

# LONG-TERM CARE INSURANCE PERSISTENCY EXPERIENCE

A JOINT STUDY SPONSORED BY LIMRA INTERNATIONAL AND  
THE SOCIETY OF ACTUARIES LTC EXPERIENCE COMMITTEE



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# EXECUTIVE SUMMARY

This report represents the first study conducted jointly by LIMRA International and the Society of Actuaries (SOA) Long-Term Care Experience Committee that focuses on long-term care insurance (LTCI) persistency. The study examines voluntary lapse and total termination activity for calendar years 2000 and 2001. Overall, the results indicate that LTCI persistency has continued to improve; however, the current improvement seems to be coming from the individual lines of business rather than the group lines.

## Insights

- Voluntary lapses have decreased from a rate of 7.6 percent for all policy years combined, based on the most recent SOA LTC Experience Committee Intercompany Report (experience 1984–1999), to a rate of 5.4 percent, based on the current study’s 2000–2001 experience base.
- In the early durations, individual LTCI persistency is consistently higher than that of other individual product lines, such as life insurance and disability income insurance. Many long-term care writers attribute this, at least in part, to the efforts being made by carriers and producers to increase consumer understanding of both the need for the coverage and the value of the products being offered.
- The voluntary lapse rate for group business in the current study is 8.9 percent for all policy years combined. Although voluntary lapse rates for group LTCI have increased in comparison with levels shown in the most recent SOA LTC Experience Committee Intercompany Report, it is important to keep in mind that neither study had a large group exposure base.
- While women continue to represent 60 percent of the in-force business, for calendar years 2000 and 2001 males and females exhibited very similar patterns of lapse activity.
- By distribution channel, career agents experienced higher rates of persistency than both independent producers and direct response channels.
- Rates of voluntary lapsation are lowest for the longest elimination periods and the greater lifetime maximum benefits. These may be individuals with more substantial financial resources, as preliminary results from LIMRA’s consumer research indicate that clients with greater assets and income tend to purchase larger LTCI benefits. However, possibly due to the fact that they have the ability to self-insure for longer than other consumers, these individuals also tended to choose longer waiting periods.



- Generally, the plans with richer inflation protection benefits experienced lower lapse rates, both for individual and group LTCI.
- LTCI lapse rates increase as the number of premium payments made per year increases. This result is consistent with persistency experience for other insurance products.
- For participating companies that provided data on marital status at issue, married policyholders exhibited higher rates of persistency than did their unmarried counterparts. This pattern is consistent both by company and by issue age group.
- By risk class, coverage issued at a discount to standard (preferred basis) experienced lower rates of voluntary lapsation than coverage issued on either a standard or substandard basis.
- Looking at total termination rates, including both voluntary lapses as well as deaths, individual and group LTCI business exhibit different patterns by policy year. The group plans experienced higher rates of termination in the early policy years, corresponding with their higher rates of voluntary lapsation. In the later policy years, group LTCI total terminations leveled off to approximately 4 percent. By contrast, for individual plans, which have a higher average issue age, total terminations start to increase after policy year 6 as mortality has a greater impact.
- Premium termination rates are lower than policy termination rates through policy year 10, implying that the policies with lower premiums tend to go off the books. This is consistent with the voluntary lapse results that indicate LTCI policyowners with richer benefits are less likely to lapse. After policy year 10, when mortality becomes a more significant factor in total termination experience, premium termination rates are higher than policy termination rates. This is likely due to deaths of older insureds, many with higher premium levels.

## DATA USES

This study can be used for industry benchmarking as well as for background information for the long-term care insurance (LTCI) product development and planning process.

The data contained in this report can help companies to identify factors that impact LTCI product persistency. However, since the participants in the current study do not represent the entire LTCI industry and results for specific companies can vary, sometimes dramatically; these results should be used only as a supplement to the experience of the individual carrier. Companies should carefully consider underlying differences in distribution, product design, product development, and market strategy between their own organization and current study participants.

In addition, the study data strongly suggest that some companies are coding unreported deaths as lapses. Therefore, when using the persistency data in this report to help validate pricing assumptions, care should be taken to ensure that a company's total termination rate is not being overstated.

# METHODOLOGY AND DATA

This report represents the first in a series of continuing studies that will examine recent long-term care persistency experience, including both individual and group business. Fourteen organizations submitted data representing experience for calendar years 2000 and 2001. Twelve participants provided individual data, and four participants provided group data.

In a recent LIMRA survey of over 80 long-term care insurance (LTCI) executives, including all of the top carriers, persistency was cited as the most significant factor expected to impact the profitability of this product line over the next five to 10 years.<sup>1</sup>

As a result, many companies now closely monitor their own experience. This report provides intercompany results for individual and group LTCI persistency experience to be used by carriers as part of the benchmarking process.

## METHODOLOGY

For purposes of this report, voluntary lapse includes termination for any reason other than death. This includes termination for nonpayment of premium, expiration of benefits, transfers to reduced paid-up or extended term status, and terminations for an unknown reason. This is consistent with the definition of voluntary lapse applied for past Society of Actuaries LTCI experience studies and allows for comparison of results over time.

Participants provided information on their entire in-force block and, except in cases where a company's volume of business was so large or its experience so different from that of other participants that overall results would be unduly skewed, the lapse and total termination rates shown are based on 100 percent of insureds.

Voluntary lapse and total termination rates are calculated as follows:

$$\text{Annualized Lapse Rate} = 100 \times \frac{\text{Number of Lives Lapsed During the Year}}{\text{Number of Lives Exposed to Lapse During the Year}}$$

The number of lives exposed to lapse is based on the length of time a covered life is exposed to the risk of lapsation during the year. Lapses contribute exposure for the full 12 months. Terminations due to death are not included in the amount lapsing and contribute exposure for only the fraction of the year they were in force.

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<sup>1</sup>“LTCI: Industry at the Crossroads” (Web presentation), LIMRA International, November 19, 2003.

The individual company data underlying this study produced a pattern of lapses by policy year that indicates some deaths may have been coded incorrectly as lapses. To address this issue, this report will examine both rates of voluntary lapsation and total termination rates for LTCI plans. LTCI actuaries who price using an industry mortality table in conjunction with an assumption as to voluntary termination rates can compare the resulting pricing total termination rates with the total termination data from the current study.

$$\text{Annualized Total Termination Rate} = 100 \times \frac{\text{Number of Lives Terminating During the Year}}{\text{Number of Lives Exposed to Termination During the Year}}$$

The number of lives exposed to termination is based on the length of time a covered life is exposed to the risk of either voluntary lapsation or death during the year. (However, note that Figure 26 was determined based on both number of lives and the amount of premium exposed.)

Industry lapse rates are calculated as a weighted average of the experience of all contributing companies, so companies with larger in-force blocks will impact the overall results more than companies with smaller in-force blocks will.

Two participating companies submitted data related to joint policies. For each joint policy, two separate records were provided: one for the primary insured and a second for the spouse. Voluntary lapse and total termination rates for this block of business are based on lives.

The quantity of group LTCI exposure contributed for the 2000–2001 experience period did not allow for analysis of group experience for all policy and product factors. Wherever possible, group and individual results are shown separately.

A small block of association business was submitted for the current study. For purposes of this report, the association business has been combined with the individual LTCI.

## **DATA CHARACTERISTICS**

Fourteen companies contributed exposure records covering calendar years 2000 and 2001. Approximately 75 percent of the exposure is related to individual LTCI plans, and 25 percent is related to employer group plans. Table 1 shows exposure by issue year and policy form. More detailed characteristics of the exposure data can be found in Appendices A and B, including breakdowns by issue age, attained age, gender, marital status, elimination period, lifetime maximum benefit level, premium payment frequency, distribution channel, inflation protection coverage, underwriting type, and risk classification.

The average issue age for LTCI business underlying the current study is 66 for individual policies and 47 for group coverages.

**Table 1 — Exposure by Issue Year and Policy Form**

	Individual	Employer group
Prior to 1984	0.1%	—
1984–1987	1.8	—
1988–1991	12.2	10.5%
1992–1995	17.6	23.2
1996–1999	40.8	37.4
2000	19.5	18.6
2001	8.0	10.3
	<b>100%</b>	<b>100%</b>

— No cases

Table 2 shows policy activity during the observation period. Note that terminations for unknown reason are relatively high, especially for group business, while terminations due to death appear understated. This demonstrates that, in many cases, companies were not able to determine the specific cause of termination for reporting purposes. Also, it is unlikely that no expirations of benefits occurred during the observation period for lives covered by individual plans. It is possible that some portion of the unknown terminations may be expiries.

**Table 2 — LTCI Coverage Activity Reported During the Observation Period**

Percentage of Study Exposure

	Individual	Employer group
Lapse for nonpayment of premium	2.1%	2.9%
Expiration of benefits	—	0.2
Death	1.2	0.2
Termination of the group	—	1.0
Conversion	0.3	0.1
Terminated for other reasons (upgraded policy)	0.8	—
Terminated for reasons unknown	1.1	3.6
Remaining in force	95.5	92.0
	<b>100%</b>	<b>100%</b>

— No cases

# VOLUNTARY LAPSE EXPERIENCE

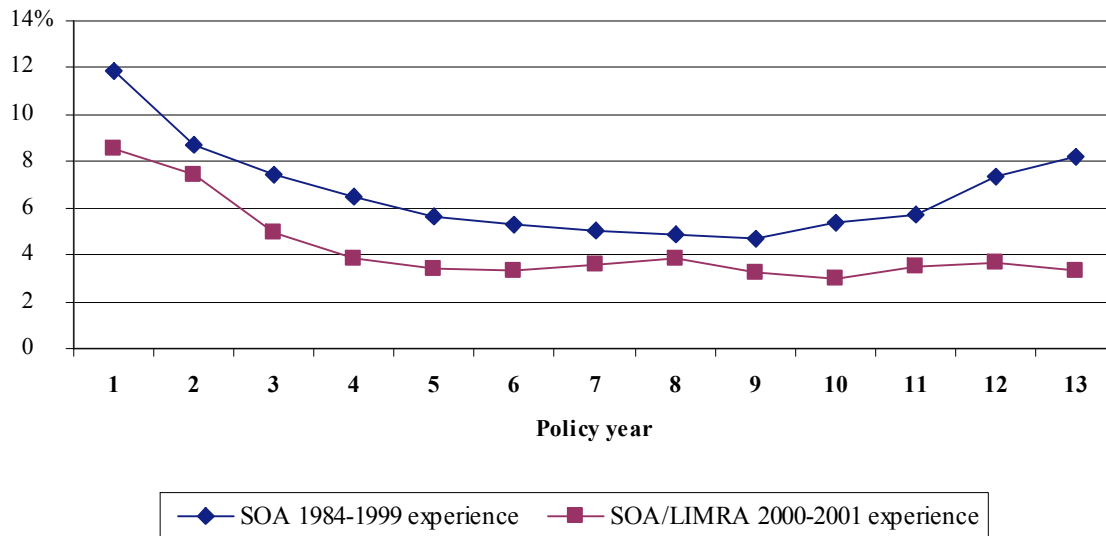
Persistency for long-term care insurance (LTCI) products continues to improve overall. Voluntary lapse rates for all policy years combined averaged 4.2 percent for individual plans, 8.9 percent for employer group plans, and 5.4 percent for all plans combined during calendar years 2000 and 2001.

## VOLUNTARY LAPSE RATES BY POLICY FORM

Figure 1 shows lapse rates for all LTCI plans combined during 2000 and 2001. The lapse rates for total LTCI decrease by duration, from a first-year rate of 8.5 percent to an average rate of between 3 percent and 4 percent by policy year 10.

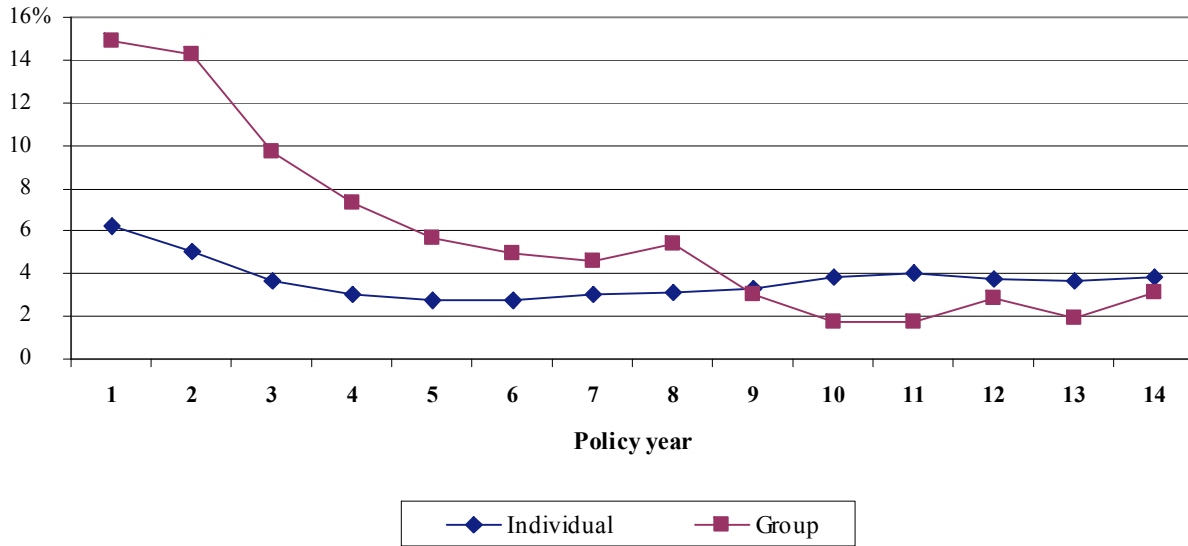
**Figure 1 — Voluntary Lapse Rates by Policy Year**

All Plans Combined



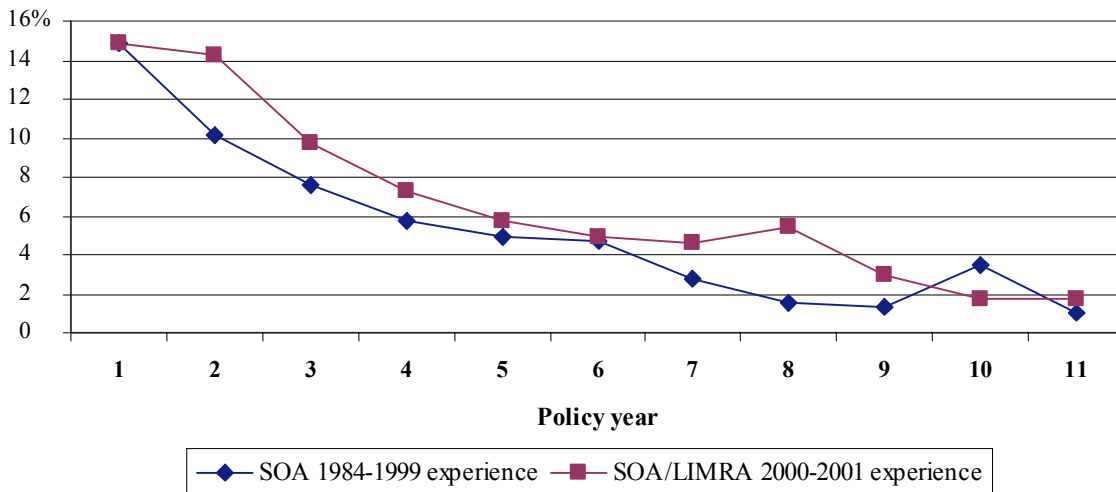
Although group LTCI lapse rates tail off at or below the levels of individual business, the current data seems to indicate that group experience can be very different from individual experience in the early policy years (Figure 2).

