

# U.S. INDIVIDUAL LIFE INSURANCE PERSISTENCY UPDATE

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



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## EXECUTIVE SUMMARY

This report presents the results of the most recent study of individual life insurance lapse experience in the United States conducted jointly by LIMRA International and the Society of Actuaries (SOA). The observation period for the study is calendar years 2003 and 2004. The study is based on data provided by 43 individual life insurance writers and it presents lapse experience for whole life, term life, universal life, and variable universal life plans issued between 1902 and 2004. This report includes results for most key policy and product factors. An Excel spreadsheet containing the supporting information for each figure and table is also available.

This study represents a significant step forward in terms of data detail. A great deal of effort was expended working with contributors to improve the amount of information provided for each policy submitted. We believe that effort was well spent in that the current study includes new data fields that allow for increased analysis of lapse experience.

**As a major addition to this and future reports, we now have more extensive information on lapses for term products by level premium guarantee period.** It should be noted that policies that have reached the end of the level premium guarantee during the experience period of the current study were priced in the pre-Regulation XXX environment. Many of these products were not designed and priced with the same post-guarantee period premium increases that we see in today's term offerings. Therefore, lapse rates at the end of the level premium period may be higher in the future than results shown in the current study.

### Highlights from the report include:

- For all individual life insurance products combined, early policy year lapses have dropped to a 10-year low. This is driven in large part by the lower early year lapse rates on level premium term plans and the fact that over time they continue to represent a larger portion of the total inforce business.
- The overall lapse rate for whole life plans for all product types and policy years combined was 3.5 percent on a policy basis and 4.4 percent on a face amount basis in 2003 and 2004, down from 3.9 percent and 5.8 percent respectively for the period 2001-2002. Although first year lapse rates have increased slightly in recent years, at most durations lapse rates are at levels similar to or lower than the past.
- Total lapse rates for term insurance for all products and all policy years combined was 7.0 percent on a policy basis and 6.2 percent on a face amount basis, a decrease of 3.2 percentage points on a policy basis and 4.1 percentage points on a face amount basis from the 2001-2002 report. At the same time, term lapse rates have increased for policies in years 11 and later, reflecting the impact of “shock” lapse rates for level premium term plans (rates of lapse on policies at the end of the guaranteed level premium period).

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- Shock lapse rates for level premium term plans ranged from an average of 14 percent for 5 year term to 40 percent for 10 year level premium term and 30 percent for 15 year level premium term on a policy basis.
- On a policy basis, the overall lapse rate for universal life products for all policy years combined declined to 4.6 percent from 5.3 percent in 2001-2002. There has been a modest reduction in lapse rates at all policy durations versus the 2001-2002 timeframe.
- The overall lapse rate for variable universal life plans covered by the current study was 5.7 percent on a policy basis (down from 8.5 percent during calendar years 2001-2002) and 6.4 percent on a face amount basis (down from 8.8 percent during calendar years 2001-2002). Lapse rates have reduced from levels seen during 2001-2002, but have not decreased to levels that were seen in the mid-1990s.

## **RECOMMENDATIONS**

The data contained in this report can help companies identify factors that impact individual life insurance persistency. However, study participants do not represent the entire industry and differences in results by company can vary 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 organizations and current study participants.

To aid the reader in interpreting the information contained in this report, an Excel spreadsheet that provides exposure and lapse information by policy factor and data cell is also available.

## METHODOLOGY

For purposes of this report, lapse includes termination for nonpayment of premium, insufficient cash value, or full surrender of a policy, transfer to reduced paid-up or extended term status, and in most cases, terminations for unknown reason. This is consistent with the definition of lapse applied for other LIMRA and Society of Actuaries experience studies and allows for better comparison of results over time.

The observation period for the study is calendar years 2003 and 2004. Participants were asked to provide 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 industry results would be unduly skewed, the lapse rates shown are based on 100 percent of policies submitted.

It should be noted that not all participants in the study contributed data for their entire in force block including all subsidiaries, product lines and experience years. In addition, several companies were not able to provide data for all policy and product factors requested. Therefore care should be taken in interpreting results. The number of companies contributing to each lapse factor examined is indicated in the appropriate report section.

The data underlying this report was collected on a policy level (seriatim) basis as this allows for a more detailed analysis of the factors influencing lapse results than studies conducted on an aggregated data basis.

Lapse rates are calculated as follows:

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

The number of policies exposed to lapse is based on the length of time the policy is exposed to the risk of lapsation during the year. Lapses contribute exposure for the full 12 months. Terminations due to death, expiry, maturity or conversion are not included in the amounts lapsing and contribute to exposure for only the fraction of the year they were in force.

Industry lapse rates are calculated as a weighted average of the experience of all contributing companies, so companies with larger in-force blocks will affect the overall results more than companies with smaller in-force blocks. However, results for each policy factor analyzed are also examined by company to insure that reported experience is not unduly affected by one or more large participant blocks.

Lapse rates are not reported for any data cell for which there were fewer than three companies *and* 1000 policies exposed.

Experience is reported exactly as calculated. No attempt was made to graduate or smooth results.

## DATA DESCRIPTION AND QUALITY CONTROL

### DATA DESCRIPTION

Data supporting the results of this study was collected jointly with the Society of Actuaries Individual Life Insurance Experience Committee annual data calls. Both mortality and lapse studies of individual life insurance products are based on these industry-wide data collection efforts.

The number of contributors has nearly doubled since the previous Individual Life Insurance Persistency Update (from 22 participants for the 2001-2002 report to 43 participants in the current report) with over \$8 trillion in face amount exposed.

Of the 43 individual life insurance writers in this study, 36 provided whole life data, 39 provided term data, 36 provided universal life data, and 21 submitted variable universal life data. Participating companies are listed in Appendix A of this report. Tables 1 and 1A below show the policy and face amount exposure by issue year cohort for each product line included in the study sample. Note that a few participants did not submit in force for all affiliated companies, all product lines and observation years.

Table 1  
Study Data — Policy Exposure by Issue Year

Issue year	Whole life (36 cos.)	Term life (39 cos.)	Universal life (36 cos.)	Variable universal life (21 cos.)	Total
Pre 1989	21,077,313	1,231,378	3,506,660	717,604	26,532,955
1989–1993	3,830,228	1,688,797	2,437,096	1,296,309	9,252,430
1994–1996	1,687,078	1,950,819	1,344,326	1,010,692	5,992,915
1997	455,115	1,020,606	411,402	342,374	2,229,497
1998	422,218	1,148,973	357,775	351,654	2,280,620
1999	443,408	1,928,156	339,480	351,816	3,062,860
2000	404,772	1,447,186	300,941	382,328	2,535,227
2001	457,995	1,458,620	384,167	333,794	2,634,576
2002	508,110	1,882,277	522,903	263,806	3,177,096
2003	472,393	1,602,711	477,385	180,191	2,732,680
2004	80,018	413,881	121,216	46,460	661,575
<b>Total</b>	<b>29,838,648</b>	<b>15,773,404</b>	<b>10,203,351</b>	<b>5,277,028</b>	<b>61,092,431</b>

*U.S. Individual Life Insurance Persistency Update*

Table 1A  
Study Data — Face Amount Exposure by Issue Year (000's)

<b>Issue year</b>	<b>Whole life (36 cos.)</b>	<b>Term life (39 cos.)</b>	<b>Universal life (36 cos.)</b>	<b>Variable universal life (21 cos.)</b>	<b>Total</b>
Pre 1989	352,993,236	\$98,891,125	273,818,986	73,438,993	799,142,340
1989–1993	294,967,128	\$270,246,263	246,799,069	162,583,084	974,595,544
1994–1996	141,377,673	\$422,414,025	176,366,613	152,632,156	892,790,467
1997	39,363,974	\$258,633,671	61,386,988	64,573,267	423,957,900
1998	35,205,906	\$319,829,969	65,572,367	76,550,365	497,158,607
1999	37,711,511	\$652,457,480	65,487,109	93,676,092	849,334,191
2000	46,834,693	\$471,829,895	62,016,636	108,306,519	688,987,743
2001	57,682,393	\$511,893,646	75,238,131	96,244,592	741,058,762
2002	71,209,783	\$743,514,330	111,293,842	84,958,806	1,010,978,763
2003	65,740,501	\$673,268,505	111,123,097	57,616,031	907,976,761
2004	13,561,713	\$170,629,977	26,616,106	14,638,628	225,446,424
<b>Total</b>	<b>1,156,648,511</b>	<b>4,593,608,886</b>	<b>1,275,718,944</b>	<b>985,218,533</b>	<b>8,011,194,874</b>

Based on a comparison with the results of LIMRA’s Annual Individual Life Insurance In Force Survey, the current study exposure database provides a reasonable representation of the industry in terms of face amount and policy exposure distribution by product line (Table 1B). The Individual Life Insurance In Force Survey collects data on policies, premium and face amount in force by product line.

Table 1B  
Study Exposure vs. Industry In-Force — Distribution by Product Line

<b>Product Line</b>	<b>LIMRA Individual Life Insurance Annual In Force Surveys</b>		<b>Current Study Exposure Base</b>	
	<b>Policies</b>	<b>Face Amount</b>	<b>Policies</b>	<b>Face Amount</b>
Whole Life	59.7%	19.5%	48.8%	14.5%
Term	23.2	54.0	25.8	57.3
UL	13.0	15.3	16.8	15.9
VUL	4.1	11.2	8.6	12.3
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

The following is a brief description of the exposure data characteristics by plan (product line).

#### Whole Life

- Less than 10 percent of the policy exposure was in the first five policy years.
- 40 percent of the policy exposure is in policy year 30 or later.
- The average face amount exposed is \$39,000 for all whole life business included in the current study.
- The average face amount exposed for new issues included in the current study is \$143,000.
- Male insureds represent 56 percent of the policy exposure.
- Non smokers represent 77 percent of the policy exposure.
- The average issue age of all whole life insureds is 28. The average issue age for policies in their first year is 31.
- The average attained age of all whole life insureds is 53.

#### Term

- For contributions that identified term policies by plan, the term policy exposure base is 27 percent yearly renewable term (YRT), 4 percent 5-year term, 27 percent 10-year level premium term, 13 percent 15-year level premium term and 29 percent 20-year level premium term.
- For YRT, 5 year term, 10 year level premium term, 15 year level premium term and 20 year level premium term, 16, 7, 23, 25, and 37 percent of the exposure respectively is in the first two policy years.
- The average face amount exposed is \$291,000 for all the term business.
- The average face amount exposed for new issues is \$415,000.
- Across all term plans, male insureds represent between 55 and 63 percent of policy exposure.
- For companies that provided smoker class data, across all term plans, non smokers represent between 88 and 93 percent of the policy exposure.
- The average issue age of term insureds is 39. The average issue age for policies in their first year is 41.
- The average attained age of all term insureds is 46.

