on all major aspects of the retirement income debate.

### Affiliated Institutions

The Brookings Institution  
Massachusetts Institute of Technology  
Syracuse University  
Urban Institute

### Contact Information

Center for Retirement Research  
Boston College  
Hovey House  
140 Commonwealth Avenue  
Chestnut Hill, MA 02467-3808  
Phone: (617) 552-1762  
Fax: (617) 552-0191  
E-mail: [crr@bc.edu](mailto:crr@bc.edu)  
Website: <http://crr.bc.edu>

---

© 2015, by Trustees of Boston College, Center for Retirement Research. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that the authors are identified and full credit, including copyright notice, is given to Trustees of Boston College, Center for Retirement Research.

The research reported herein was performed pursuant to a grant from the National Institute on Aging, grant R01AG041105. The opinions and conclusions expressed are solely those of the authors and do not represent the opinions or policy of the National Institute on Aging or Boston College.