**Figure 2 — Voluntary Lapse Rates by Policy Form and Policy Year**



Also, in comparison with data underlying the most recent SOA LTC Experience Committee Intercompany Report (experience years 1984–1999), persistency for group business appears to have somewhat deteriorated (Figure 3).<sup>2</sup> However, when analyzing these results, it is important to keep in mind the relatively small size of the group exposure base underlying this and earlier studies.

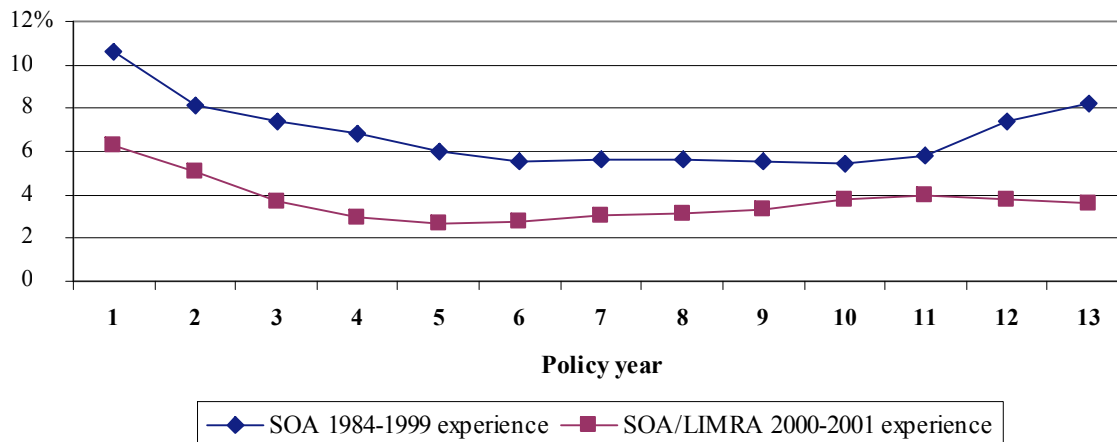
**Figure 3 — Group LTCI Voluntary Lapse Rates**



<sup>2</sup> Society of Actuaries Long-Term Care Experience Committee Intercompany Study 1984–1999, Society of Actuaries, September 2002.

For the individual plans, compared with experience reported by the SOA for the observation period 1984–1999, individual LTCI persistency clearly continued to improve in 2000 and 2001 (Figure 4).

**Figure 4 — Individual LTCI Voluntary Lapse Rates**



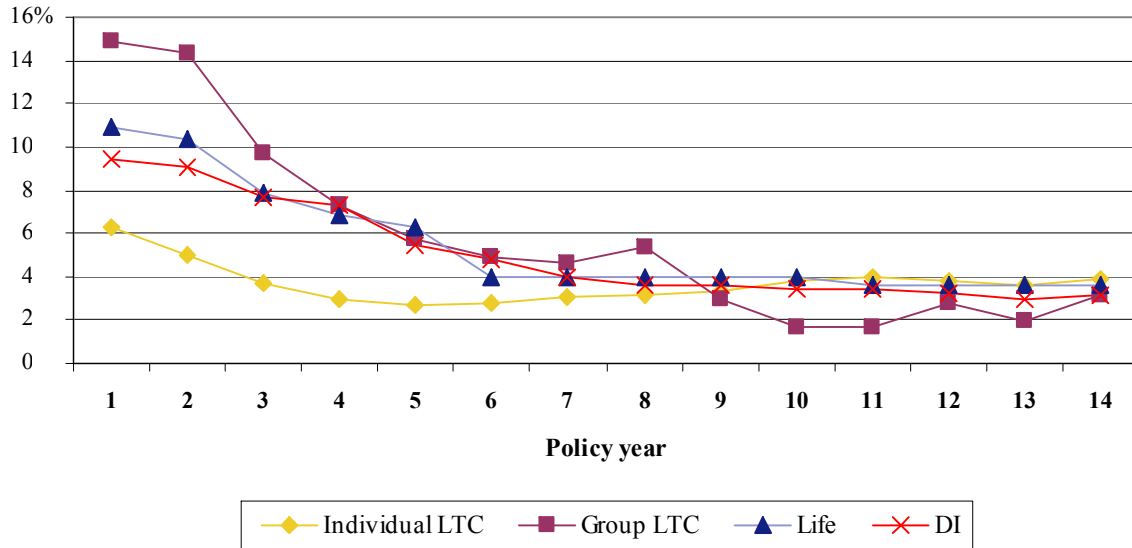
In the early durations, voluntary lapse rates for individual long-term care business are well below those of other individual product lines, such as life insurance and disability income (DI) insurance. Figure 5 compares lapse experience by policy year for both individual and group LTCI with the experience for individual life and DI products.

Individual life and DI insurance lapse rates reach ultimate levels of 3.5 percent and 3 percent, respectively, by policy year 10. While individual LTCI appears to reach similar ultimate levels, between 3 percent and 4 percent, the group LTCI business levels off in the 2 percent range.

Like the vast majority of the LTCI covered by the current study period, most individual disability plans do not provide for nonforfeiture benefits. Therefore, deaths are likely being coded incorrectly as lapses by individual DI carriers as well. However, since DI products are typically sold to individuals under age 65, mortality will have significantly less impact on total termination results in the later durations.



**Figure 5 — LTCI Voluntary Lapse Rates Versus Individual Life and Disability Income\***



\* Voluntary lapse rates for individual life are based on the most recent comprehensive study conducted by LIMRA International. The observation period for that study was the mid-1990s. Individual DI results are based on recent data.

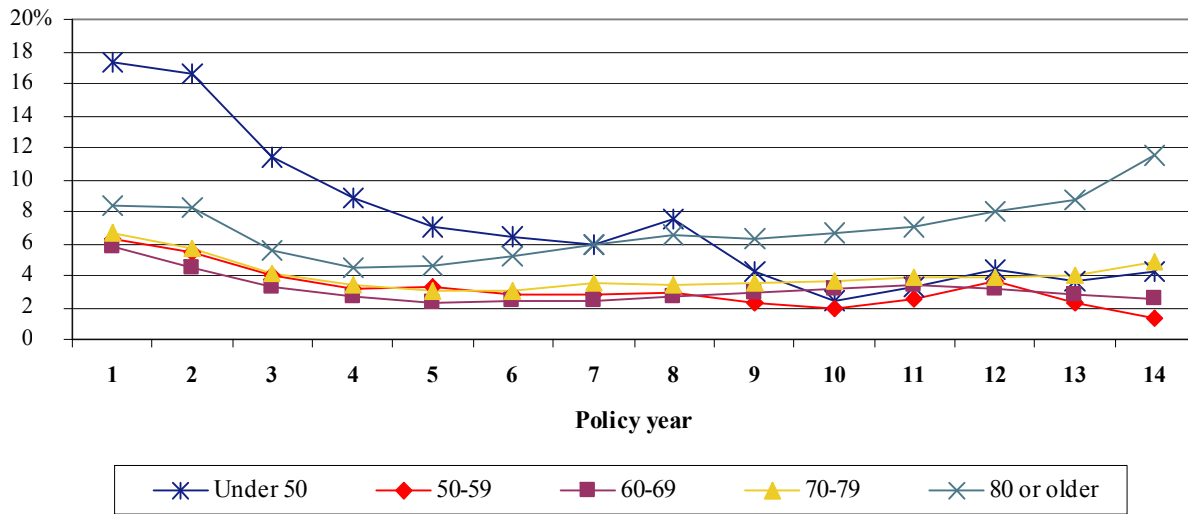
## VOLUNTARY LAPSE RATES BY AGE

### Voluntary Lapse Rates by Issue Age

Over 60 percent of the exposure for the current study falls between issue ages 60 and 79. And, with the exception of issue ages under 50 and over 80, for all LTCI plans combined, there appears to be very little difference in the rates of voluntary lapsation by issue age group (Figure 6). However, the increase in reported lapse rates in the later policy years is more pronounced at the oldest issue ages, where mortality is likely to have the greatest impact. This presents further evidence that, in some cases, deaths may have been coded as lapses.

The business sold to issue ages 50 or under is mostly group LTCI, and the lapse experience at these ages follows a pattern similar to the total group experience by policy year. In addition, younger individuals may have a greater tendency to question their need for the coverage since the prospect of receiving benefits seems distant.

**Figure 6 — Voluntary Lapse Rates by Issue Age Group and Policy Year**  
Individual and Group Plans Combined



Comparing individual LTCI experience with that of individual life and DI products, the individual DI business exhibits a more significant increase in voluntary lapse activity with increasing age at issue (Table 3). This makes sense, since DI products are being sold to a younger market for protection against loss of income during the policyholder’s working lifetime. Therefore, older DI buyers are more likely to reconsider the need for coverage.

The group LTCI business demonstrates a more pronounced pattern of increasing persistency as the age at issue increases.

**Table 3 — Voluntary Lapse Rates by Issue Age Group and Product Line**

	Individual life insurance*	Individual DI	Individual LTCI	Group LTCI
Under 50	4.7%	4.8%	7.2%	12.2%
50-59	3.5	9.4	3.8	5.5
60-69	2.8	12.3	3.7	3.0
70-79	3.3	—	4.5	2.3
80 or older	—	—	6.8	4.4

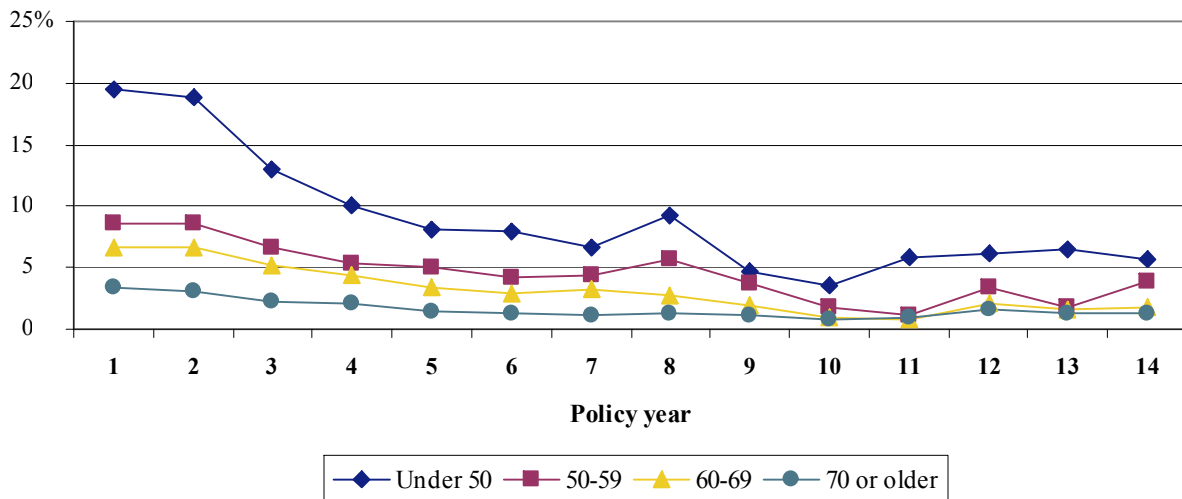
\* Mostly traditional whole life plans

— Insufficient exposure

## Group LTCI — Voluntary Lapse Rates by Attained Age

Some LTCI carriers have voiced concern that group business may demonstrate increases in voluntary lapse activity as enrollees enter retirement and began living on a fixed income. However, data from the current study do not seem to support this theory. Lapse rates for attained ages 60–69 are actually lower than lapse rates for the younger ages (Figure 7). In fact, for the group business, there is a clear pattern of increasing persistency with increasing attained age in all policy years.