#### Universal Life

- 10 percent of the policy exposure is in the first two policy years.
- Over 40 percent of the policy exposure is in the first 10 policy years.
- The average face amount exposed is \$126,000 for universal life business.
- The average face amount exposed for new issues is \$234,000.
- Male insureds represent 57 percent of policy exposure.
- Non smokers represent 85 percent of the policy exposure.
- The average issue age of all in-force universal life insureds is 35. The average issue age for policies in their first policy year is 42.
- The average attained age of all in-force universal life insureds is 46.

### Variable Universal Life

- Nine percent of the policy exposure is in the first two policy years.
- Sixty-two percent of the policy exposure is in the first 10 policy years.
- The average face amount exposed is \$187,000.
- The average face amount exposed for new issues is \$322,000.
- Male insureds represent 60 percent of policy exposure.
- Non smokers represent 86 percent of the policy exposure.
- The average issue age of all variable universal life insureds 35. The average issue age for policies in the first year is 36.
- The average attained age of all variable universal life insureds is 44.

## DATA QUALITY CHECKS

For quality control purposes the following checks were performed for each individual company data submission.

- **Total Record Count by Experience Year** — For each company, the total number of policy records and the associated total face amount submitted for each study experience year is compared to A.M. Best annual statement information to determine whether the participating carrier had provided a full or partial in force sample.
- **Total Record Count by Product Line (by Plan)** — For each company, the total in force policy records and associated face amount were sorted by plan and then compared to LIMRA Annual In Force Survey results. LIMRA’s Annual In-Force Surveys show total policies, face amount and annual premium in force for each year by major product line. Any discrepancies by plan were then investigated and reconciled.
- **New Issue Record Counts (by Plan)** — For each company, the number of newly issued policies submitted and the total associated face amount were sorted by plan and then compared to LIMRA Annual Sales Report results. LIMRA Annual Sales Surveys collect total policies, premium and face amount sold by calendar year. Again, any discrepancies by plan were investigated and reconciled.
- **Total Lapse Ratios** — For each participating company, an overall “raw lapse ratio” is calculated using the termination cause data. The overall “raw lapse ratio” is equal to the number of records lapsed or surrendered in a given experience year data submission divided by the total number of records submitted for a given experience year. This lapse ratio is then compared to A.M. Best annual statement lapse ratios. Any significant differences are discussed with company contacts.



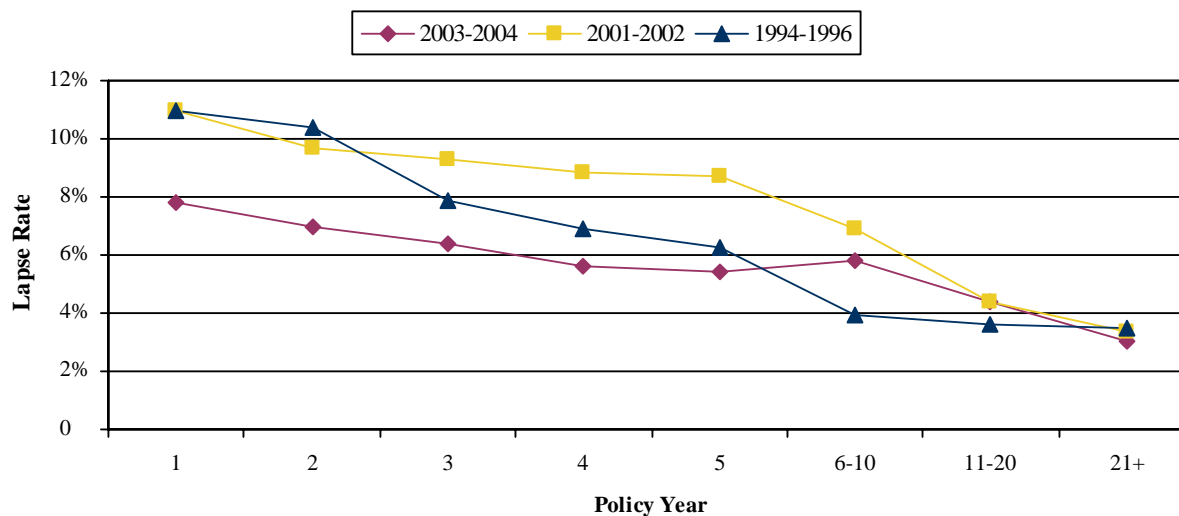
- **Total Lapse Rates by Company and by Product (Plan)** — For each company data submission, lapse rates are calculated by plan and policy year and then compared to results from the previous study, if available. Differences are noted and discussed with individual company data contacts.
- **Lapse Rates by Product (Plan) and Policy Year** — Each participating company is provided with a spreadsheet showing lapse rates by plan and policy year. The data contacts are asked to review the results and report any discrepancies between the industry study and their own organization's experience study work.

## OVERALL RESULTS

This report presents the results of the most recent study of individual life insurance lapse experience in the United States conducted jointly by LIMRA International and the Society of Actuaries. The observation period for the study is calendar years 2003 and 2004. The study is based on data provided by 43 individual life insurance companies and presents lapse experience for whole life, term, universal life, and variable universal life insurance plans issued between 1902 and 2004. This report includes results for most key policy and product factors. *An Excel spreadsheet containing the supporting source lapse rates for each figure is also available.*

For all individual life insurance products combined, early policy year lapses have dropped to a 10-year low (Figure 1). This is driven at least in part by lower early year lapse rates on level premium term plans. It should be noted that some of the variation in lapse experience between exposure periods can be attributed to differences in the underlying data contributors. However, the trends in experience, for individual life insurance policies in total and by product line, were examined for all contributors as well as separately for just those companies that participated in both the 2001-2002 study and the 2003-2004 study. Changes in lapse results for the companies included in both studies are in line with the results including all participants. Therefore, the impact of differences in contributors appears to be relatively minor.

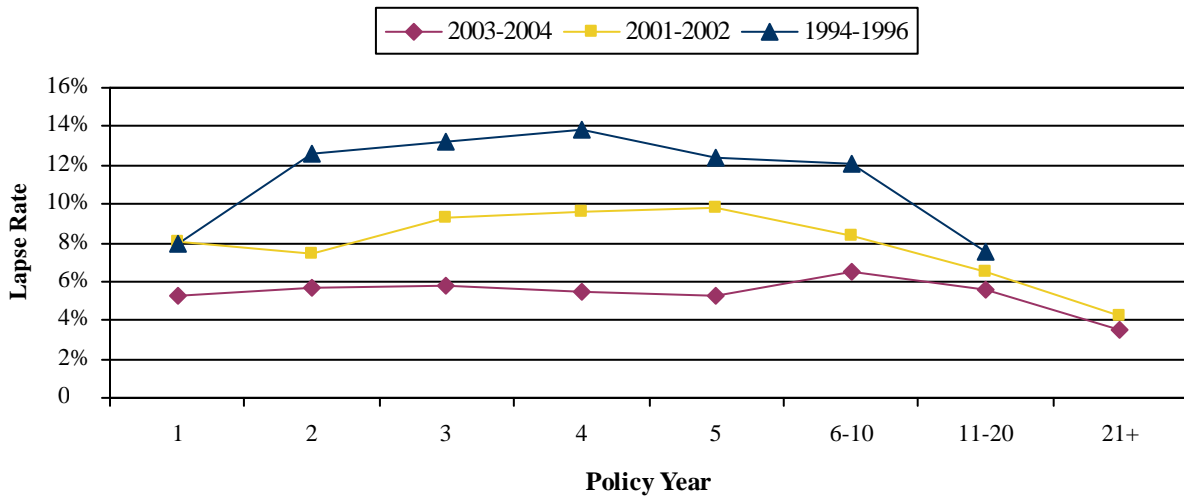
Figure 1  
Trend in Individual Life Insurance Policy Lapse Rates



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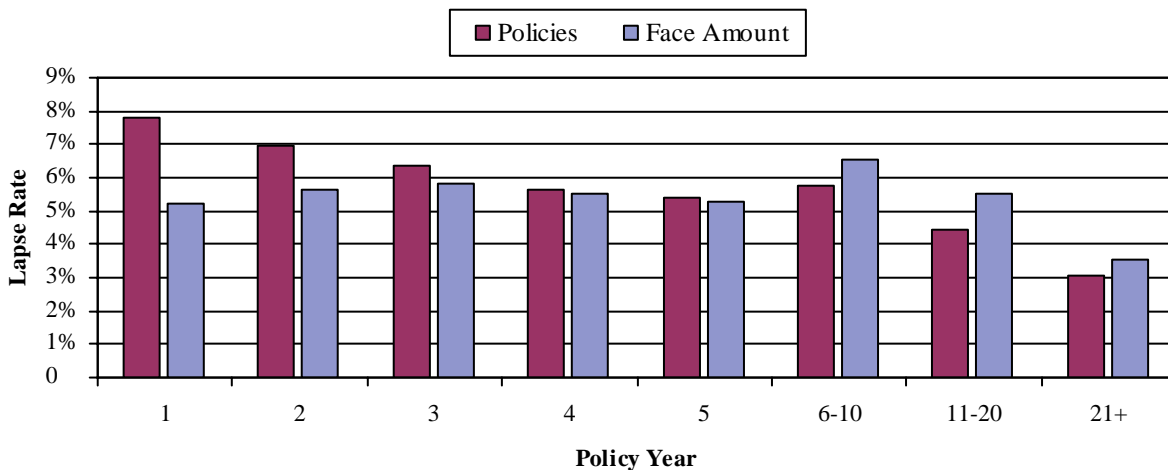
On a face amount basis, lapse rates have dropped even more significantly over the past ten years. During 2003 and 2004, total individual life lapse rates by amount were fairly level, averaging around 6 percent for most policy years (Figure 2).