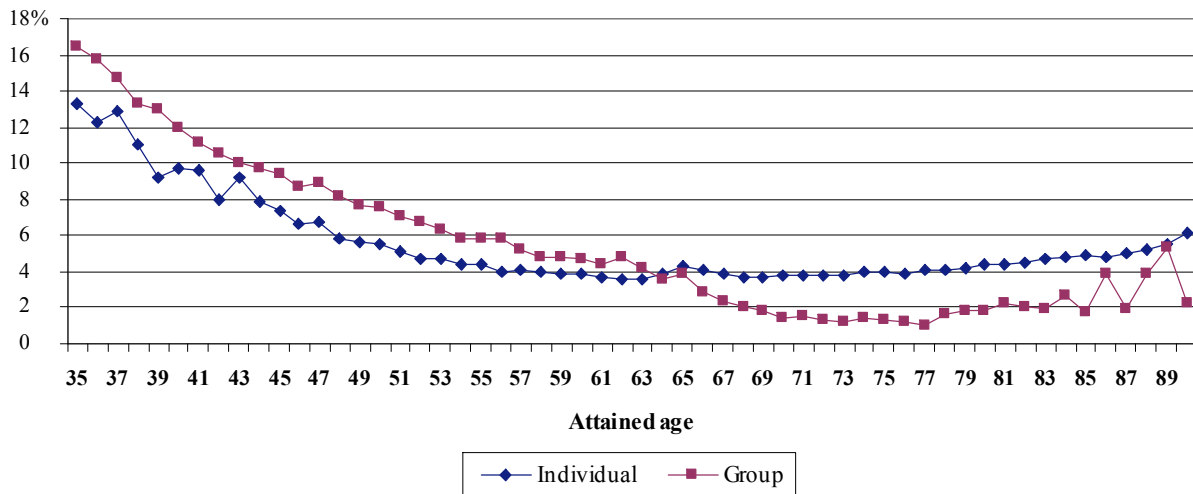
**Figure 7 — Group LTCI Voluntary Lapse Rates by Attained Age and Policy Year**



Voluntary lapse rates at each specific attained age were also examined for all policy years combined. Again, there are no significant increases for any age at or near retirement (Figure 8). In fact, group lapse rates actually decrease faster than individual rates at the higher attained ages.

One possible explanation is that those with group insurance have generally purchased their coverage at a younger age and therefore at a relatively lower premium level. And, those aged 60 or older are more likely to appreciate the value of the LTCI protection as they see their likelihood of requiring long-term care increasing. In addition, they will find it difficult to purchase the same benefits for the same cost in the current individual marketplace. Finally, many group contracts are offered on a simplified or guaranteed issue basis and some members may now be uninsurable.

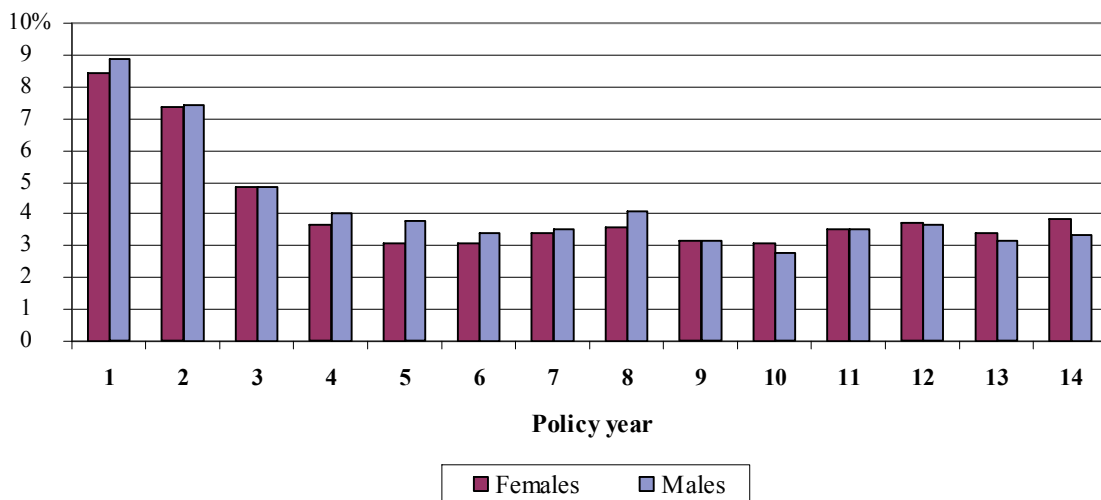
**Figure 8 — Voluntary Lapse Rates by Attained Age: Individual Versus Group**  
All Policy Years Combined



### VOLUNTARY LAPSE RATES BY GENDER

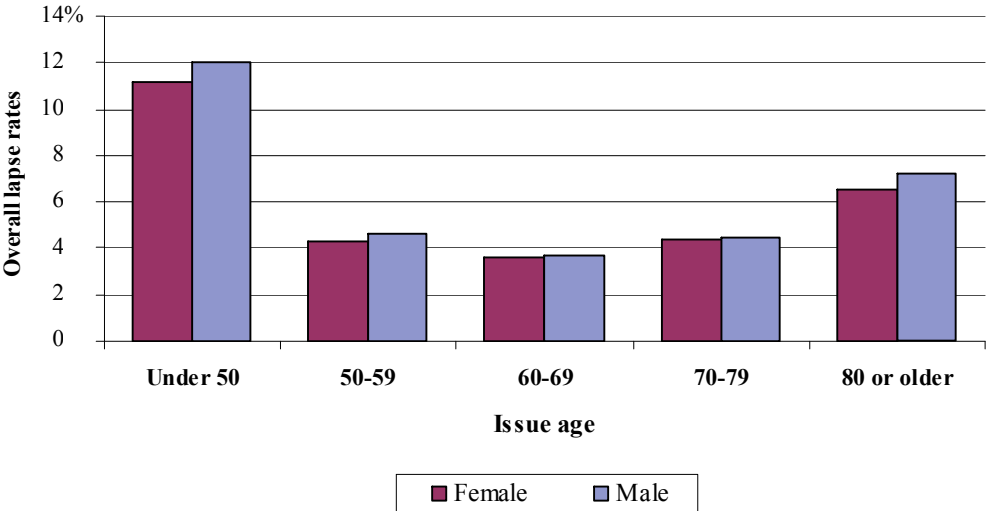
The LTCI exposure base for the current study is approximately 60 percent female and 40 percent male. Both population and insured mortality studies consistently indicate that women tend to live longer than men and are therefore more likely to require care from a non-family or formal caregiver. Voluntary lapse rates for males are 5.6 percent, while voluntary lapse rates for females are 5.2 percent, for all policy years combined. Male lapse rates are only slightly higher than female lapse rates at most durations (Figure 9).

**Figure 9 — Voluntary Lapse Rates by Gender and Policy Year**  
Individual and Group Plans Combined



Looking at persistency by gender and issue age, males exhibited minimally higher rates of voluntary lapsation than females for all issue ages (Figure 10). As one would expect, if some study participants are coding deaths as lapses, there is a larger difference in experience at the oldest ages (80 or older), where mortality is likely to be a greater factor.

**Figure 10 — Voluntary Lapse Rates by Gender and Issue Age**  
Individual and Group Plans Combined



**VOLUNTARY LAPSE RATES BY ELIMINATION PERIOD**

The volume of LTCI data submitted to the current study that contained information on the elimination period chosen was less than anticipated. As a result, for elimination periods with a sufficient exposure base, voluntary lapse rates were calculated for all policy years combined. It appears that the longest waiting periods have experienced the highest levels of persistency (Table 4). This is consistent with the results of prior SOA LTC Experience Committee Intercompany Studies, with the shortest elimination periods exhibiting higher rates of lapsation.

In general, electing a longer elimination period reduces the cost of coverage, and for individual disability income business, policies with longer elimination periods (180 days or longer) exhibit higher rates of voluntary lapsation than those with shorter elimination periods (90 days or less). However, typically employers will provide their employees with some level of short-term disability coverage either in the form of sick pay or a group short-term disability plan. For this reason, on the individual DI side, longer elimination periods are often sold to buyers trying to lower their overall cost of coverage. And these policyholders are more likely to eventually face affordability issues.

In contrast, for LTCI products, preliminary results from LIMRA’s Buyer/Nonbuyer study indicate that the LTCI consumers with greater financial resources tend to purchase coverage with a longer elimination period and richer benefits, presumably because they have the ability to self-insure for some period of time.<sup>3</sup>

**Table 4 — Voluntary Lapse Rates by Elimination Period**

Individual and Group Plans Combined

	LTCI (2000–2001 data)	LTCI (1984–1999 data)	Individual DI insurance
No waiting period	4.4%	8.9%	4.8%
15-20 days	3.3	7.8	4.4
30 days	4.8	—	4.4
60 days	4.7	—	4.0
90 days	5.1	7.0	3.7
100 days	2.6	7.4	—
Over 100 days	2.0	—	5.5

— No cases

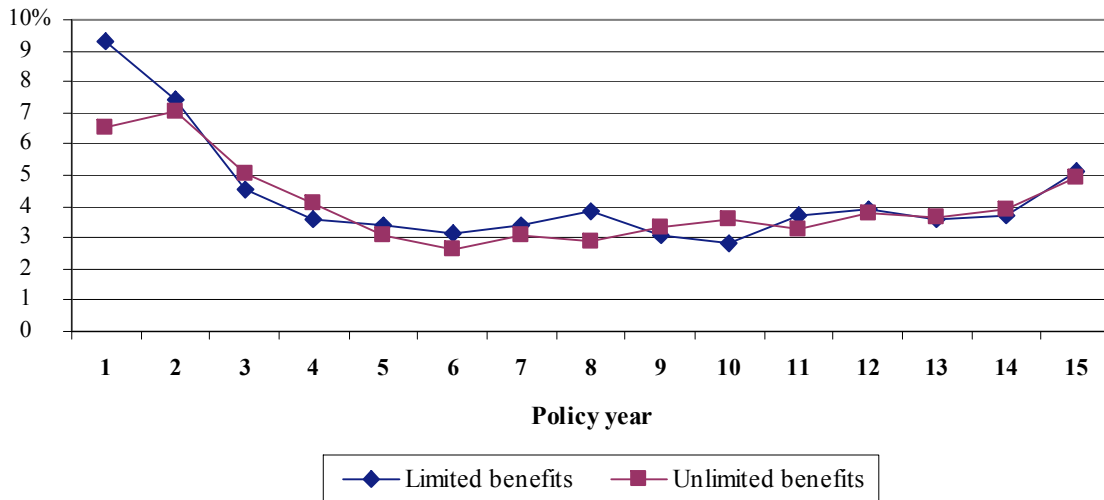
## **VOLUNTARY LAPSE RATES BY LIFETIME MAXIMUM BENEFIT**

Looking at persistency experience by lifetime maximum benefit, after the first few policy years, LTCI products with limited lifetime benefits (including limits expressed either in terms of a number of days or a dollar amount) exhibited only slightly higher rates of voluntary lapsation than plans with unlimited benefits (Figure 11). In addition, since most of the exposure related to unlimited benefit plans is individual business, even the variation in early policy year experience can be attributed more to differences in group versus individual business than to differences in lifetime maximum benefits.

<sup>3</sup> LTCI Buyer/Nonbuyer Study (preliminary results), LIMRA International, 2004.

**Figure 11 — Voluntary Lapse Rates by Lifetime Maximum Benefit and Policy Year  
(Limited Versus Unlimited Plans)**

Individual and Group Plans Combined

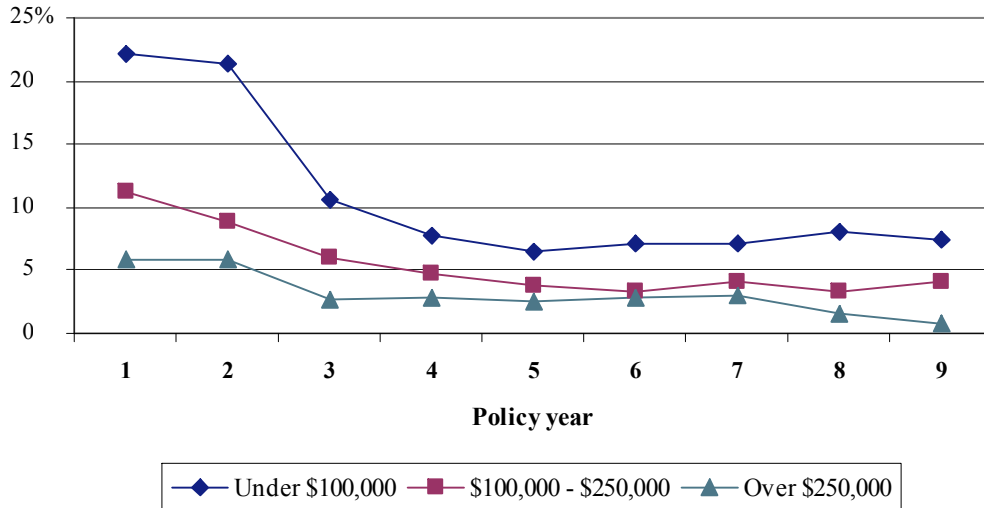


However, there are greater differences in experience when examining persistency at various maximum benefit levels for the limited lifetime benefit plans. For limited plans where the maximum benefit is expressed in terms of a dollar amount, the greater the maximum dollar amount provided, the less likely the policy was to lapse (Figure 12).

More than half of the group exposure base was sold with lifetime maximum dollar amounts under \$100,000, and in general, group plans experienced higher lapse rates than individual plans. However, this pattern of increasing persistency with increasing lifetime maximum dollar limits is consistent across both individual and group business. This may reflect the fact that consumers purchasing policies with richer benefits are more conscious of long-term care risks and the value of the insurance protection. In addition, as discussed previously, these buyers may be in a better financial position and therefore are less likely to face affordability concerns.

**Figure 12 — Voluntary Lapse Rates by Lifetime Maximum Benefit and Policy Year  
(Maximum Defined as Dollar Amount)**

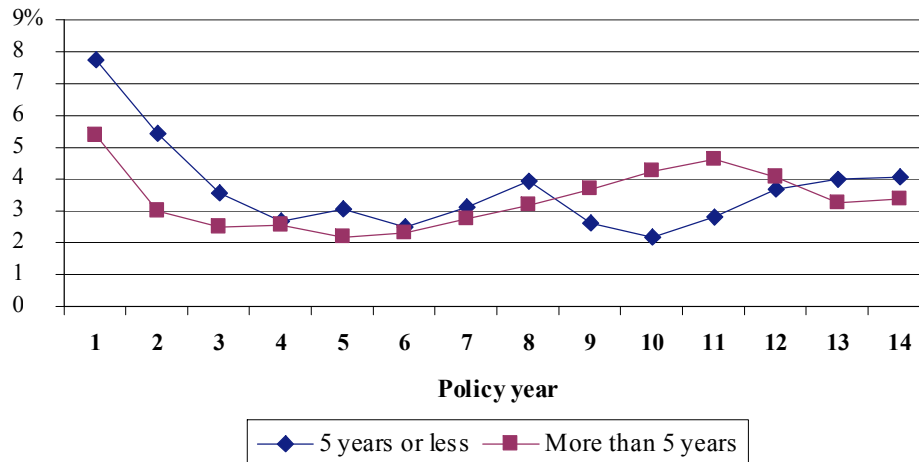
Individual and Group Plans Combined



The distinction is not quite as clear for plans where the lifetime maximum benefit is expressed as a number of days, although the policies with the lowest maximums (five years or less) experienced slightly higher rates of voluntary lapsation than the richer benefit plans during the first eight policy years (Figure 13). This lifetime maximum benefit approach was more common in earlier LTCI products than in the plans offered in today’s marketplace.