Figure 2  
Trend in Individual Life Insurance Face Amount Lapse Rates



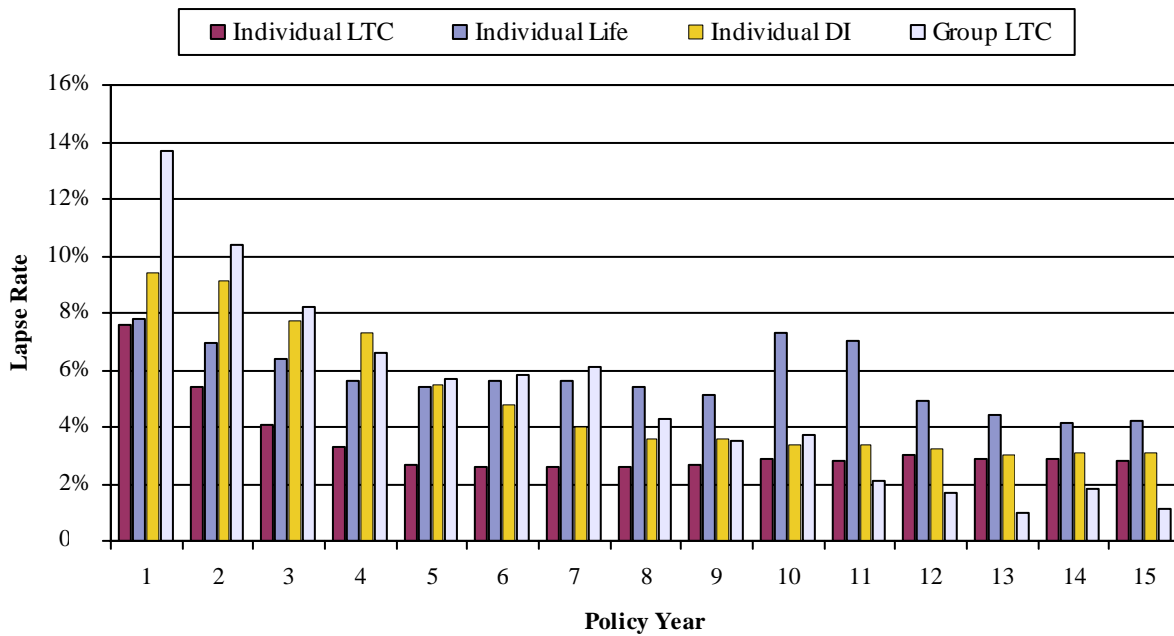
For calendar years 2003 and 2004, lapse rates were lower on a face amount basis than on a policy basis for more recently issued policies (Figure 3). This trend is seen across all products. During the early policy years, lapses often result from buyer’s remorse due to concerns about the cost of the product purchased. Lapses occurring in the later years are more likely to be due to replacement or full surrender.

Figure 3  
Current Individual Life Insurance Lapse Rates



In the early policy years, individual life insurance policy lapse rates are lower than lapse rates for individual disability business. Although replacement of existing term and permanent life insurance policies with newer and more competitive options continued in 2003 and 2004 (especially for the term and universal life lines), only individual long-term care insurance plans exhibit lower 5-year lapse rates than individual life insurance products (Figure 4).

Figure 4  
Individual Life Insurance Lapse Experience  
Compared to Individual Disability and Long-Term Care Insurance

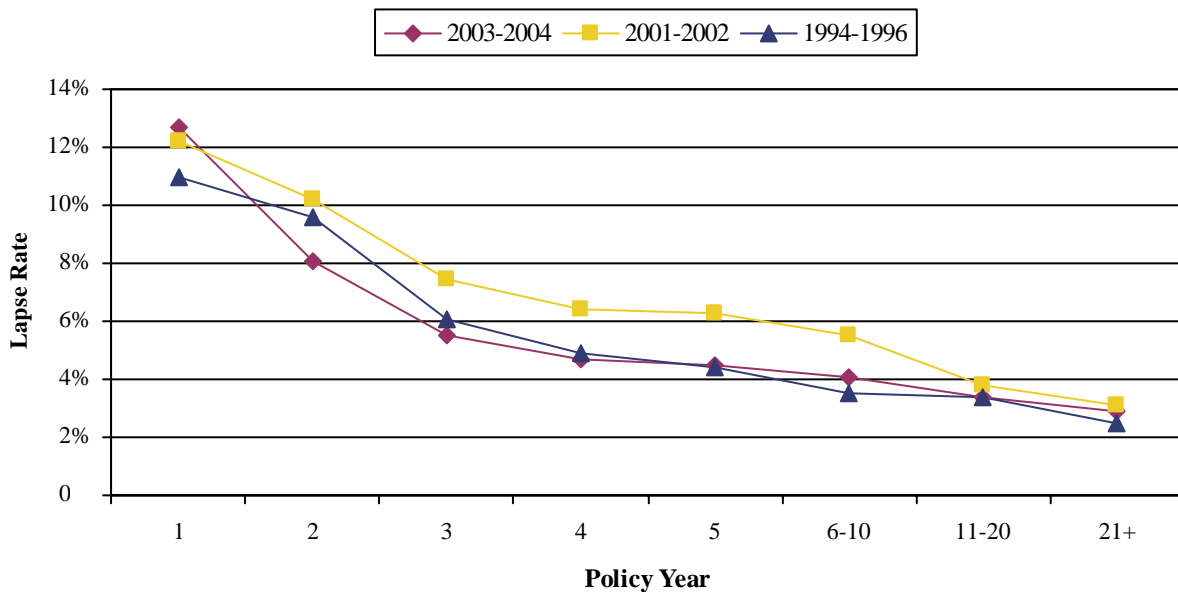


## WHOLE LIFE INSURANCE

This section of the report focuses on whole life insurance business. Results are based on data from 36 contributors.

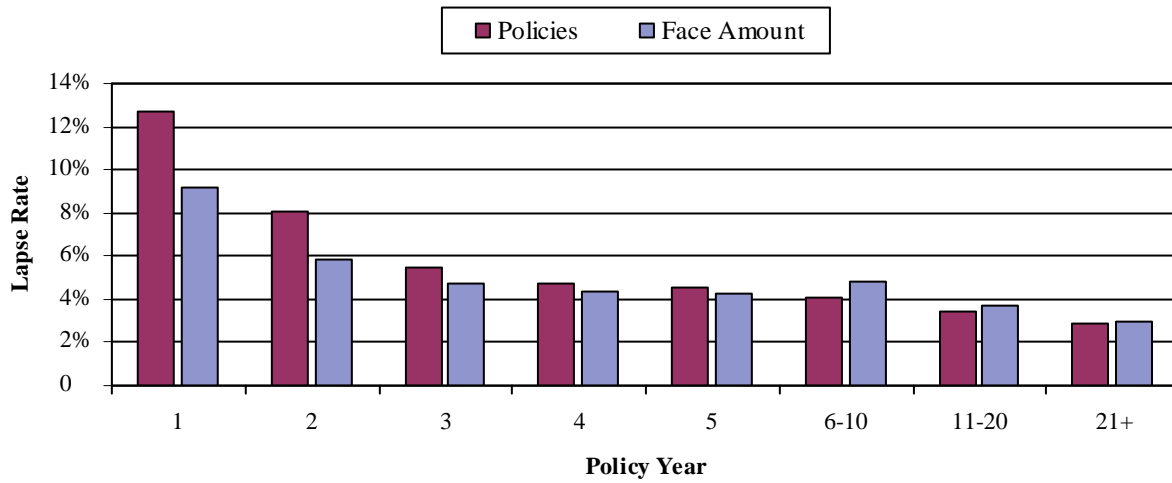
The overall lapse rate for whole life plans for all product types and policy years combined was 3.5 percent on a policy basis and 4.4 percent on a face amount basis for 2003-2004, down from 3.9 percent and 5.8 percent respectively for the experience period 2001-2002. Figure 5 below shows whole life policy lapses by duration over the past decade. Although first year lapse rates have increased slightly in recent years, at most durations lapse rates are similar to or lower than the past.

Figure 5  
Trend in Whole Life Insurance Policy Lapse Rates



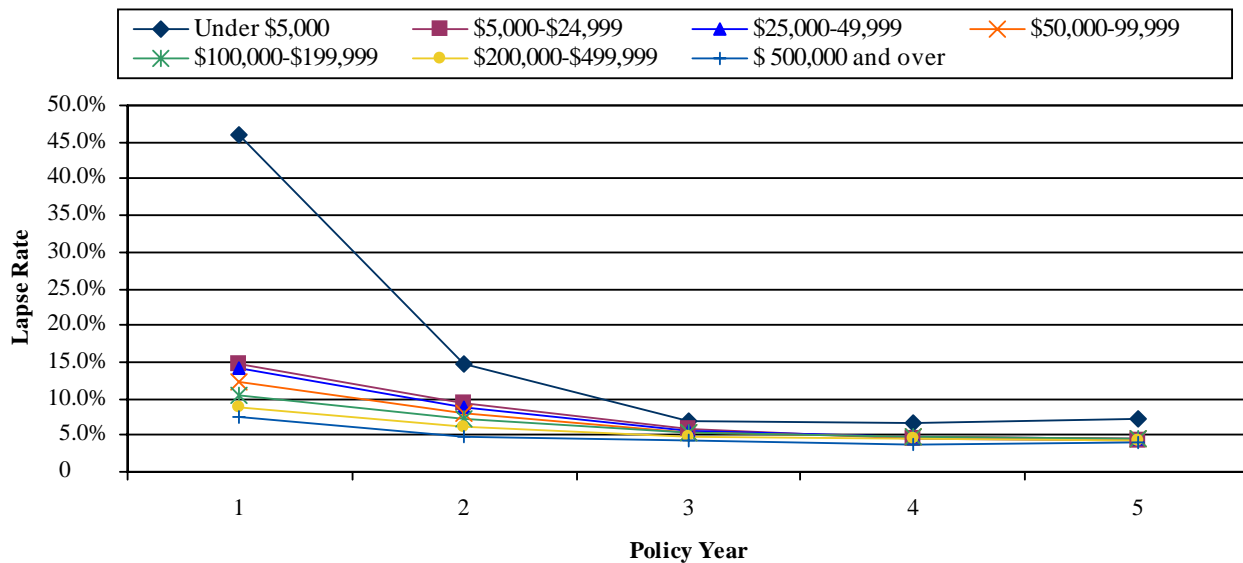
Consistent with the overall results for individual life insurance, during the first five policy years, smaller whole life policies tend to lapse more often than larger policies (Figure 6). This trend then reverses itself in the later years.

Figure 6  
Current Whole Life Insurance Lapse Rates



For the 36 individual life carriers that provided whole life data for this report, the average face amount exposed is just under \$40,000. For new issues the average is \$143,000. If we break down the whole life database into groups by policy size, it is clear that the smallest policies have significantly higher first year lapse rates (Figure 7). However that gap begins to close quickly starting in year 2.

Figure 7  
Whole Life Lapse Rates by Policy Size — Policy Years 1-5



After the first five years, rates of lapsation settle down to between 3 and 5 percent for most policy years and at most policy sizes (Figure 8). Table 2 below indicates the amount of exposure for each of the policy size groups.

Figure 8  
Whole Life Lapse Rates by Policy Size — Policy Years 6 and Later

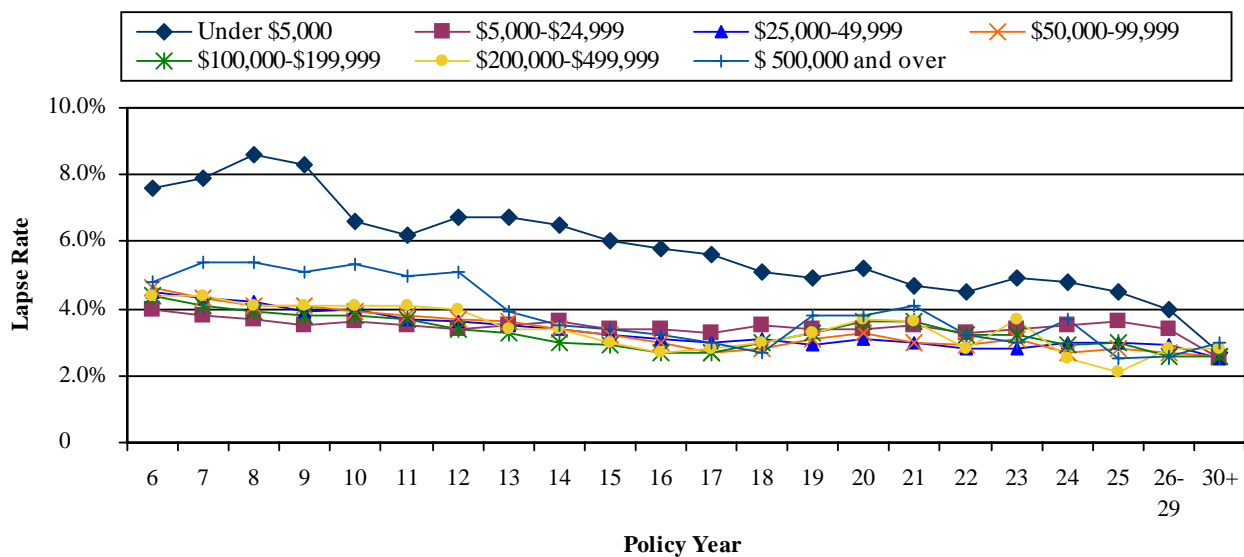


Table 2  
Whole Life Exposure by Policy Size Group

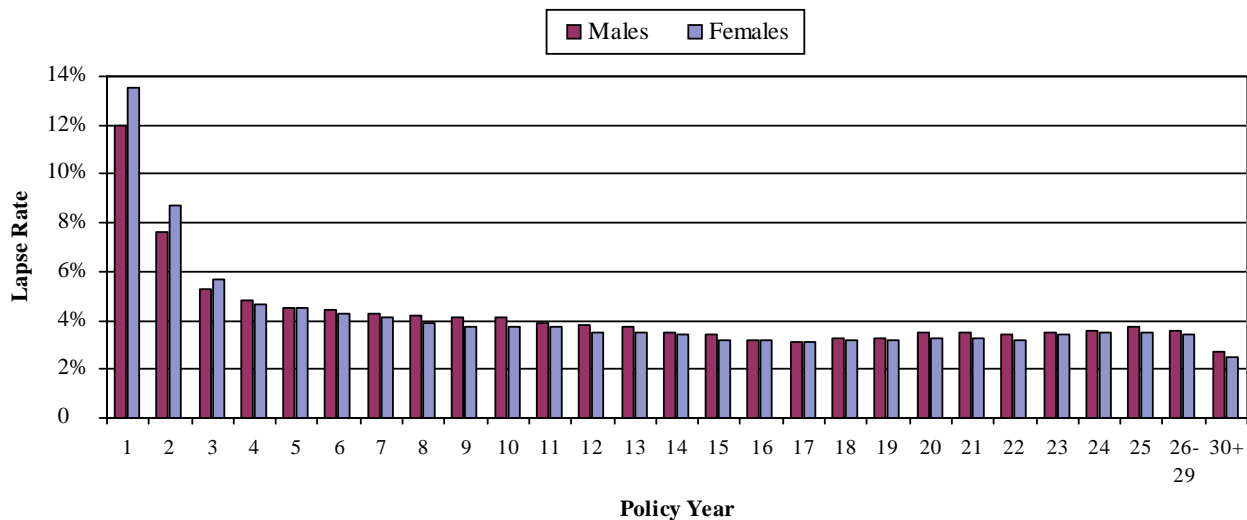
Policy Size	Percent of Policy Exposure
Under \$5,000	25%
\$5,000-\$24,999	44%
\$25,000-\$49,999	12%
\$50,000-\$99,999	9%
\$100,000-\$199,999	7%
\$200,000-\$499,999	2%
\$ 500,000 and over	1%
<b>Total</b>	<b>100%</b>

The remainder of this section of the report examines those factors most likely to affect lapse experience for whole life plans. These factors include gender, issue age, attained age, premium payment mode, risk class, smoking status, and underwriting method.

## GENDER

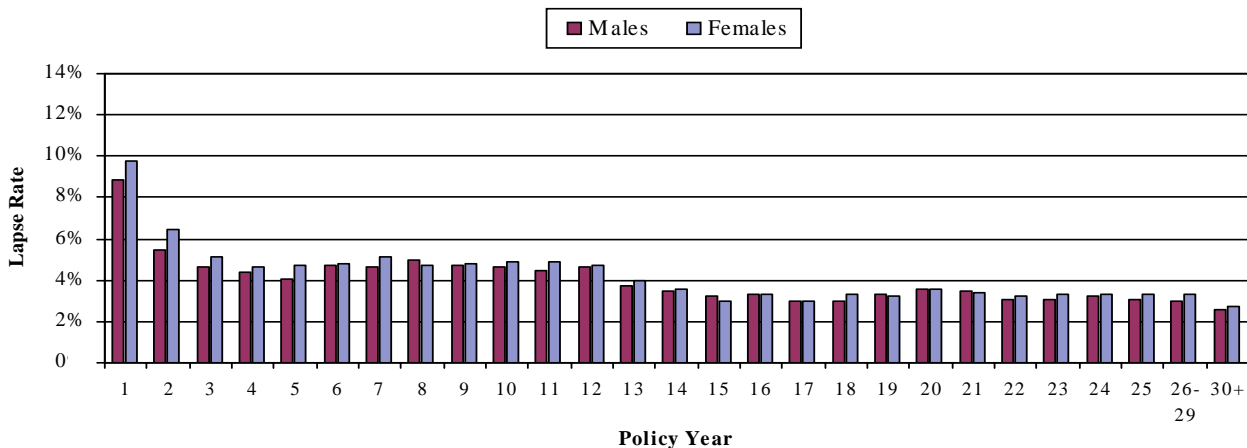
The whole life exposure base is 56 percent male, 44 percent female on a policy basis and 67 percent male, 33 percent female on a face amount basis. The average face amount exposed for males is \$46,000 while the average for females is \$29,000. Overall, policy lapse rates for males and females are about the same with lapse rates for females slightly higher than for males in the first three policy years and slightly lower in later years (Figure 9).

Figure 9  
Whole Life Policy Lapse Rates by Gender  
Includes 36 Companies



By amount, lapse rates for females are slightly higher than males overall (Figure 10).

Figure 10  
Whole Life Face Amount Lapse Rates by Gender  
Includes 36 Companies





## ISSUE AGE

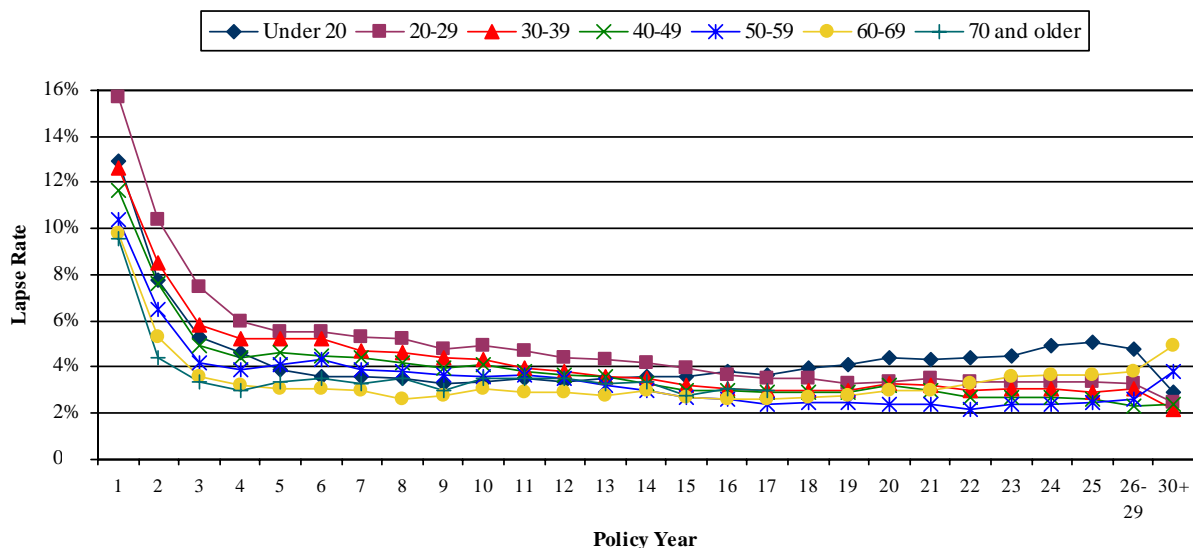
By issue age cohort, the whole life exposure base breaks down as follows:

Table 3  
Whole Life Policy Exposure by Issue Age Cohort

Issue Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$16,000	31%
20-29	\$27,000	23%
30-39	\$59,000	20%
40-49	\$65,000	13%
50-59	\$60,000	7%
60-69	\$57,000	3%
70 and older	\$72,000	<1%
<b>Total</b>	<b>\$39,000</b>	<b>100%</b>

Consistent with the results of past studies, for permanent insurance products, lapse rates generally decrease with increasing age at issue although the differences become smaller and the pattern is less consistent over time (Figure 11). The exception to this continues to be policies issued on individuals under the age of 20 whose lapse experience is more like those in the age 30-39 and 40-49 issue age groups. This may be because premiums for these policies are paid by older adult family members rather than the insureds themselves. And the pattern of lapse is more closely tied to the age of the adult premium-payer.