**Figure 13 — Voluntary Lapse Rates by Lifetime Maximum Benefit and Policy Year  
(Maximum Defined as Specified Number of Days)**

Individual and Group Plans Combined

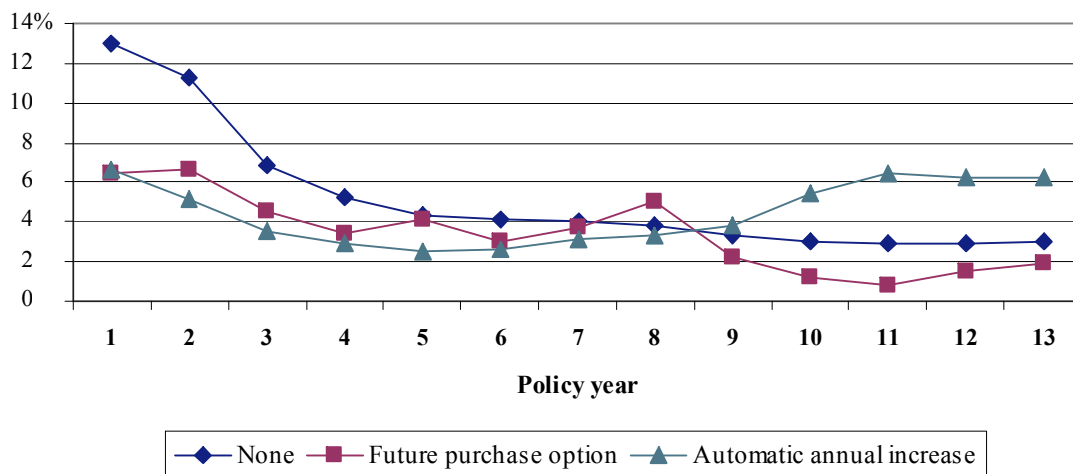




## VOLUNTARY LAPSE RATES BY INFLATION PROTECTION COVERAGE

Over 40 percent of the exposure base for the current study includes some degree of inflation protection in the form of annual benefit increases. These automatic annual increase plans include several types of products that involve prefunding future benefit increases. Another 15 percent of the current study exposure base was sold with the option to purchase additional coverage at times specified in the contract, usually without new underwriting requirements. In general, plans with the greatest extent of inflation protection have exhibited the highest levels of persistency (Figure 14).

**Figure 14 — Voluntary Lapse Rates by Level of Inflation Protection and Policy Year**  
Individual and Group Plans Combined



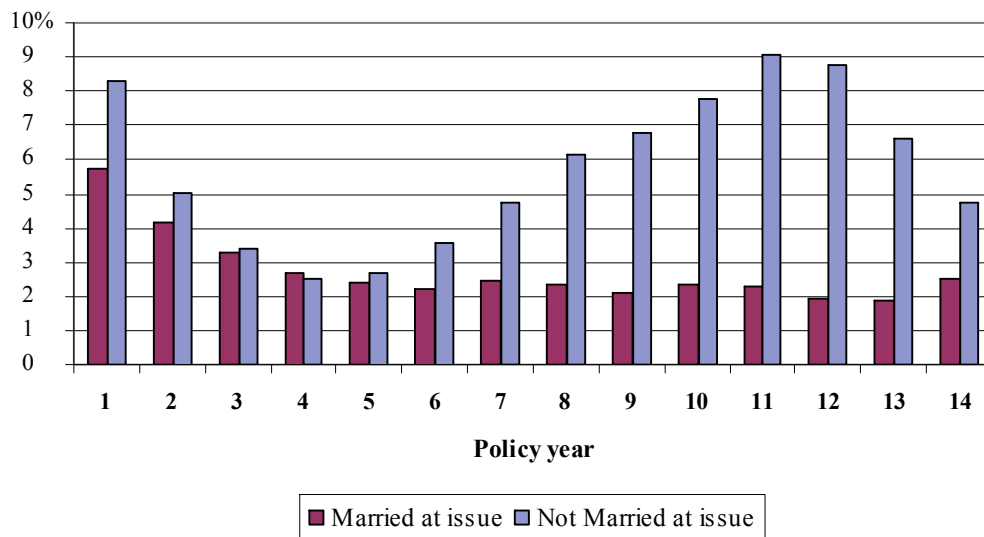
One might expect to see increased voluntary lapse activity over time on the plans with future purchase options as the additional premiums required for the increases in coverage make the policies less affordable. However, the current study results do not show this trend. It is possible that either the insureds are declining the option to purchase or their base coverage is less expensive than the automatic inflation protection plans and therefore the purchase of additional coverage can still be made at a reasonable total cost.

## VOLUNTARY LAPSE RATES BY MARITAL STATUS

According to LIMRA’s recent Long-Term Care Insurance Product Design Insights study, producers report that sales to married couples are more difficult than those to single individuals.<sup>4</sup> However, based on the current persistency results, it appears that once the sale is made, individuals who were married at the time of policy issue exhibit lower rates of voluntary lapsation than their unmarried counterparts do (Figure 15). This difference in experience becomes more pronounced in the later policy years when mortality has a greater impact.

**Figure 15 — Voluntary Lapse Rates by Marital Status at Issue**

Individual and Group Plans Combined



Looking at lapse rates for all policy years combined, differences in experience appear to be the greatest for insureds between issue ages 50 and 69 with a reversal in the trend at issue ages 80 and older (Table 5).

**Table 5 — Voluntary Lapse Rates by Marital Status and Issue Age Group**

Individual and Group Plans Combined

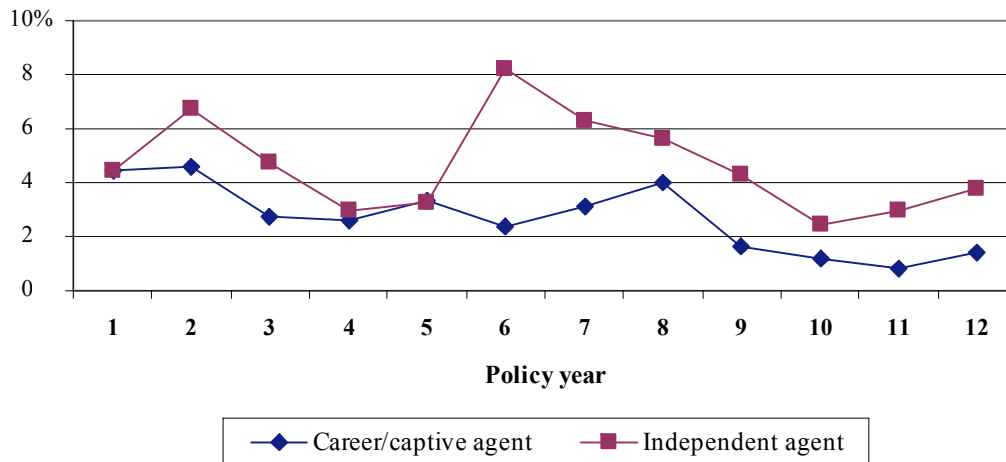
	Married at policy issue	Not married at policy issue
Under 50	4.7%	5.9%
50–59	3.0	6.3
60–69	3.0	6.6
70–79	4.1	4.7
80 or older	6.8	5.9

<sup>4</sup> Long-Term Care Insurance: Product Design Insights, LIMRA International, 2003.

## VOLUNTARY LAPSE RATES BY DISTRIBUTION CHANNEL

Eight participating companies provided data by distribution channel. The vast majority of the exposure related to LTCI business was sold through the career or captive agent channels. As shown in Figure 16, and in contrast with results of the last SOA Long-Term Care Insurance Intercompany study, the career agency system achieved a slightly higher level of persistency than the independent channels in all policy years. Possible explanations for this include differences between the career and independent channels in terms of compensation structure, level of service, and amount of product information and advice provided during the initial sales process. The spike in lapse activity for the independent channels at duration 6 appears to be an anomaly of a single company's data.

**Figure 16 — Voluntary Lapse Rates by Primary Distribution Channel and Policy Year**  
Individual and Group Plans Combined

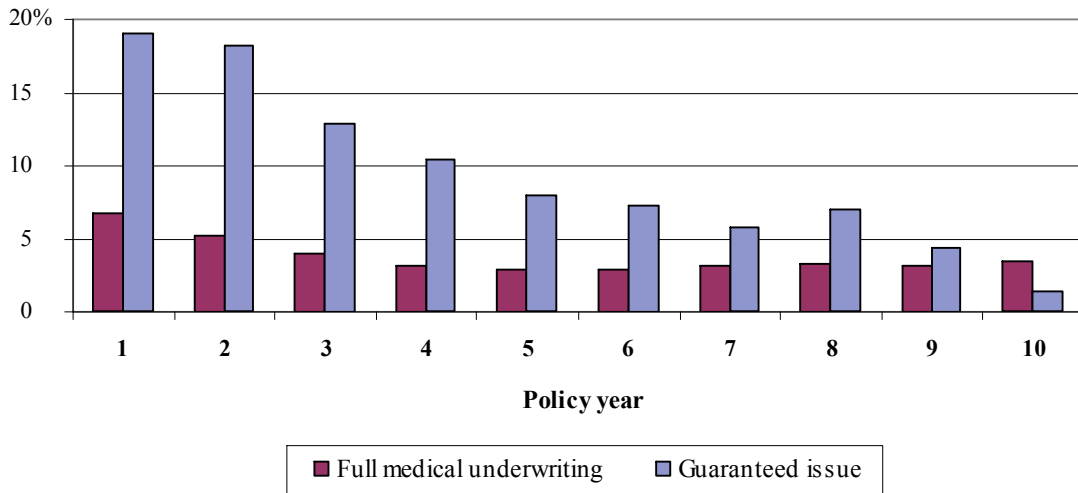


## VOLUNTARY LAPSE RATES BY UNDERWRITING TYPE

Many insurance carriers believe that policyholders who have gone through a thorough and rigorous underwriting process are more certain of their need for the product and the value of the coverage, which translates into higher rates of persistency.

LTCI sold on a fully underwritten basis experienced lower rates of voluntary lapsation than plans written on a guaranteed issue basis (Figure 17). Since almost all of the guaranteed issue business was sold under a group plan, experience was examined both by underwriting type and by policy form and these results are consistent for individual and group business as well as in total.

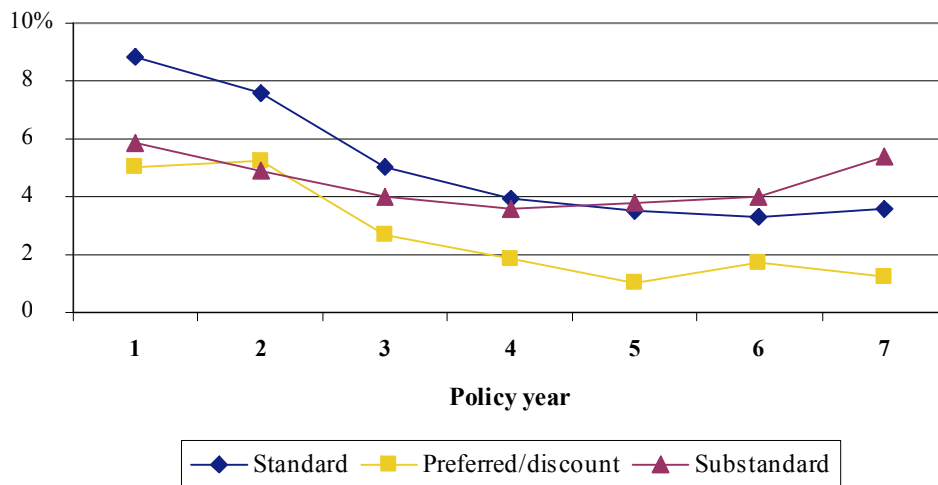
**Figure 17 — Voluntary Lapse Rates by Underwriting Type and Policy Year**  
Individual and Group Plans Combined



**VOLUNTARY LAPSE RATES BY RISK CLASSIFICATION**

Over 90 percent of the exposure base for the current study was issued on a standard basis. However, LTCI coverage with a preferred rating (premiums discounted from standard levels) exhibited lower rates of voluntary lapsation than coverage issued on either a standard or substandard basis (Figure 18).