Figure 11  
Whole Life Policy Lapse Rates by Issue Age Group  
Includes 35 Companies



## ATTAINED AGE

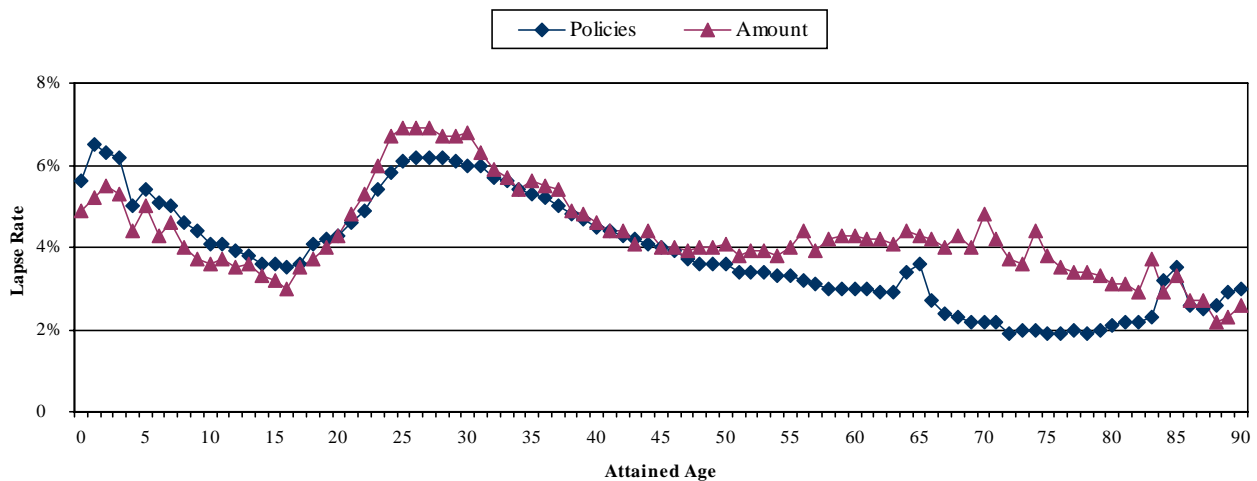
By attained age cohort, the current study whole life exposure base breaks down as follows:

Table 4  
Whole Life Policy Exposure by Attained Age Cohort

Attained Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$37,500	7%
20-29	\$37,000	6%
30-39	\$66,000	10%
40-49	\$66,000	16%
50-59	\$49,000	20%
60-69	\$33,000	17%
70 and older	\$18,000	24%
<b>Total</b>	<b>\$39,000</b>	<b>100%</b>

Figure 12 shows policy lapse rates by attained age. As has been demonstrated in past industry studies of individual life insurance lapse experience, after age 25, rates of lapsation generally decrease with increasing attained age. For ages between 25 and 85, larger policies lapse tend to lapse more often than smaller policies. And there appears to be a spike in rates of lapse at age 65 (on a policy basis) where we would expect to see the impact of retirements.

Figure 12  
Whole Life Lapse Rates by Attained Age  
Includes 36 Companies



## PREMIUM PAYMENT MODE

For the twelve companies that provided data by premium payment mode for the current study, annual premium payment business represents 40 percent of the policy exposure, semi-annual business represents 7 percent, quarterly business represents 10 percent and monthly business represents 43 percent. As seen in previous studies of whole life lapse experience, lapse rates generally increase with the number of premium payments made each year (Figures 13 and 14). The exception to this rule is policies paid on a monthly basis. This category includes policies billed on a direct basis as well as those paid through electronic fund transfer methods where the automatic nature of the transaction tends to lead to improved policy persistency. At this point, we were not able to gather sufficient data split by billing method to provide statistically credible results. We hope to increase data collected in this area for future reports.

Figure 13  
Whole Life Policy Lapse Rates by Premium Payment Mode  
Includes 12 Companies

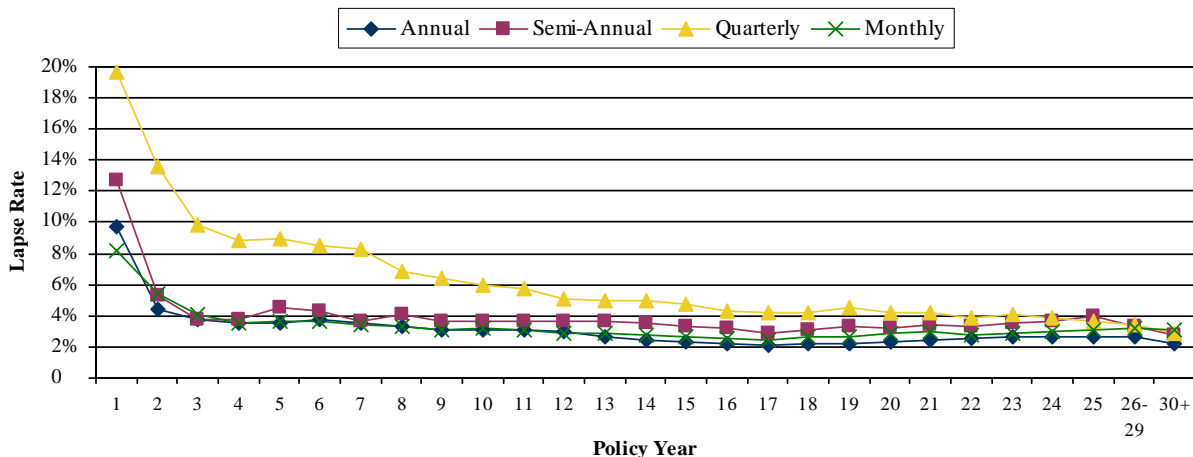
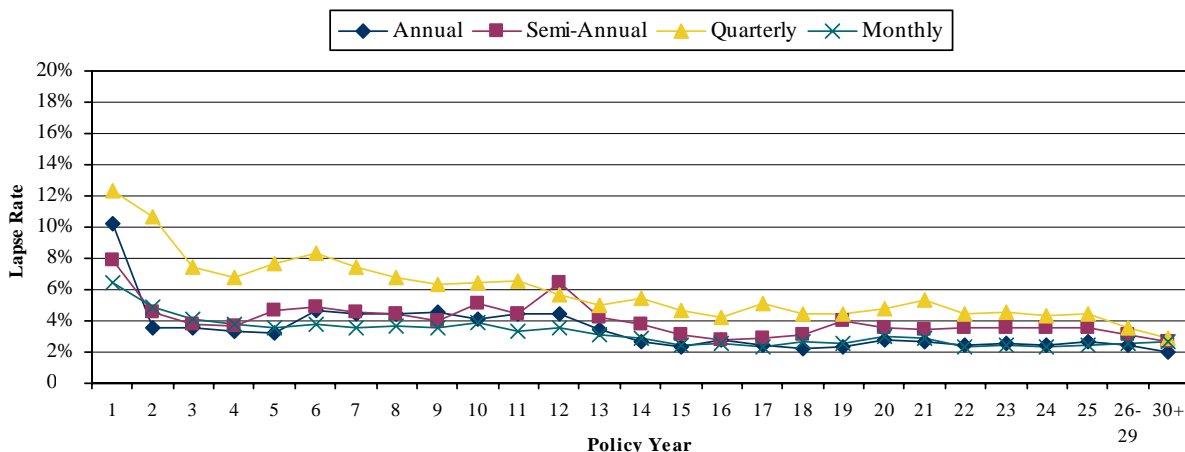


Figure 14  
Whole Life Face Amount Lapse Rates by Premium Payment Mode  
Includes 12 Companies



## RISK CLASS

There were 13 companies that contributed whole life data split by risk class category.

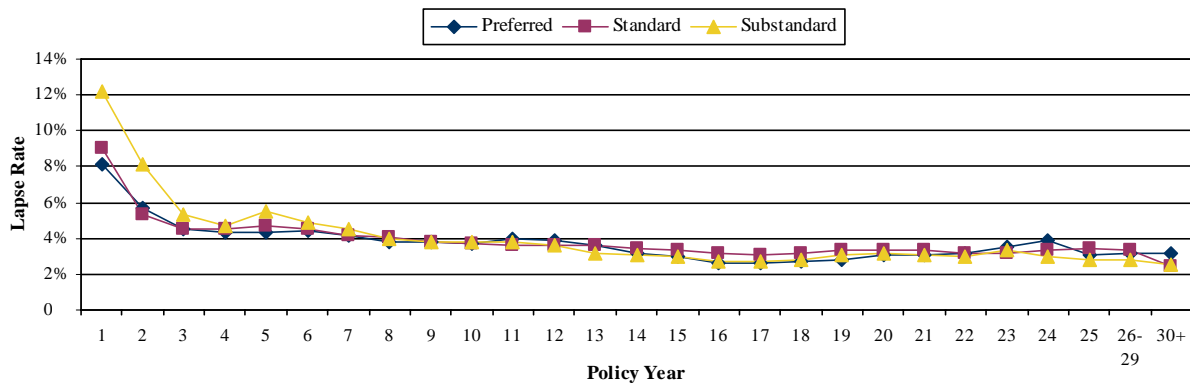
The distribution of exposure by risk class is provided in Table 5.

Table 5  
Whole Policy Exposure by Risk Class

Risk Class	Average Face Amount Exposed	Percent of Policy Exposure
Preferred risks	\$215,000	6%
Standard risks	\$27,000	88%
Substandard risks	\$36,000	6%
<b>Total</b>	<b>\$39,000</b>	<b>100%</b>

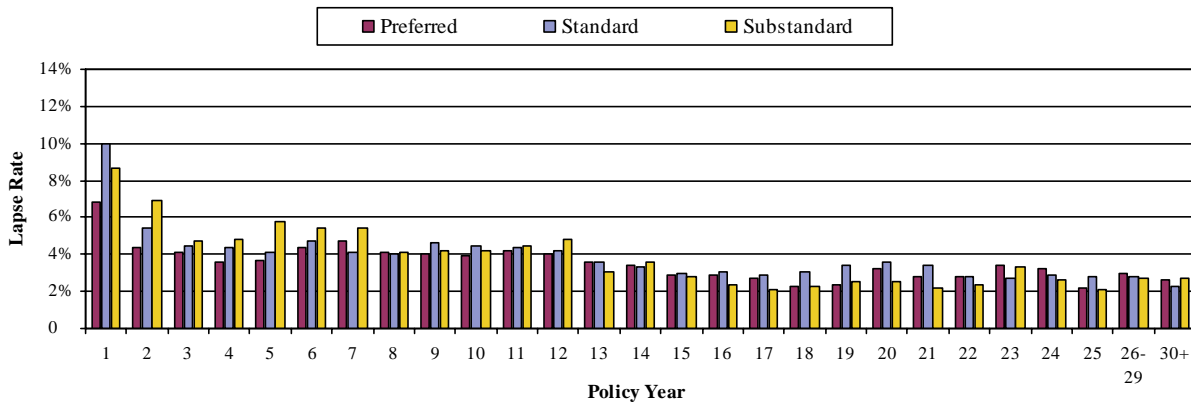
Standard and preferred whole life policies exhibit similar rates of lapse (around 3 percent for all policy years combined). Substandard whole life business has a slightly higher rate of lapse, with most of the variation seen in the first 3 policy years (Figure 15).

Figure 15  
Whole Life Policy Lapse Rates by Risk Class  
Includes 13 Companies



With the exception of year 1, experience is fairly consistent on a face amount basis (Figure 16).

Figure 16  
 Whole Life Face Amount Lapse Rates by Risk Class  
 Includes 13 Companies



## SMOKING STATUS

The whole life policy exposure for the current study is 77 percent nonsmoker. Smokers exhibit higher lapse rates than non smokers during the first few policy years, but after duration 5, the smoker and non smoker experience is similar (Figure 17). This pattern is also seen on a face amount basis (Figure 18).

Figure 17  
 Whole Life Policy Lapse Rates by Smoking Status  
 Includes 30 Companies

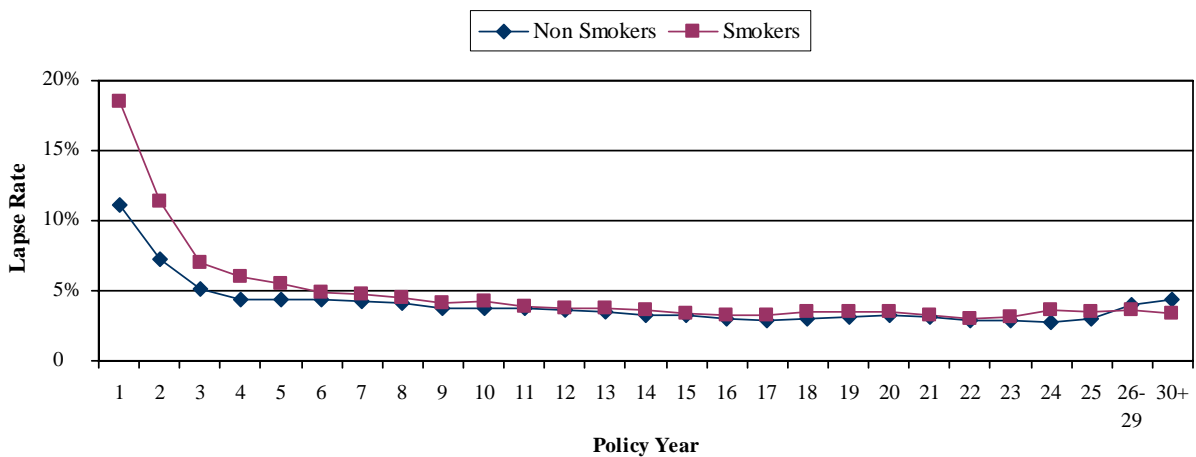
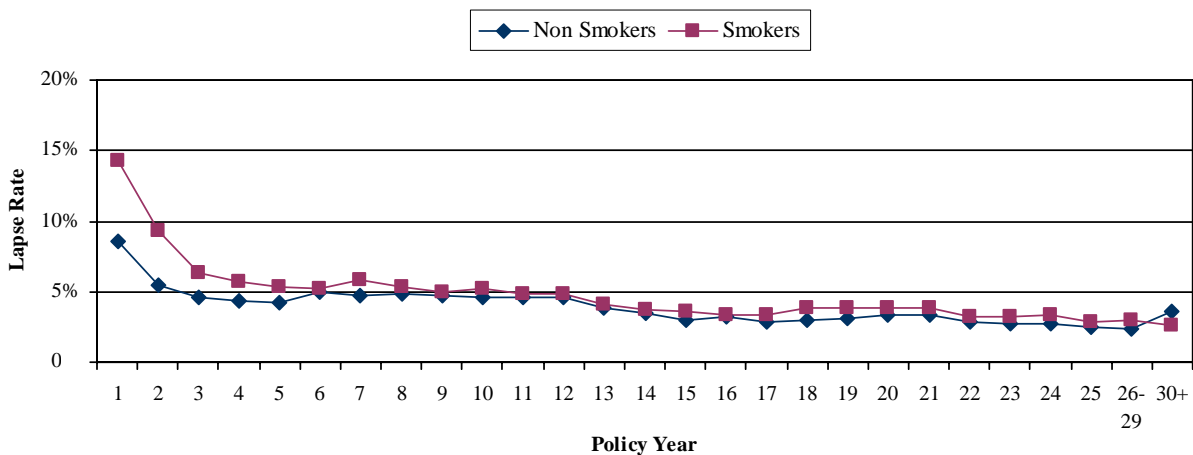


Figure 18  
 Whole Life Face Amount Lapse Rates by Smoking Status  
 Includes 30 Companies



### UNDERWRITING METHOD

The whole life policy exposure base for the current study was distributed 69 percent non-medical, 15 percent medical, 11 percent paramedical, and 5 percent simplified issue. As in past industry lapse studies, whole life policies issued with full medical underwriting or on a paramedical basis exhibit the lowest rates of lapsation, but of the difference is in the early durations. Whole life policies issued on a non medical basis (using a traditional non medical questionnaire with a complete set of medical history questions) or on a simplified issue basis (with less than full non medical screening) experience higher lapse rates during the first several policy years (Figures 19 and 20).

Figure 19  
 Whole Life Policy Lapse Rates by Underwriting Method  
 Includes 23 Companies

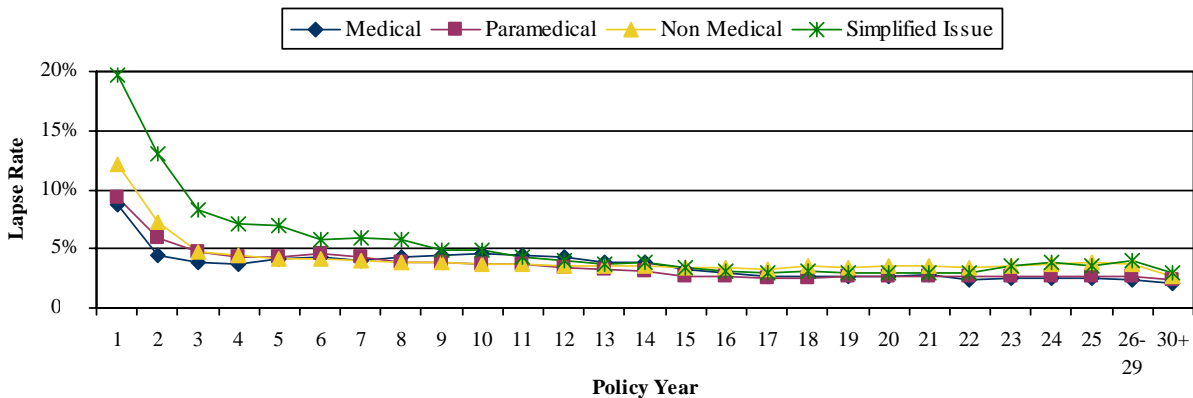
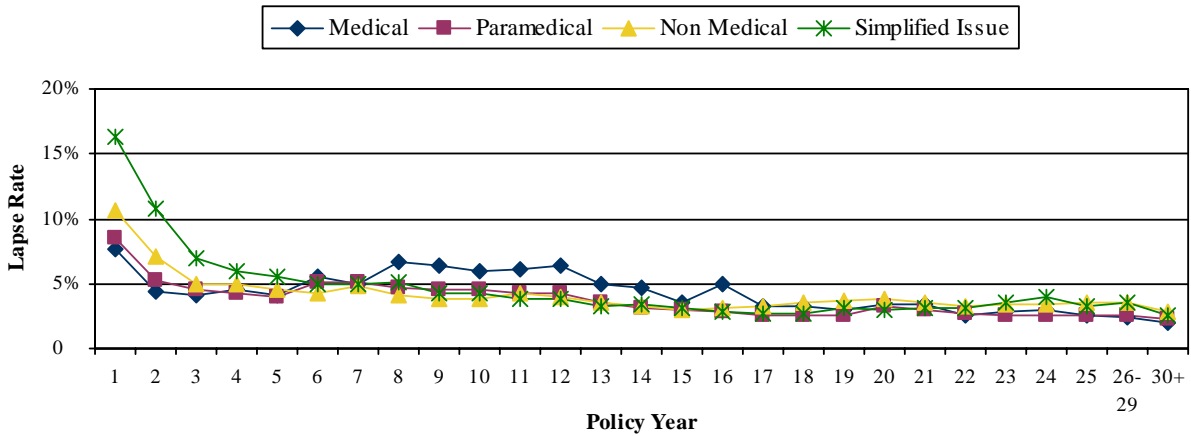


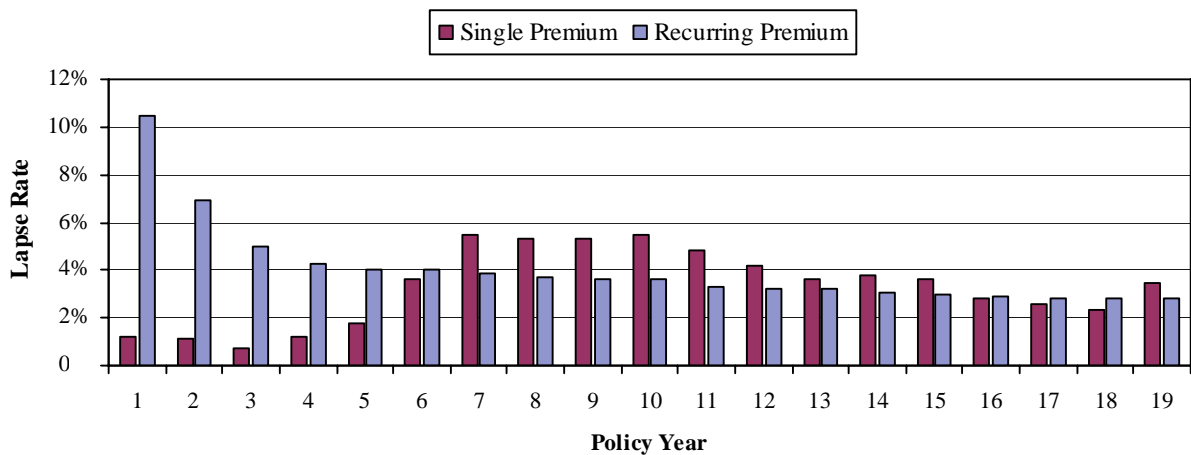
Figure 20  
 Whole Life Face Amount Lapse Rates by Underwriting Method  
 Includes 23 Companies



## SINGLE PREMIUM WHOLE LIFE

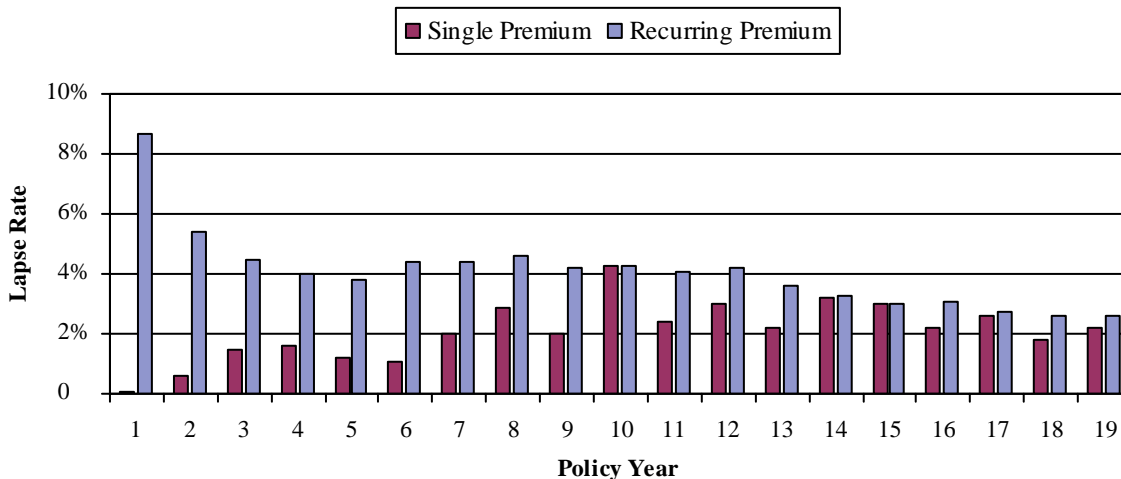
Eleven companies submitted data for single premium whole life insurance plans. For these eleven companies, single premium products experienced significantly lower rates of policy lapse than recurring premium products during the first five policy years (Figure 21). However that trend appears to reverse itself after year 6.