**Figure 18 — Voluntary Lapse Rates by Risk Classification and Policy Year**  
Individual and Group Plans Combined

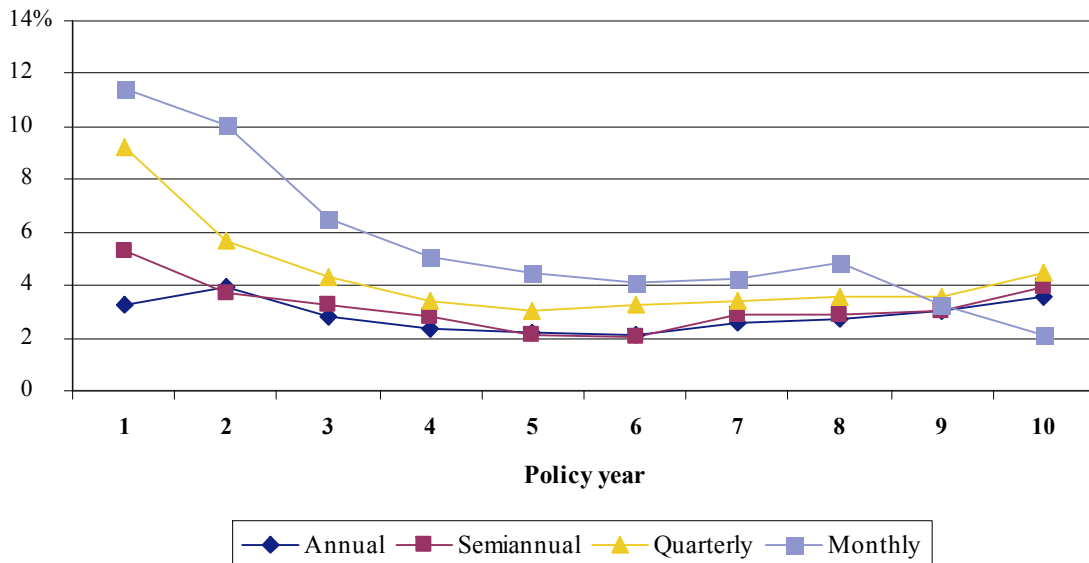


## VOLUNTARY LAPSE RATES BY PREMIUM PAYMENT MODE

LTCI lapse rates generally increase as the number of premium payments per year increases (Figure 19). This is consistent with experience on individual life and disability income insurance policies as well. The theory often proposed is that every bill a policyholder receives provides another opportunity to question the purchase decision. In addition, individuals who choose to pay larger amounts less frequently tend to be less concerned with cost and affordability. Unfortunately, most of the exposure base for the current study did not include information related to billing method. Thus, it was not possible to investigate differences in persistency experience between direct billing and more automatic methods of premium payment, including electronic funds transfer and payroll deduction.

**Figure 19 — Voluntary Lapse Rates by Premium Payment Mode and Policy Year**

Individual and Group Plans Combined



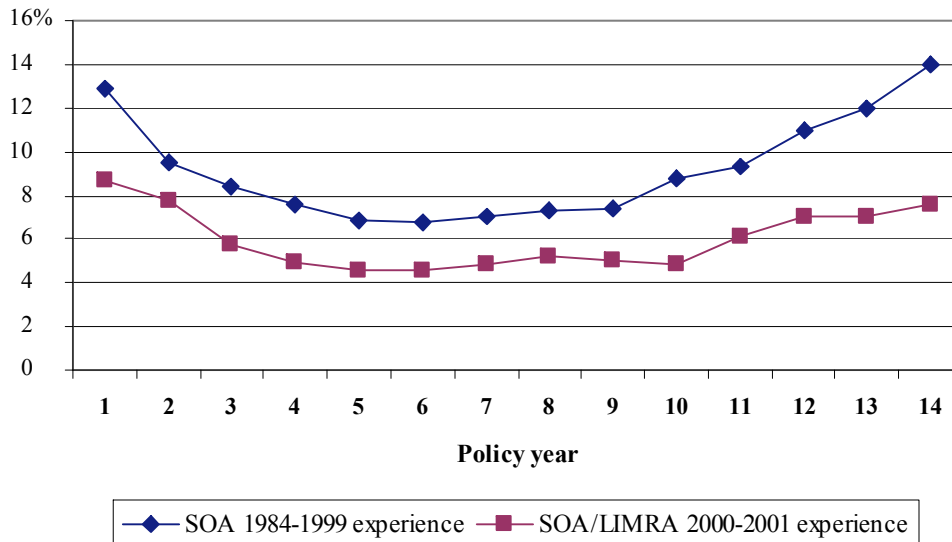
# TOTAL TERMINATION EXPERIENCE

This section of the report presents total termination rates, including both voluntary lapses and deaths. Since the data underlying the current study indicates that some companies may be incorrectly coding deaths as lapses, it is important to examine total termination rates as well as rates of voluntary lapsation. This will assist companies that may be pricing using a standard industry mortality table in combination with a separate lapse assumption to determine whether their total termination assumption is reasonable. In addition, the four participating companies whose data was excluded from the voluntary lapse analysis (due to the fact that they could not provide any information on the cause of termination) are included in the total termination results that follow.

## TOTAL TERMINATION RATES BY POLICY FORM

As with voluntary lapse experience, rates of total termination for long-term care insurance (LTCI) business continue to improve at all policy durations (Figure 20). The total termination rate for the current study is 6.5 percent, down from 9.5 percent for the experience period 1984–1999 underlying the most recent SOA LTC Experience Committee Intercompany Report.

**Figure 20 — Total Termination Rates by Policy Year**  
Individual and Group Plans Combined



Most likely due to differences in the average age of the buyer, individual and group LTCI business exhibit different patterns of total termination by policy year (Figure 21). While the group plans experience higher rates of termination in the early policy years, corresponding with their higher rates of voluntary lapsation, in the later policy years, group total termination experience levels off to approximately 4 percent. Total terminations for the individual plans begin to increase after policy year 6, when the older age of policyholders translates into a greater mortality impact.

**Figure 21 — Total Termination Rates by Policy Year: Individual Versus Group**

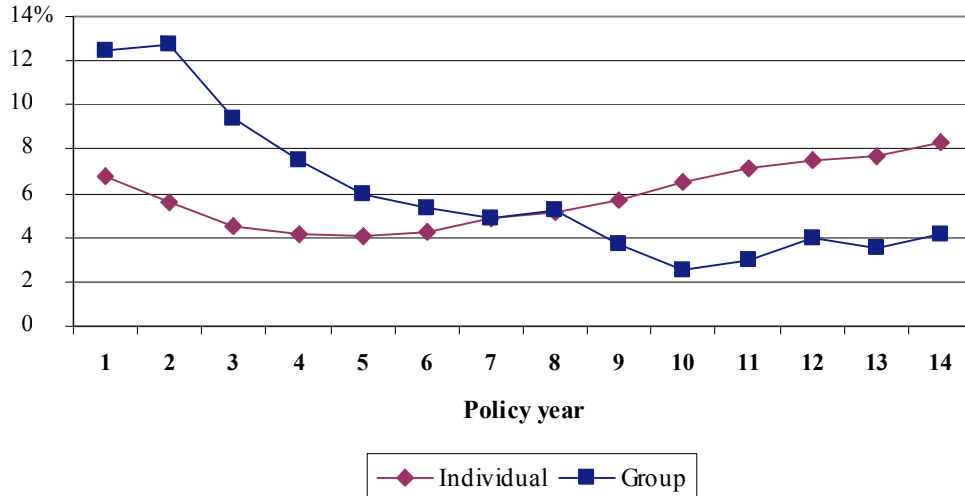
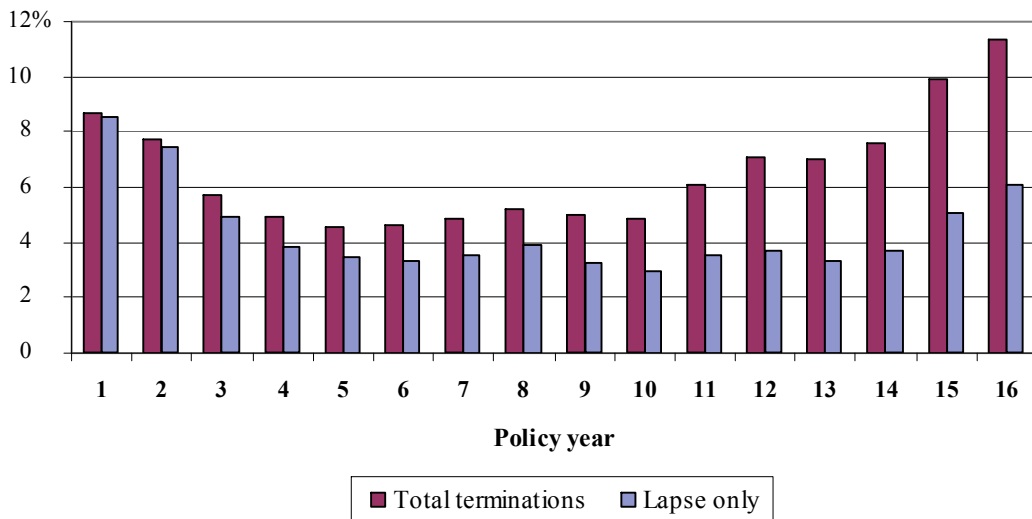


Figure 22 compares rates of total termination with rates of voluntary lapsation for the current study period. The difference between the two rates increases at the later durations, when mortality would be expected to have a more significant impact on terminations.

**Figure 22 — Voluntary Lapse and Total Termination Rates by Policy Year**  
All Plan Types Combined

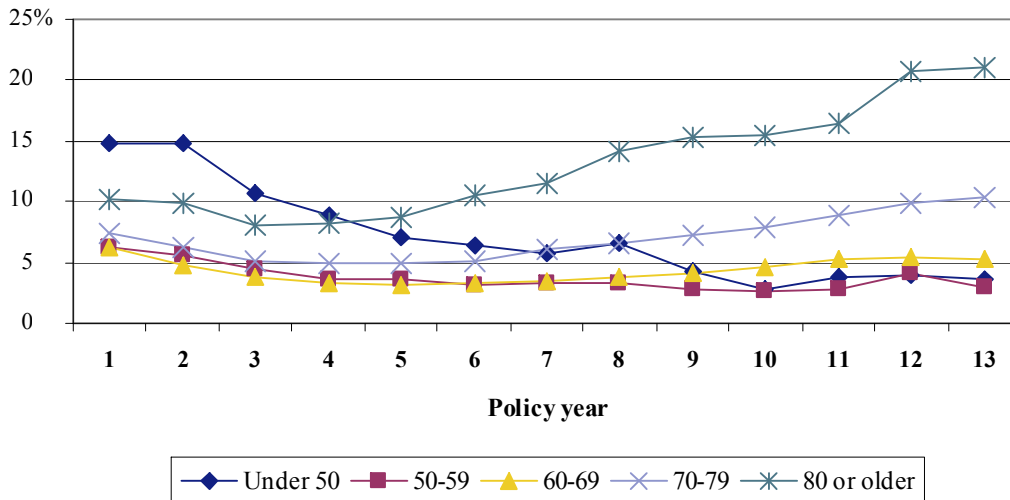


## TOTAL TERMINATION RATES BY AGE

Examining experience by issue age group, there is a more definite pattern of increasing total termination rates with increasing policy duration. Again, as deaths begin to make up a larger portion of the total terminations, more significant differences in experience by issue age group emerge (Figure 23).

**Figure 23 — Total Termination Rates by Issue Age Group and Policy Year**

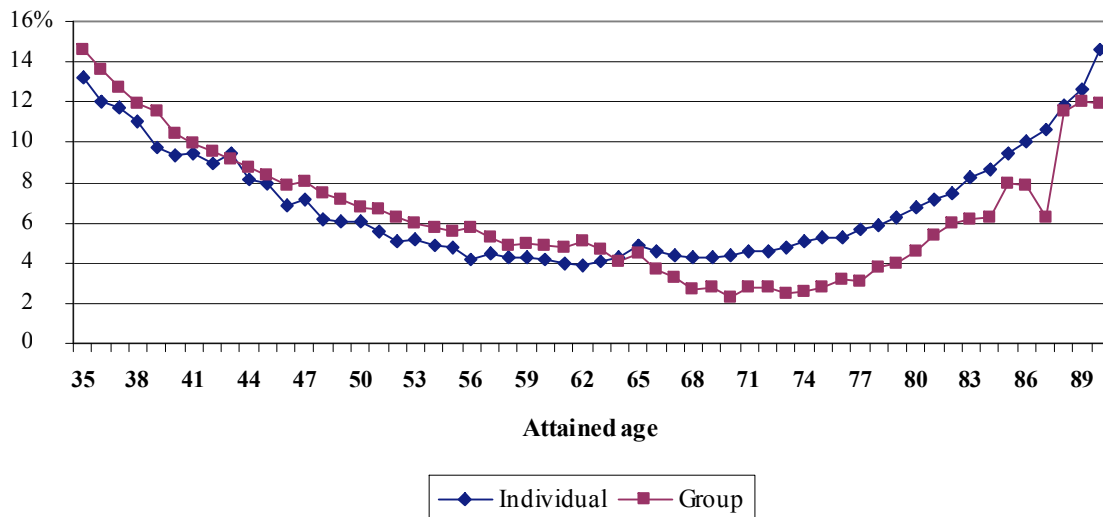
Individual and Group Plans Combined



Similar to the voluntary lapse results, total termination rates by attained age tend to decrease as age increases until approximately age 65. After this point, total termination rates begin to rise with the expected increases in mortality (Figure 24).

**Figure 24 — Total Termination Rates by Attained Age: Individual Versus Group Plans**

All Policy Years Combined



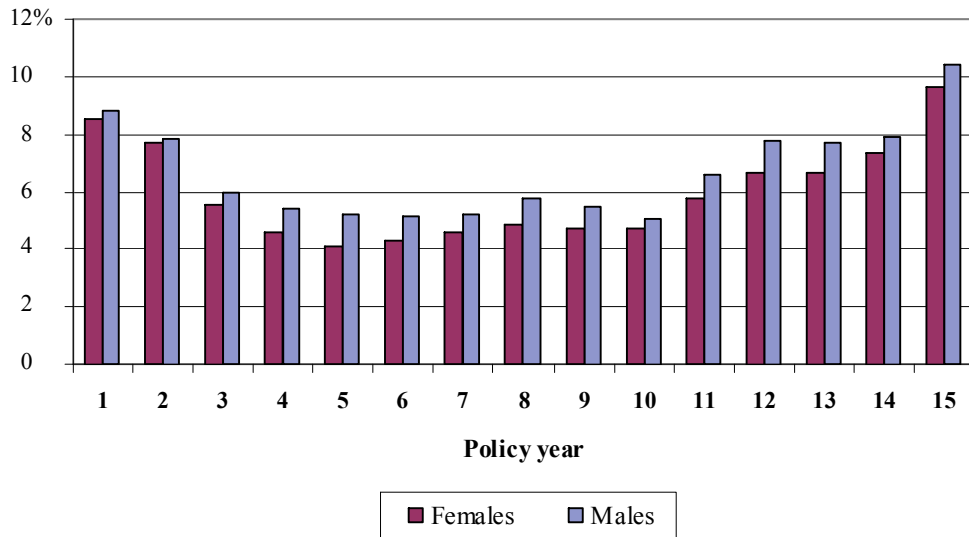


## TOTAL TERMINATION RATES BY GENDER

As in the case of voluntary lapse experience, total termination rates did not vary greatly by gender. For the 2000–2001 observation period, overall termination rates for females were 6.2 percent and overall lapse rates for males were 6.8 percent. Even in the later policy years, although males exhibited higher total termination rates, the variance is relatively small (Figure 25).

**Figure 25 — Total Termination Rates by Gender and Policy Year**

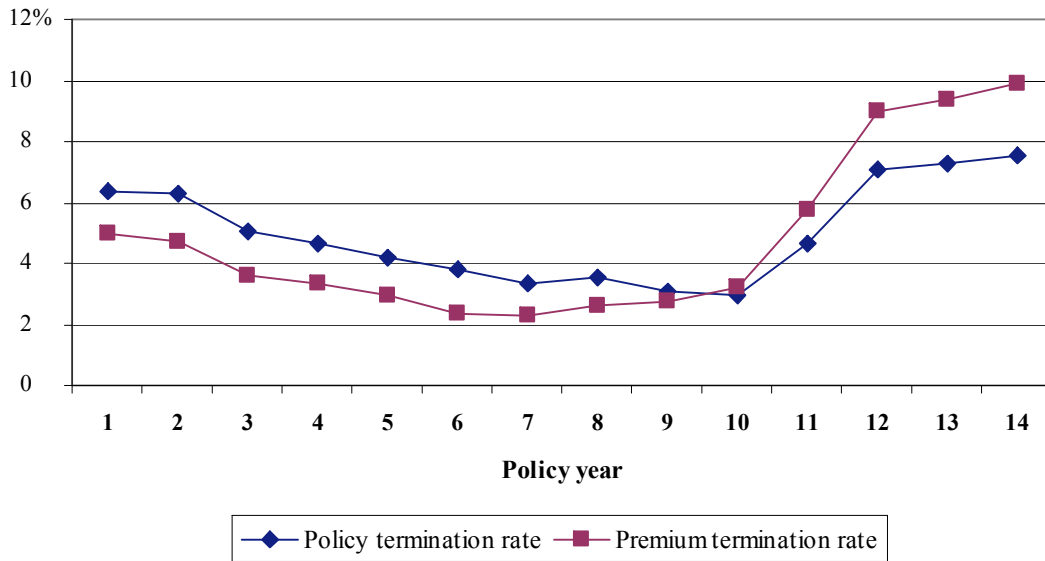
Individual and Group Plans Combined



## PREMIUM VERSUS POLICY TERMINATION RATES

Four participating companies were able to include premium data in their study submission. For these companies, rates of total termination by premium amount were compared with rates of total termination by policy (Figure 26). Premium termination rates are lower than policy termination rates through policy year 10, indicating that more of the less expensive policies are going off the books. This is consistent with the voluntary lapse results in the first section of the report that indicated LTCI policyowners with richer benefits were less likely to lapse. After policy year 10, when mortality becomes a larger factor in total termination experience, premium termination rates run higher than policy termination rates. This is likely due to deaths of older insureds, many with higher premium levels.

**Figure 26 — Total Termination Rates: By Number of Lives Versus Premium Level**  
Individual and Group Plans Combined



## RELATED LINKS

The following links are valid as of 2/20/04.

### LIMRA

#### *U.S. Individual Long-Term Care Insurance Sales (3<sup>rd</sup> quarter 2003)*

This quarterly report provides individual long-term care insurance sales data for 24 U.S. companies. Sales information is based on the number of new policies (lives) and premium written in the first three quarters of 2003.

<http://www.limra.com/abstracts/4373.asp>

#### *U.S. Group Long-Term Care Insurance Sales (3<sup>rd</sup> quarter 2003)*

This report provides quarterly sales and re-enrollment data for 16 of 30 survey participants that insure, self-insure, or administer employer-sponsored and association group long-term care insurance plans. Sales information is based on new groups, participants, and annualized premium written in the first three quarters of 2003. Re-enrollment data include new participation resulting from an active marketing campaign to existing employer-sponsored groups.

<http://www.limra.com/abstracts/4392.asp>

#### *Long-Term Care Insurance: Product Design Insights (2003)*

Much has been written about the slow pace of long-term care insurance sales; however, little of this has explored the potential role of product design. To address the issue, LIMRA International conducted two research studies, both of which are summarized in this report. The first involved a series of two focus groups with producers active in long-term care insurance sales, and the second was a modified Delphi study conducted among industry experts.

<http://www.limra.com/abstracts/4366.asp>

#### *Individual Long-Term Care Insurance Product Features (2003)*

This report provides sales information on various product features that were available on individual long-term care insurance policies in 2002. It also examines whether the feature was offered in the base policy or as an optional rider. The 24 participating carriers' sales represent over 80 percent of the individual LTCI market.

<http://www.limra.com/abstracts/4244.asp>

*Individual Long-Term Care Sales by Distribution Channel (2003)*

This report provides individual long-term care insurance sales by distribution channel for 32 U.S. companies. Of these, 25 contribute to the confidential Individual Long-Term Care Insurance Sales by Distribution Channel Survey, and LIMRA has estimated an additional seven carriers' methods of distribution. These participating companies represent over 95 percent of the individual LTCI market.

<http://www.limra.com/abstracts/4245.asp>

*Individual Long-Term Care Insurance Sales by Underwriting Class (2003)*

This report provides individual long-term care insurance sales by underwriting class for 25 U.S. companies. Participants provided their percentage of new 2002 individual policies (lives) and corresponding new premium that were issued with various rate classes. Data include rates for health underwriting only and exclude other discounts.

<http://www.limra.com/abstracts/4246.asp>

**Society of Actuaries**

*1984–1999 Long-Term Care Experience Committee's Intercompany Study*

This report is the third intercompany study of the Society of Actuaries Long-Term Care Experience Committee. It includes data gathered back to 1984 and contributed by 18 organizations (21 insurers). The report examines morbidity, mortality, and lapse experience for both group and individual long-term care plans.

[http://www.soa.org/sections/intercompany\\_study.html](http://www.soa.org/sections/intercompany_study.html)

# **PARTICIPATING COMPANIES**

Aetna

AFLAC

Bankers Life and Casualty

CNA

GE Financial Assurance

John Hancock

Medico Life

Mutual of Omaha

Mutual Protective

Northwestern Mutual Life Insurance Company

Southern Farm Bureau Life

State Farm

Thrivent Financial for Lutherans

UNUM Provident

# APPENDIX A: DETAILED EXPOSURE TABLES (VOLUNTARY LAPSE)

**Table A-1 — Voluntary Lapse Exposure by Policy Year and Policy Form\***

Policy year	Individual	Group	Total (all policy forms)
1	477,850	172,814	650,664
2	386,829	133,615	520,444
3	286,724	73,580	360,304
4	219,622	54,799	274,421
5	176,646	59,936	236,582
6	142,802	50,057	192,859
7	118,305	56,801	175,106
8	106,529	51,120	157,649
9	92,484	28,491	120,975
10	82,360	56,299	138,659
11	87,038	22,017	109,055
12	78,338	9,022	87,360
13	45,975	10,136	56,111
14	18,920	7,026	25,946
15	8,255		8,255
16	3,554		3,554
17	1,591		1,591
18	1,175		1,175
19	769		769
20	482		482
21	677		677
	<b>2,336,925</b>	<b>785,713</b>	<b>3,122,638</b>

\* Only durations with sufficient amounts of exposure are shown in Appendices A and B.  
Totals include all durations.

**Table A-2 — Voluntary Lapse Exposure by Policy Year and Issue Age Group**  
Individual and Group Plans Combined

<b>Policy year</b>	<b>Under 50</b>	<b>50–59</b>	<b>60–69</b>	<b>70–79</b>	<b>80–89</b>
1	132,738	153,372	212,003	126,640	25,909
2	99,996	111,375	176,599	112,048	20,419
3	53,060	64,214	134,609	92,991	15,421
4	37,040	43,383	106,474	75,959	11,559
5	35,216	40,090	90,916	61,583	8,775
6	29,875	28,359	77,650	49,881	7,091
7	35,515	26,241	67,102	40,426	5,821
8	28,540	25,555	63,299	35,194	5,061
9	15,263	17,993	52,635	30,846	4,239
10	29,677	24,624	50,616	30,196	3,542
11	9,401	13,370	50,997	32,339	2,942
12	3,798	8,090	43,873	29,271	2,321
13	2,728	5,312	27,613	18,980	1,473
14	4,351	2,243	10,430	8,326	593
15	2	134	3,871	4,044	204
16	2	34	1,516	1,924	78
17		26	664	866	33
18		24	526	601	24
19		15	345	395	14
20		7	207	259	9
21		16	339	314	9
	<b>517,202</b>	<b>564,477</b>	<b>1,172,284</b>	<b>753,083</b>	<b>115,537</b>

**Table A-3 — Voluntary Lapse Exposure by Policy Year and Attained Age Group**  
Group Plans Only

<b>Policy year</b>	<b>Under 50</b>	<b>50–59</b>	<b>60–69</b>	<b>70–79</b>	<b>80–89</b>
1	105,059	45,065	17,144	4,779	767
2	78,449	38,026	13,923	2,866	352
3	40,094	20,602	9,671	2,834	378
4	27,175	15,789	8,314	3,071	450
5	23,203	21,499	10,652	3,997	586
6	17,888	16,041	9,566	5,793	768
7	20,998	17,924	11,099	6,050	729
8	15,623	15,303	11,999	7,365	830
9	6,538	9,005	7,061	5,137	751
10	11,638	18,108	16,595	8,692	1,266
11	3,684	5,277	6,074	5,543	1,440
12	1,411	1,902	2,077	2,597	1,034
13	794	1,466	2,256	3,848	1,772
14	1,438	2,369	1,650	1,216	352
	<b>353,992</b>	<b>228,376</b>	<b>128,081</b>	<b>63,788</b>	<b>11,475</b>



**Table A-4 — Voluntary Lapse Exposure by Attained Age and Policy Form**

<b>Attained age</b>	<b>Individual</b>	<b>Group</b>
35	682	12,030
36	838	12,571
37	939	13,598
38	1,114	14,393
39	1,259	15,212
40	1,535	15,810
41	1,930	16,603
42	2,364	17,419
43	2,728	18,264
44	3,087	18,971
45	3,542	19,524
46	4,202	20,300
47	5,060	20,559
48	6,085	21,466
49	7,271	22,118
50	8,973	22,380
51	11,411	22,840
52	14,107	24,041
53	18,271	26,443
54	22,074	26,140
55	23,094	22,589
56	26,729	21,382
57	33,678	21,943
58	39,471	21,420
59	42,450	19,198
60	44,924	17,081
61	48,830	15,752
62	54,570	15,261
63	60,966	13,831
64	66,372	12,755
65	75,594	12,107
66	83,485	11,353
67	85,362	10,283
68	88,823	9,945
69	94,107	9,715
70	99,378	9,480

**Table A-4 — Voluntary Lapse Exposure by Attained Age and Policy Form (continued)**

<b>Attained age</b>	<b>Individual</b>	<b>Group</b>
71	101,469	8,599
72	100,972	8,229
73	101,315	7,414
74	98,622	6,901
75	95,547	6,129
76	93,152	5,381
77	87,395	4,695
78	80,923	3,777
79	76,940	3,184
80	71,514	2,732
81	60,677	2,210
82	52,814	1,471
83	46,923	1,318
84	39,325	987
85	33,275	705
86	26,934	537
87	20,786	414
88	16,044	311
89	12,508	246
90	9,523	134
	<b>2,311,963</b>	<b>690,151</b>

**Table A-5 — Voluntary Lapse Exposure by Policy Year and Gender**  
Individual and Group Plans Combined

<b>Policy year</b>	<b>Male</b>	<b>Female</b>
1	282,839	367,805
2	225,685	294,741
3	153,413	206,875
4	113,905	160,498
5	100,119	136,444
6	77,829	115,001
7	70,158	104,940
8	65,069	92,562
9	46,400	74,563
10	55,546	83,103
11	41,280	67,768
12	31,583	55,773
13	19,466	36,639
14	9,009	16,934
15	2,262	5,993
16	840	2,713
17	349	1,241
18	250	925
19	147	622
20	77	405
21	99	578
	<b>1,296,325</b>	<b>1,826,123</b>

**Table A-6 — Voluntary Lapse Exposure by Issue Age Group and Gender**  
Individual and Group Plans Combined

<b>Issue age</b>	<b>Male</b>	<b>Female</b>
Under 50	231,739	285,386
50–59	226,431	338,000
60–69	494,183	678,050
70–79	301,733	451,339
80 or older	42,221	73,316
	<b>1,296,307</b>	<b>1,826,091</b>

**Table A-7 — Voluntary Lapse Exposure by Elimination Period**

Individual and Group Plans Combined

<b>Elimination period</b>	<b>Lapse exposure</b>
No waiting period	130,079
15–20 days	79,484
30 days	186,060
60 days	144,913
90 days	627,282
100 days	172,481
Over 100 days	69,813

**Table A-8 — Voluntary Lapse Exposure by Policy Year and Lifetime Maximum Benefit (Limited Versus Unlimited Plans)**

Individual and Group Plans Combined

<b>Policy year</b>	<b>Plans with unlimited benefits</b>	<b>Plans with lifetime benefit limits</b>
1	171,725	423,663
2	145,080	334,913
3	97,292	230,051
4	50,205	195,993
5	26,510	181,663
6	22,127	140,848
7	21,897	123,961
8	19,444	113,050
9	13,987	83,808
10	9,751	104,406
11	9,173	77,585
12	10,883	55,042
13	11,029	29,206
14	7,882	9,922
15	4,475	3,731
	<b>621,460</b>	<b>2,107,842</b>