Figure 21  
 Single Premium Whole Life Policy Lapse Rates  
 Includes 11 Companies



On a face amount basis, single premium whole life lapse rates were lower than recurring premium lapse rates across all policy years (Figure 22).

Figure 22  
Single Premium Whole Life Face Amount Lapse Rates  
Includes 11 Companies



The single premium whole life policy exposure base is 52 percent male. Overall lapse rates for females are slightly higher than males for single premium plans (2.6 percent for males and 3.1 percent for females on a policy basis) with variation in results seen in most policy years (Figures 23 and 24).

Figure 23  
Single Premium Whole Life Policy Lapse Rates by Gender

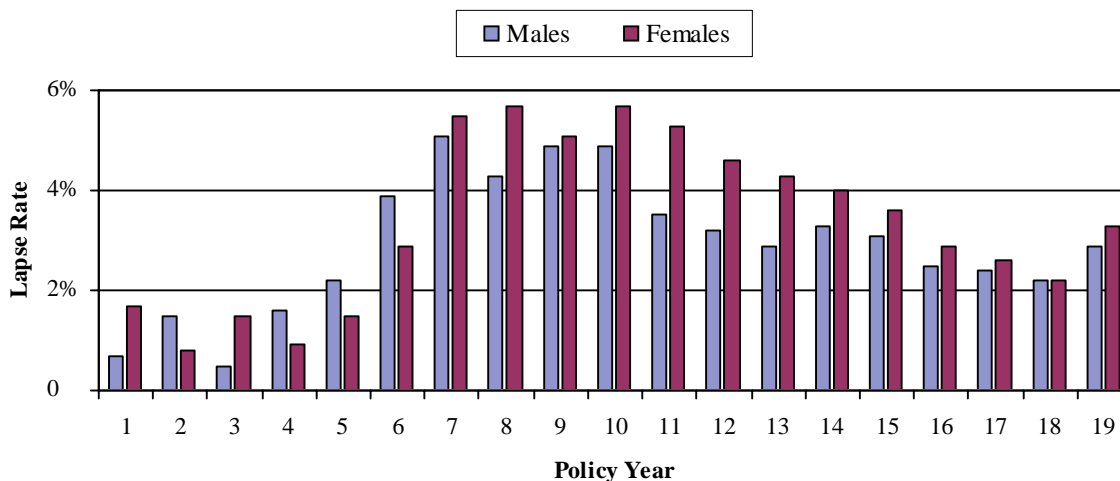
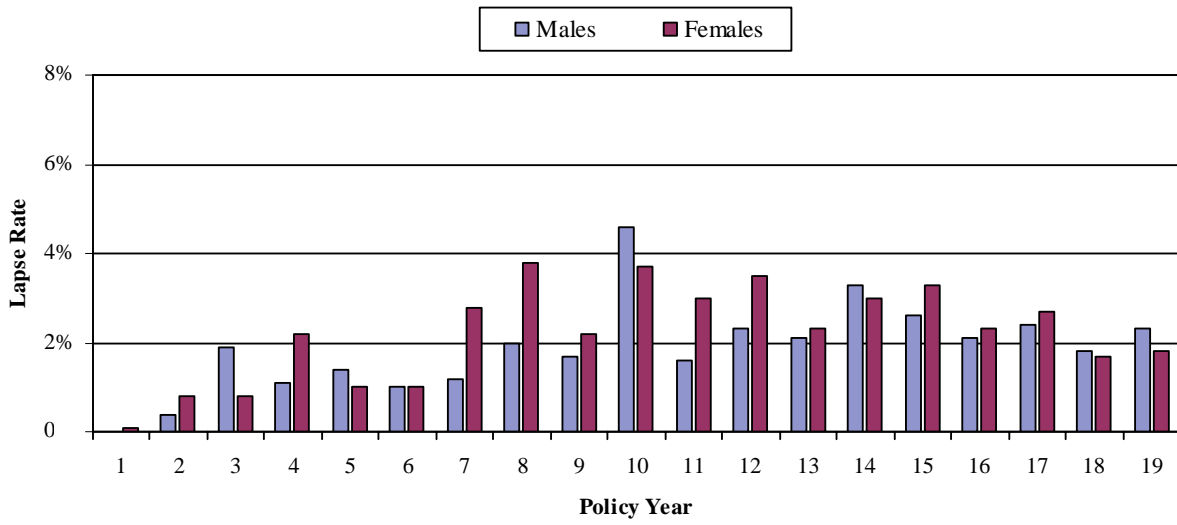




Figure 24  
Single Premium Whole Life Face Amount Lapse Rates by Gender



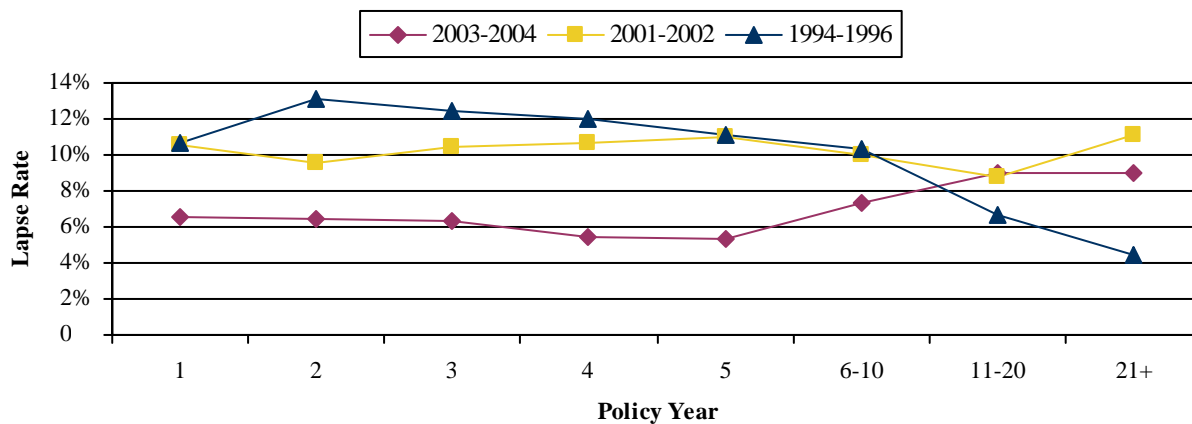
## TERM LIFE INSURANCE

This chapter examines lapse experience for term insurance products in total as well as by plan. Twenty-six participating term writers provided term data split by level premium period. An additional 13 companies provided data on term business in total but could not provide details on the plan type for this study. These companies are included only in the examination of total term lapse results.

Total lapse rates for term insurance for all products and all policy years combined was 7.0 percent on a policy basis and 6.2 percent on a face amount basis, a decrease of 3.2 percentage points on a policy basis and 4.1 percentage points on a face amount basis from the 2001-2002 experience period.

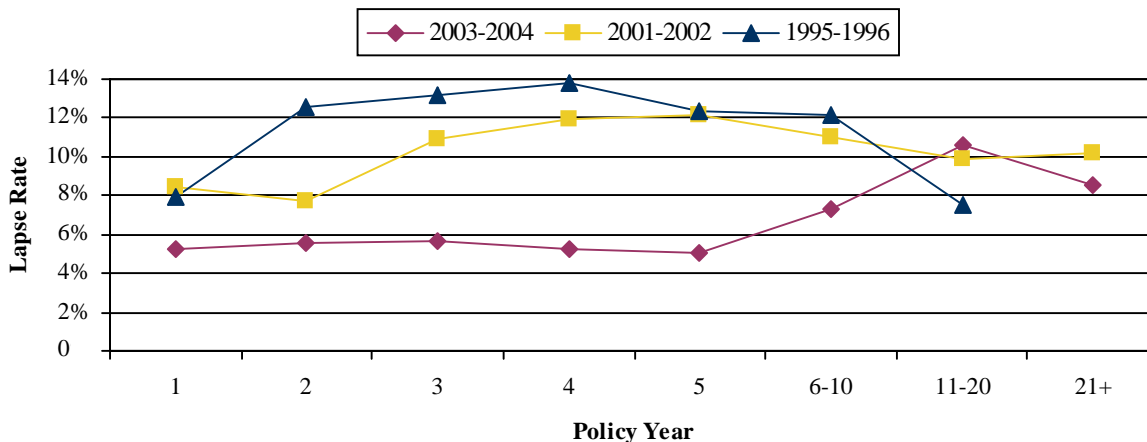
Figure 25 below shows policy lapse rates by policy year over the past decade. Term lapse rates have increased significantly over 1990's levels for policies in years 11 and later, reflecting the impact of shock lapse rates for level premium term plans. Due to the influence of level premium term business, we continue to see a decrease in term lapse rates in policy years 1 through 10 and an increase in lapse rates in policy years 11 and later.

Figure 25  
Trend in Term Insurance Policy Lapse Rates (All Plans Combined)  
Includes 39 Companies



The trend in experience is similar on a face amount basis (Figure 26).

Figure 26  
Trend in Term Insurance Face Amount Lapse Rates (All Plans Combined)



## PREMIUM GUARANTEE PERIOD

Table 6 details the exposure distribution for the 26 insurers that provided term insurance data split by plan.

Table 6  
Term Exposure by Plan

Plan	Average First Year Face Amount Exposed	Average Total Face Amount Exposed	Percent of Term Policy Exposure
YRT	\$409,000	\$250,000	27%
5 yr term	\$207,000	\$135,000	4%
10 yr term	\$424,000	\$307,000	27%
15 yr term	\$404,000	\$310,000	13%
20 yr term	\$429,000	\$355,000	29%

*U.S. Individual Life Insurance Persistency Update*

In general, first year lapse rates decrease and 5-year persistency increases as the length of the premium guarantee increases (Tables 7 and 7A).