**Table A-9 — Voluntary Lapse Exposure by Policy Year and Lifetime Maximum Benefit  
(Maximum Defined as a Dollar Amount)**

Individual and Group Plans Combined

Policy year	Under \$100,000	\$100,000 – \$250,000	Over \$250,000
1	54,934	55,827	27,677
2	44,463	45,600	20,809
3	29,049	37,228	13,856
4	23,483	31,656	8,280
5	22,399	24,074	5,076
6	17,014	15,069	2,755
7	9,094	7,025	1,011
8	3,484	2,483	396
9	992	935	152
10	190	239	31
11	51	74	14
12	19	33	7
13	2	6	
14	1	2	
	<b>205,175</b>	<b>220,251</b>	<b>80,064</b>

**Table A-10 — Voluntary Lapse Exposure by Policy Year and Lifetime Maximum Benefit (Maximum Defined as Specified Number of Days)**

Individual and Group Plans Combined

Policy year	Up to 5 years	Over 5 years
1	166,637	118,588
2	141,942	82,099
3	100,720	49,198
4	97,230	35,344
5	98,762	31,352
6	76,186	29,824
7	78,940	27,891
8	77,414	29,273
9	51,402	30,327
10	70,885	33,061
11	39,143	38,303
12	22,241	32,742
13	13,687	15,511
14	4,782	5,140
15	2,117	1,614
	<b>1,042,088</b>	<b>560,267</b>

**Table A-11 — Voluntary Lapse Exposure by Policy Year and Level of Inflation Protection**

Individual and Group Plans Combined

<b>Policy year</b>	<b>None</b>	<b>Future purchase options</b>	<b>Automatic annual increase</b>
1	221,461	60,766	338,328
2	190,973	53,612	255,683
3	147,983	30,567	168,454
4	111,703	35,599	115,585
5	90,849	44,356	88,586
6	80,321	33,593	67,170
7	71,611	40,348	50,800
8	62,575	38,217	43,175
9	52,639	17,286	35,887
10	49,682	45,519	29,120
11	55,026	16,182	27,398
12	53,137	3,868	20,484
13	35,636	1,766	8,818
14	16,571		2,181
15	7,847		409
16	3,544		10
17	1,591		
18	1,175		
19	769		
20	482		
21	677		
	<b>1,256,252</b>	<b>421,679</b>	<b>1,252,088</b>

**Table A-12 — Voluntary Lapse Exposure by Policy Year and Marital Status at Issue**  
 Individual and Group Plans Combined

<b>Policy year</b>	<b>Married</b>	<b>Unmarried</b>
1	286,941	55,049
2	232,895	38,130
3	168,262	30,078
4	126,141	27,146
5	107,593	24,539
6	91,018	21,462
7	76,291	19,210
8	66,442	19,198
9	57,537	20,281
10	50,542	22,102
11	46,961	21,371
12	39,498	17,208
13	21,471	10,386
14	8,767	2,883
15	399	192
16	62	59
17	35	44
18	27	32
19	16	18
20	8	10
21	10	6
	<b>1,380,916</b>	<b>329,404</b>

**Table A-13 — Voluntary Lapse Exposure by Policy Year and Distribution Channel**

Individual and Group Plans Combined

<b>Policy year</b>	<b>Career/captive agents</b>	<b>Independent agents (brokers)</b>
1	120,994	18,021
2	100,033	22,977
3	67,354	16,022
4	60,886	9,603
5	60,680	3,254
6	45,614	755
7	51,581	758
8	50,498	857
9	26,107	2,038
10	49,432	2,477
11	18,307	5,017
12	5,225	8,146
13	3,019	6,306
14	357	1,562
	<b>660,087</b>	<b>97,793</b>



**Table A-14 — Voluntary Lapse Exposure by Policy Year and Underwriting Type**  
 Individual and Group Plans Combined

<b>Policy year</b>	<b>Full medical underwriting</b>	<b>Simplified and guaranteed issue</b>
1	424,639	138,827
2	341,989	112,618
3	254,758	62,126
4	205,140	41,441
5	171,604	41,888
6	146,317	27,152
7	128,179	31,850
8	118,155	27,802
9	98,276	10,308
10	91,600	33,326
11	87,502	12,556
12	70,720	8,413
13	37,790	9,346
14	11,581	7,339
15	3,781	4,475
16	2,115	1,439
17	1,553	38
18	1,175	
19	769	
20	482	
21	677	
	<b>2,198,802</b>	<b>570,944</b>

**Table A-15 — Voluntary Lapse Exposure by Policy Year and Risk Classification**

Individual and Group Plans Combined

Policy year	Standard	Preferred (discounted from standard)	Substandard
1	596,551	48,331	5,784
2	483,022	32,603	4,819
3	341,145	15,505	3,653
4	264,961	6,938	2,522
5	230,103	4,483	1,997
6	187,091	4,130	1,637
7	170,369	3,384	1,352
8	154,769	1,769	1,110
	<b>2,428,011</b>	<b>117,143</b>	<b>22,874</b>

**Table A-16 — Voluntary Lapse Exposure by Policy Year and Premium Payment Mode**

Individual and Group Plans Combined

Policy year	Annual	Semiannual	Quarterly	Monthly
1	192,877	39,603	67,925	338,701
2	165,465	32,502	51,781	261,280
3	123,976	23,917	35,222	172,002
4	95,034	18,847	27,483	128,539
5	77,495	16,064	24,663	114,511
6	62,737	13,173	21,875	92,712
7	52,708	11,325	19,603	89,346
8	49,107	10,951	19,258	76,681
9	44,315	10,460	18,515	46,432
10	40,210	9,804	16,993	67,281
11	42,800	9,916	17,935	36,871
12	39,406	8,591	16,493	21,583
13	23,182	4,709	9,300	18,454
14	8,982	1,945	4,984	9,653
15	3,273	677	1,904	2,364
16	1,333	255	1,156	801
17	559	95	762	174
18	416	85	559	115
19	282	56	348	82
20	204	29	189	60
21	301	60	230	87
	<b>1,024,662</b>	<b>213,064</b>	<b>357,178</b>	<b>1,477,729</b>

## APPENDIX B: DETAILED EXPOSURE TABLES (TOTAL TERMINATION)

**Table B-1 — Total Termination Exposure by Policy Year and Policy Form**

Policy year	Individual	Group	Total (all policy forms)
1	526,002	254,519	780,521
2	423,962	185,094	609,056
3	308,404	100,899	409,303
4	230,908	68,914	299,822
5	181,221	73,131	254,352
6	146,857	62,202	209,059
7	122,595	72,642	195,237
8	112,138	80,066	192,204
9	99,827	50,103	149,930
10	90,400	66,662	157,062
11	96,545	31,621	128,166
12	89,775	12,913	102,688
13	58,501	11,092	69,593
14	31,641	7,070	38,711
15	16,551		16,551
16	6,275		6,275
	<b>2,546,772</b>	<b>1,076,928</b>	<b>3,623,700</b>

**Table B-2 — Total Termination Exposure by Policy Year and Issue Age Group**  
Individual and Group Plans Combined

<b>Policy year</b>	<b>Under 50</b>	<b>50–59</b>	<b>60–69</b>	<b>70–79</b>	<b>80 or older</b>
1	186,532	188,408	224,373	126,383	25,855
2	136,895	132,618	183,372	110,182	20,337
3	73,583	74,656	135,450	89,052	15,094
4	47,987	47,575	103,836	71,657	11,220
5	44,285	43,191	86,421	57,223	8,427
6	37,859	31,537	73,865	46,355	6,875
7	45,649	30,347	65,554	38,503	5,732
8	45,287	33,837	66,523	35,637	5,223
9	27,338	24,744	58,089	32,924	4,527
10	36,388	27,840	55,523	32,928	3,835
11	15,839	16,358	56,725	35,745	3,306
12	6,517	10,063	50,190	33,125	2,761
13	3,405	6,733	34,680	22,831	1,939
14	4,359	3,107	18,083	12,130	1,028
15	2	435	8,909	6,705	499
16	2	112	3,042	2,917	202
17		30	779	1,026	63
18		26	539	639	24
19		15	360	417	15
20		7	214	280	10
21		16	354	348	9
	<b>711,927</b>	<b>671,655</b>	<b>1,226,881</b>	<b>757,007</b>	<b>116,981</b>

**Table B-3 — Total Termination Exposure by Attained Age and Policy Form**

<b>Attained age</b>	<b>Individual</b>	<b>Group</b>
35	1,178	16,630
36	1,340	17,715
37	1,528	19,405
38	1,698	20,517
39	1,877	21,679
40	2,180	22,802
41	2,670	24,001
42	3,118	24,992
43	3,488	26,154
44	3,858	27,113
45	4,413	28,049
46	5,189	29,123
47	6,203	29,698
48	7,211	31,001
49	8,585	31,931
50	10,508	32,242
51	13,125	32,863
52	16,201	34,250
53	20,751	37,190
54	24,893	37,170
55	25,792	32,267
56	29,324	29,923
57	36,747	30,396
58	42,840	29,896
59	45,885	26,703
60	48,393	23,517
61	52,546	21,465
62	58,644	20,481
63	65,531	18,461
64	71,149	16,753
65	81,362	15,738
66	90,116	14,628
67	91,881	13,067
68	94,982	12,342
69	100,559	11,959
70	105,895	11,526

**Table B-3 — Total Termination Exposure by Attained Age and Policy Form (continued)**

<b>Attained age</b>	<b>Individual</b>	<b>Group</b>
71	108,141	10,499
72	107,243	9,882
73	108,069	8,812
74	105,588	8,047
75	102,445	7,107
76	100,212	6,224
77	94,976	5,413
78	89,030	4,376
79	85,008	3,692
80	78,342	3,153
81	66,521	2,548
82	58,146	1,734
83	52,405	1,536
84	44,007	1,157
85	36,943	840
86	30,013	614
87	23,295	465
88	18,175	363
89	14,234	282
90	10,883	159
	<b>2,515,336</b>	<b>950,550</b>

**Table B-4 — Total Termination Exposure by Policy Year and Gender**  
Individual and Group Plans Combined

<b>Policy year</b>	<b>Male</b>	<b>Female</b>
1	337,555	442,942
2	262,869	346,170
3	174,025	235,263
4	124,868	174,936
5	108,220	146,112
6	85,158	123,873
7	78,792	116,437
8	80,396	111,790
9	59,203	90,714
10	63,291	93,761
11	49,117	79,043
12	37,253	65,430
13	24,056	45,531
14	13,185	25,522
15	4,797	11,754
16	1,565	4,710
17	412	1,485
18	264	963
19	158	648
20	83	428
21	112	615
	<b>1,505,379</b>	<b>2,118,127</b>

**Table B-5 — Total Termination Exposure for Exposed Lives  
With Associated Premium Data**

<b>Policy year</b>	<b>Exposure base (lives)</b>	<b>Exposure base (annualized premium)</b>
1	122,179	\$116,879,353
2	104,372	101,799,625
3	69,671	70,078,109
4	37,437	36,575,713
5	22,257	18,179,402
6	17,472	13,623,004
7	19,100	14,015,584
8	31,579	21,304,224
9	28,105	19,908,981
10	19,478	14,461,594
11	19,704	14,601,462
12	16,206	13,820,013
13	10,043	8,934,172
14	2,424	2,141,932
	<b>520,027</b>	<b>\$466,323,168</b>



# APPENDIX C: DETAILED VOLUNTARY LAPSE TABLES

**Table C-1 — Voluntary Lapse Rates by Policy Year and Policy Form**

Policy year	Individual	Group	Total (all policy forms)
1	6.2%	14.9%	8.5%
2	5.0	14.3	7.4
3	3.7	9.7	4.9
4	3.0	7.3	3.9
5	2.7	5.7	3.5
6	2.7	4.9	3.3
7	3.0	4.6	3.6
8	3.2	5.4	3.9
9	3.3	3.0	3.2
10	3.8	1.7	3.0
11	4.0	1.7	3.5
12	3.8	2.8	3.7
13	3.6	1.9	3.3
14	3.8	3.1	3.7
	<b>4.2%</b>	<b>8.9%</b>	<b>5.4%</b>

**Table C-2 — Voluntary Lapse Rates by Policy Year and Issue Age Group**  
Individual and Group Plans Combined

Policy year	Under 50	50–59	60–69	70–79	80–89
1	17.4%	6.3%	5.8%	6.7%	8.4%
2	16.6	5.5	4.4	5.7	8.2
3	11.3	4.0	3.3	4.1	5.5
4	8.9	3.2	2.7	3.4	4.5
5	7.1	3.3	2.3	3.0	4.6
6	6.4	2.7	2.4	3.0	5.2
7	5.9	2.8	2.5	3.5	6.0
8	7.5	2.9	2.7	3.4	6.6
9	4.2	2.3	2.9	3.5	6.3
10	2.5	1.9	3.1	3.6	6.7
11	3.3	2.5	3.5	3.8	7.0
12	4.4	3.6	3.2	3.9	8.0
13	3.6	2.3	2.7	4.0	8.7
14	4.2	1.4	2.5	4.8	11.5
	<b>11.6%</b>	<b>4.4%</b>	<b>3.6%</b>	<b>4.4%</b>	<b>6.8%</b>

**Table C-3 — Voluntary Lapse Rates by Policy Year and Attained Age Group**  
Group Plans Only

Policy year	Under 50	50–59	60–69	70–79	80–89
1	19.5%	8.7%	6.6%	3.5%	3.3%
2	18.9	8.6	6.7	3.1	2.6
3	13.1	6.6	5.2	2.0	4.0
4	10.0	5.3	4.4	2.1	3.1
5	8.1	5.0	3.4	1.3	2.4
6	7.9	4.3	2.9	1.1	2.7
7	6.7	4.5	3.2	1.1	2.1
8	9.2	5.7	2.8	1.2	2.8
9	4.7	3.7	1.9	1.0	2.7
10	3.6	1.8	0.9	0.7	1.7
11	5.8	1.2	0.8	0.7	1.7
12	6.2	3.5	2.2	1.1	2.8
13	6.5	1.8	1.6	0.7	2.8
14	5.6	3.8	1.8	0.9	2.6
	<b>14.3%</b>	<b>6.0%</b>	<b>3.7%</b>	<b>1.4%</b>	<b>2.5%</b>

**Table C-4 — Voluntary Lapse Rates by Attained Age and Policy Form**

<b>Attained age</b>	<b>Individual</b>	<b>Group</b>
35	13.3%	16.5%
36	12.3	15.7
37	12.9	14.7
38	11.0	13.3
39	9.2	13.0
40	9.7	12.0
41	9.6	11.1
42	8.0	10.5
43	9.2	10.0
44	7.9	9.7
45	7.4	9.4
46	6.6	8.7
47	6.8	8.9
48	5.8	8.2
49	5.6	7.7
50	5.5	7.6
51	5.1	7.1
52	4.7	6.7
53	4.7	6.3
54	4.4	5.8
55	4.4	5.8
56	4.0	5.8
57	4.1	5.2
58	4.0	4.8
59	3.9	4.8
60	3.9	4.7
61	3.7	4.4
62	3.6	4.8
63	3.6	4.2
64	3.9	3.6
65	4.3	3.9
66	4.1	2.9
67	3.9	2.4
68	3.7	2.0
69	3.7	1.8
70	3.8	1.4

**Table C-4 — Voluntary Lapse Rates by Attained Age and Policy Form (continued)**

<b>Attained age</b>	<b>Individual</b>	<b>Group</b>
71	3.8%	1.5%
72	3.8	1.3
73	3.8	1.2
74	4.0	1.4
75	4.0	1.3
76	3.9	1.2
77	4.1	1.0
78	4.1	1.6
79	4.2	1.8
80	4.4	1.8
81	4.4	2.3
82	4.5	2.0
83	4.7	1.9
84	4.8	2.7
85	4.9	1.7
86	4.8	3.9
87	5.0	1.9
88	5.2	3.9
89	5.5	5.3
90	6.1	2.2

**Table C-5 — Voluntary Lapse Rates by Policy Year and Gender**

Individual and Group Plans Combined

<b>Policy year</b>	<b>Male</b>	<b>Female</b>
1	8.7%	8.4%
2	7.5	7.4
3	5.0	4.8
4	4.2	3.6
5	4.0	3.1
6	3.7	3.1
7	3.8	3.4
8	4.3	3.6
9	3.3	3.2
10	2.8	3.1
11	3.6	3.5
12	3.6	3.7
13	3.1	3.4
14	3.3	3.8
	<b>5.6%</b>	<b>5.2%</b>

**Table C-6 — Voluntary Lapse Rates by Issue Age Group and Gender**

Individual and Group Plans Combined

<b>Issue age</b>	<b>Male</b>	<b>Female</b>
Under 50	12.0%	11.2%
50–59	4.6	4.3
60–69	3.7	3.6
70–79	4.5	4.4
80 or older	7.2	6.5

**Table C-7 — Voluntary Lapse Rates by Elimination Period**

Individual and Group Plans Combined

<b>Elimination period</b>	<b>Lapse rate</b>
No waiting period	4.4%
15–20 days	3.3
30 days	4.8
60 days	4.7
90 days	5.1
100 days	2.6
Over 100 days	2.0

**Table C-8 — Voluntary Lapse Rates by Policy Year and Lifetime Maximum Benefit (Limited Versus Unlimited Plans)**

Individual and Group Plans Combined

<b>Policy year</b>	<b>Plans with unlimited benefits</b>	<b>Plans with lifetime benefit limits</b>
1	6.5%	9.3%
2	7.0	7.4
3	5.1	4.6
4	4.1	3.6
5	3.1	3.4
6	2.6	3.1
7	3.1	3.4
8	2.9	3.8
9	3.3	3.1
10	3.6	2.9
11	3.3	3.7
12	3.8	3.9
13	3.6	3.6
14	3.9	3.7
	<b>5.4%</b>	<b>5.4%</b>

**Table C-9 — Voluntary Lapse Rates by Policy Year and Lifetime Maximum Benefit  
(Maximum Defined as a Dollar Amount)**

Individual and Group Plans Combined

Policy year	Under \$100,000	\$100,000 – \$250,000	Over \$250,000
1	22.1%	11.3%	5.9%
2	21.3	8.8	5.8
3	10.6	5.9	2.8
4	7.7	4.7	2.9
5	6.4	3.7	2.5
6	7.1	3.4	2.8
7	7.1	4.0	3.1
8	8.1	3.3	1.5
9	7.4	4.2	0.7
	<b>14.7%</b>	<b>7.2%</b>	<b>4.6%</b>

**Table C-10 — Voluntary Lapse Rates by Policy Year and Lifetime  
Maximum Benefit (Maximum Defined as Specified Number of Days)**

Individual and Group Plans Combined

Policy year	Up to 5 years	Over 5 years
1	7.8%	5.4%
2	5.4	3.0
3	3.5	2.5
4	2.7	2.6
5	3.0	2.2
6	2.5	2.3
7	3.1	2.7
8	3.9	3.2
9	2.7	3.7
10	2.2	4.3
11	2.8	4.6
	<b>4.1%</b>	<b>3.6%</b>

**Table C-11 — Voluntary Lapse Rates by Policy Year and Level of Inflation Protection**  
Individual and Group Plans Combined

Policy year	None	Future purchase options	Automatic annual increase
1	13.0%	6.4%	6.6%
2	11.2	6.6	5.1
3	6.8	4.5	3.6
4	5.3	3.4	2.9
5	4.4	4.1	2.5
6	4.2	3.0	2.6
7	4.0	3.7	3.1
8	3.9	5.0	3.3
9	3.4	2.2	3.9
10	3.0	1.2	5.5
11	2.9	0.8	6.5
12	2.9	1.6	6.2
13	3.0	1.9	6.3
14	4.0	6.4	2.8
	<b>7.0%</b>	<b>4.1%</b>	<b>4.7%</b>

**Table C-12 — Voluntary Lapse Rates by Policy Year and Marital Status at Issue**  
Individual and Group Plans Combined

Policy year	Married	Unmarried
1	5.7%	8.3%
2	4.1	5.0
3	3.3	3.4
4	2.7	2.5
5	2.4	2.7
6	2.2	3.6
7	2.4	4.7
8	2.4	6.2
9	2.1	6.8
10	2.4	7.8
11	2.3	9.0
12	2.0	8.8
13	1.8	6.6
14	2.5	4.7
	<b>3.5%</b>	<b>5.8%</b>



**Table C-13 — Voluntary Lapse Rates by Policy Year and Distribution Channel**  
Individual and Group Plans Combined

Policy year	Career/captive agents	Independent agents (brokers)
1	4.4%	4.4%
2	4.6	6.8
3	2.8	4.8
4	2.6	3.0
5	3.3	3.2
6	2.4	8.2
7	3.1	6.3
8	4.0	5.6
9	1.6	4.3
10	1.2	2.5
11	0.8	2.9
12	1.4	3.8
	<b>3.2%</b>	<b>4.7%</b>

**Table C-14 — Voluntary Lapse Rates by Policy Year and Underwriting Type**  
Individual and Group Plans Combined

Policy year	Full medical underwriting	Simplified and guaranteed issue methods
1	6.7%	17.2%
2	5.3	16.3
3	3.9	10.8
4	3.2	8.6
5	2.9	7.2
6	2.8	6.9
7	3.1	5.8
8	3.3	7.0
9	3.2	4.2
10	3.5	1.4
11	3.8	1.3
12	3.7	3.8
13	3.5	3.7
14	3.8	4.0
	<b>4.3%</b>	<b>11.1%</b>

**Table C-15 — Voluntary Lapse Rates by Policy Year and Risk Classification**

Individual and Group Plans Combined

Policy year	Standard	Preferred (discounted from standard)	Substandard
1	8.9%	5.0%	5.9%
2	7.6	5.3	4.9
3	5.0	2.7	4.0
4	3.9	1.9	3.6
5	3.5	1.0	3.8
6	3.3	1.7	4.0
7	3.6	1.2	5.4
8	3.9	1.1	4.8
	<b>5.9%</b>	<b>4.2%</b>	<b>4.7%</b>

**Table C-16 — Voluntary Lapse Rates by Policy Year and Premium Payment Mode**

Individual and Group Plans Combined

Policy year	Annual	Semiannual	Quarterly	Monthly
1	3.2%	5.3%	9.2%	11.4%
2	3.9	3.7	5.7	10.1
3	2.8	3.2	4.3	6.5
4	2.3	2.8	3.4	5.1
5	2.2	2.1	3.0	4.5
6	2.1	2.0	3.2	4.1
7	2.5	2.9	3.4	4.2
8	2.7	2.9	3.5	4.8
9	3.1	3.0	3.6	3.3
10	3.5	3.9	4.4	2.1
11	3.7	3.9	4.5	2.7
12	3.4	3.9	4.6	3.1
13	3.2	4.1	4.5	2.5
14	3.1	3.4	4.1	3.8
	<b>3.1%</b>	<b>3.6%</b>	<b>5.1%</b>	<b>7.1%</b>

## APPENDIX D: DETAILED TOTAL TERMINATION TABLES

**Table D-1 — Total Termination Rates by Policy Year and Policy Form**

Policy year	Individual	Group	Total (all policy forms)
1	6.8%	12.5%	8.6%
2	5.6	12.7	7.7
3	4.5	9.4	5.7
4	4.1	7.5	4.9
5	4.0	5.9	4.6
6	4.3	5.4	4.6
7	4.8	4.9	4.8
8	5.2	5.3	5.2
9	5.7	3.7	5.0
10	6.5	2.5	4.8
11	7.1	3.0	6.1
12	7.5	4.0	7.1
13	7.7	3.6	7.0
14	8.3	4.1	7.6
15	9.9		9.9
16	11.3		11.3
	<b>5.6%</b>	<b>8.5%*</b>	<b>6.5%</b>

\* The total termination rate for group plans is lower than the voluntary lapse rate only. This is due to the fact that the total termination data include an additional company that could not provide any breakdown of terminations by cause. In addition, the total termination base for the individual plans includes three companies not included in the voluntary lapse analysis.

**Table D-2 — Total Termination Rates by Policy Year and Issue Age Group**  
Individual and Group Plans Combined

<b>Policy year</b>	<b>Under 50</b>	<b>50–59</b>	<b>60–69</b>	<b>70–79</b>	<b>80 or older</b>
1	14.8%	6.3%	6.2%	7.5%	10.1%
2	14.8	5.6	4.7	6.3	9.8
3	10.7	4.4	3.8	5.1	8.0
4	8.9	3.7	3.3	4.9	8.2
5	7.1	3.6	3.1	4.9	8.8
6	6.5	3.1	3.3	5.2	10.6
7	5.8	3.2	3.5	6.1	11.6
8	6.6	3.3	3.7	6.6	14.2
9	4.4	2.7	4.1	7.3	15.3
10	2.9	2.6	4.7	7.9	15.4
11	3.8	2.9	5.3	8.9	16.5
12	3.9	4.2	5.5	9.8	20.8
13	3.6	3.0	5.2	10.3%	21.0
	<b>10.5%</b>	<b>4.7%</b>	<b>4.5%</b>	<b>6.8%</b>	<b>11.0%</b>

**Table D-3 — Total Termination Rates by Attained Age and Policy Form**

<b>Attained age</b>	<b>Individual</b>	<b>Group</b>
35	13.2%	14.6
36	12.0	13.6
37	11.7	12.7
38	11.0	11.9
39	9.7	11.5
40	9.3	10.5
41	9.4	9.9
42	9.0	9.5
43	9.4	9.1
44	8.2	8.7
45	8.0	8.4
46	6.8	7.8
47	7.2	8.1
48	6.1	7.4
49	6.1	7.1
50	6.1	6.8
51	5.6	6.6
52	5.1	6.2
53	5.1	6.0
54	4.8	5.7
55	4.8	5.6
56	4.2	5.8
57	4.5	5.3
58	4.3	4.9
59	4.2	5.0
60	4.1	4.8
61	4.0	4.7
62	3.9	5.0
63	4.1	4.7
64	4.3	4.1
65	4.8	4.5
66	4.6	3.6
67	4.4	3.2
68	4.2	2.7
69	4.3	2.8
70	4.4	2.2

**Table D-3 — Total Termination Rates by Attained Age and Policy Form (continued)**

<b>Attained age</b>	<b>Individual</b>	<b>Group</b>
71	4.6%	2.8%
72	4.6	2.7
73	4.8	2.4
74	5.1	2.5
75	5.3	2.8
76	5.3	3.2
77	5.6	3.0
78	5.9	3.8
79	6.3	4.0
80	6.7	4.6
81	7.1	5.3
82	7.5	5.9
83	8.3	6.2
84	8.7	6.3
85	9.4	8.0
86	10.1	7.8
87	10.7	6.2
88	11.9	11.6
89	12.6	12.1
90	14.6	11.9

**Table D-4 — Total Termination Rates by Policy Year and Gender**  
Individual and Group Plans Combined

Policy year	Male	Female
1	8.8%	8.5%
2	7.9	7.7
3	6.0	5.5
4	5.4	4.6
5	5.2	4.1
6	5.1	4.3
7	5.2	4.6
8	5.8	4.8
9	5.5	4.7
10	5.0	4.7
11	6.6	5.8
12	7.7	6.7
13	7.7	6.7
14	7.9	7.4
15	10.4	9.7
	<b>6.8%</b>	<b>6.2%</b>

**Table D-5 — Total Termination Rates Based on Lives Versus Premium**  
Individual and Group Plans Combined

Policy year	Termination rates (based on number of lives exposed)	Termination rates (based on premium exposed)
1	6.3%	5.0%
2	6.3	4.7
3	5.0	3.6
4	4.6	3.4
5	4.2	2.9
6	3.8	2.4
7	3.3	2.3
8	3.5	2.6
9	3.1	2.7
10	3.0	3.2
11	4.7	5.8
12	7.1	9.0
13	7.2	9.4
14	7.5	9.9
	<b>5.3%</b>	<b>4.3%</b>

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