Table 7  
Term First Year Lapse Rates by Plan

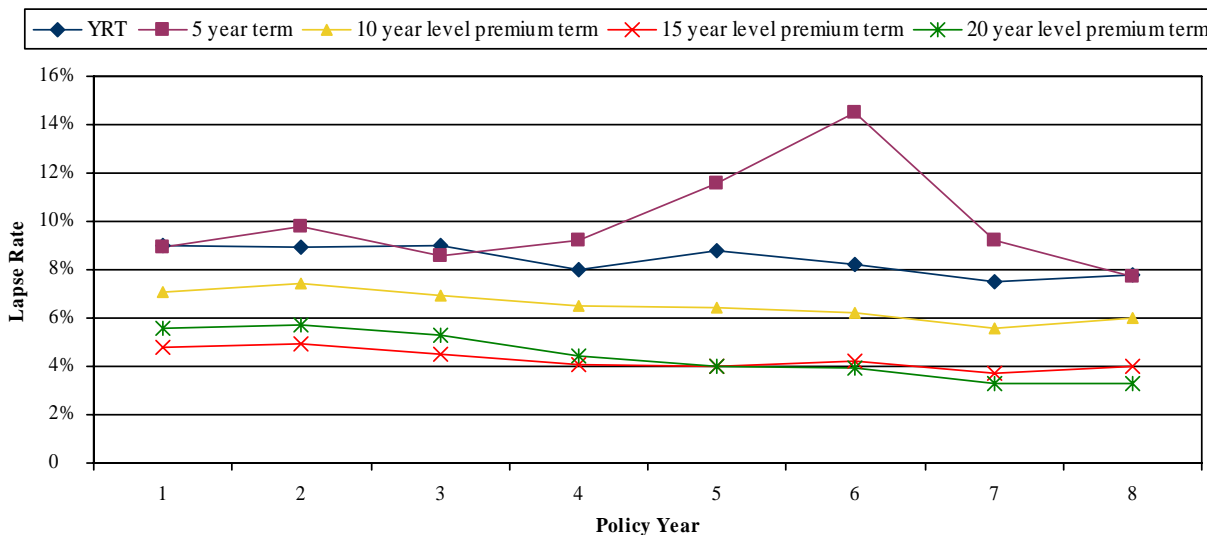
<b>Plan</b>	<b>First Year Policy Lapse Rates</b>	<b>First Year Face Amount Lapse Rates</b>
YRT	9.0%	7.1%
5 yr term	8.9%	6.9%
10 yr level premium term	7.1%	5.6%
15 yr level premium term	4.8%	4.1%
20 yr level premium term	5.6%	4.3%

Table 7a  
Term Five-Year Persistency by Plan

<b>Plan</b>	<b>Policy Basis</b>	<b>Face Amount Basis</b>
YRT	63.2%	67.5%
5 yr term	60.3%	62.3%
10 yr level premium term	70.1%	72.6%
15 yr level premium term	79.6%	80.0%
20 yr level premium term	77.4%	80.0%

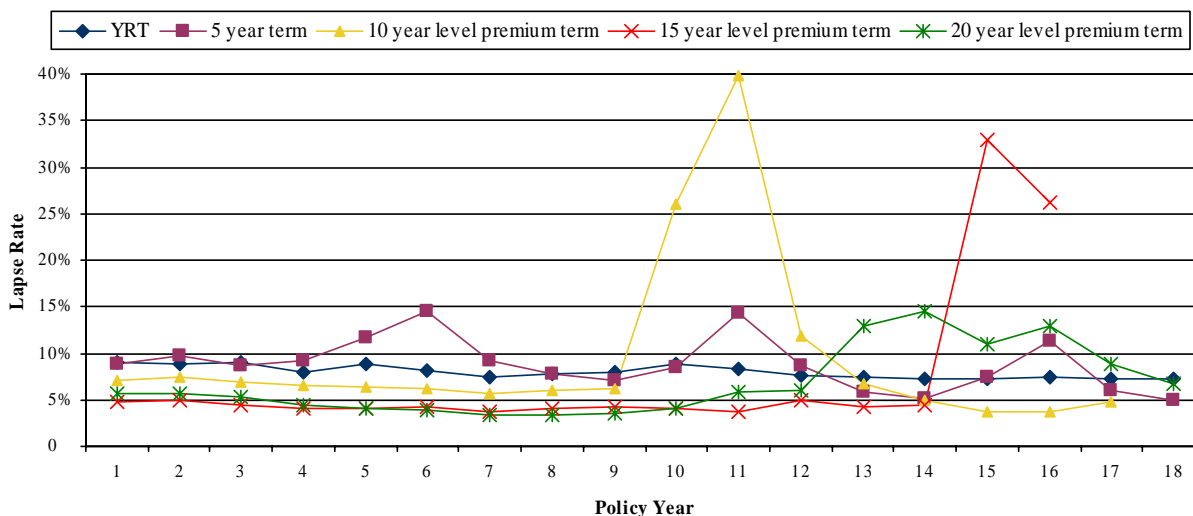
As might be expected, term plans with the longest premium guarantees (15 and 20 year level term) have the lowest rates of lapse while those with the shortest premium guarantees (5 year term and YRT) have the highest rates of lapse (Figure 27).

Figure 27  
Term Policy Lapse Rates by Level Premium Period — Policy Years 1-8



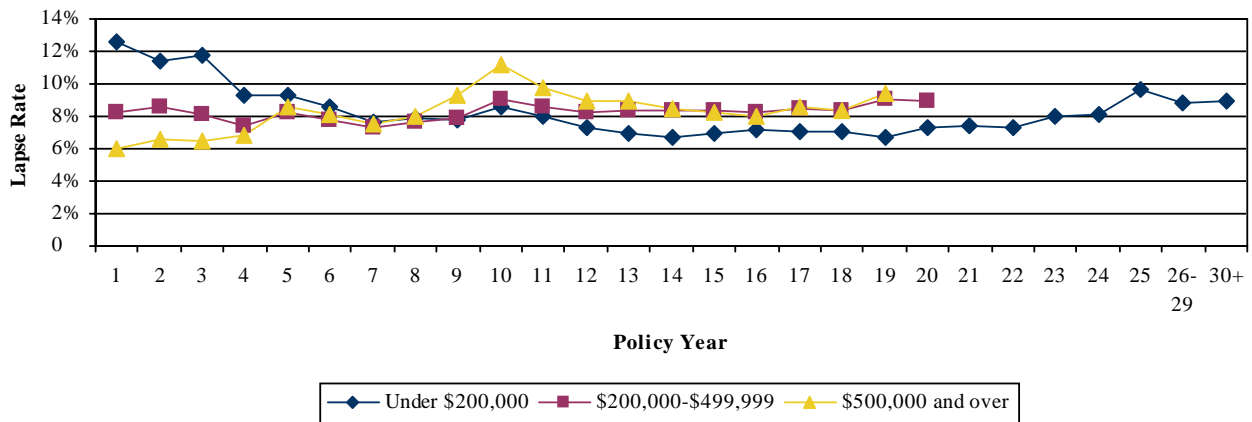
And with the exception of the years around the end of the premium guarantee period where shock lapses occur, lapse rates are relatively level by duration (Figures 28).

Figure 28  
Term Policy Lapse Rates by Level Premium Period — All Policy Years



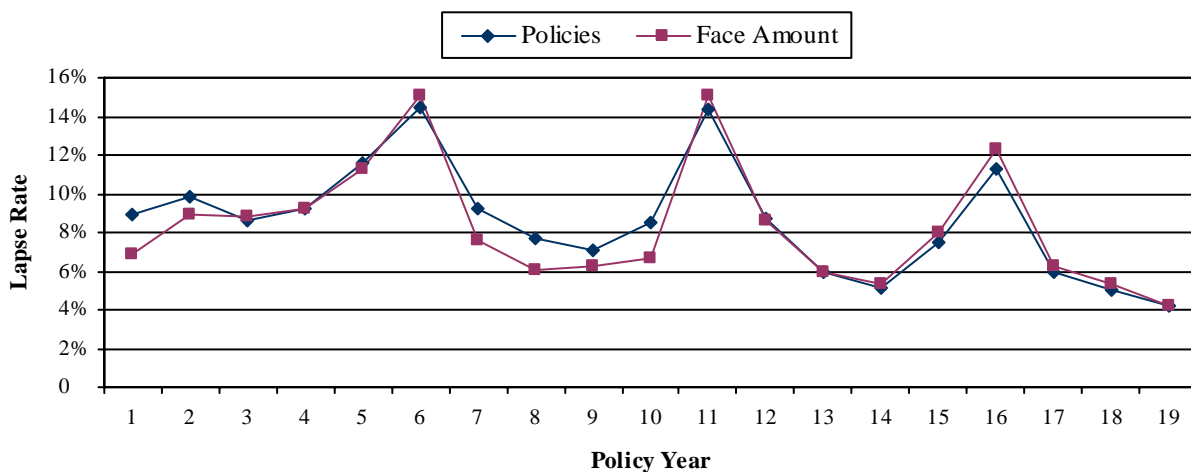
Looking at term experience by policy size, for YRT plans, policies with face amounts under \$200,000 are more likely to lapse than larger policies during the early policy years. After policy year 5, this trend reverses and the larger policies (\$200,000 face amounts and larger) exhibit higher rates of lapse (Figure 29).

Figure 29  
YRT Lapse Rates by Policy Size



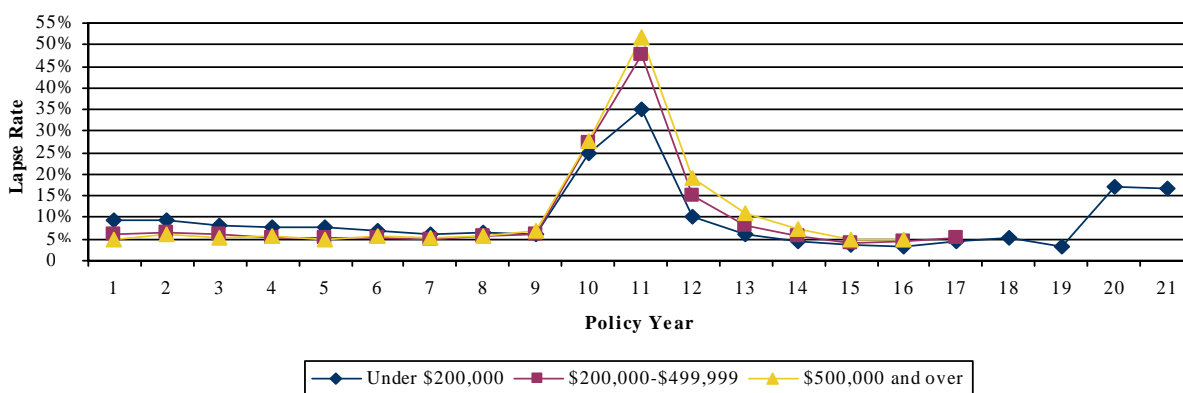
Some of the five-year term plans included in this study have level premiums during each successive 5-year period. Others are re-entry term products (sometimes called select and ultimate term) that allow customers to opt to continue coverage at lower select rates (with new underwriting) for additional 5 year periods. Five-year term products show a spike in lapsation every five years coincident with the policy re-entry periods. Lapses rates reach between 12 and 15 percent every fifth or sixth year (Figure 30).

Figure 30  
5-Year Level Term Lapse Rates



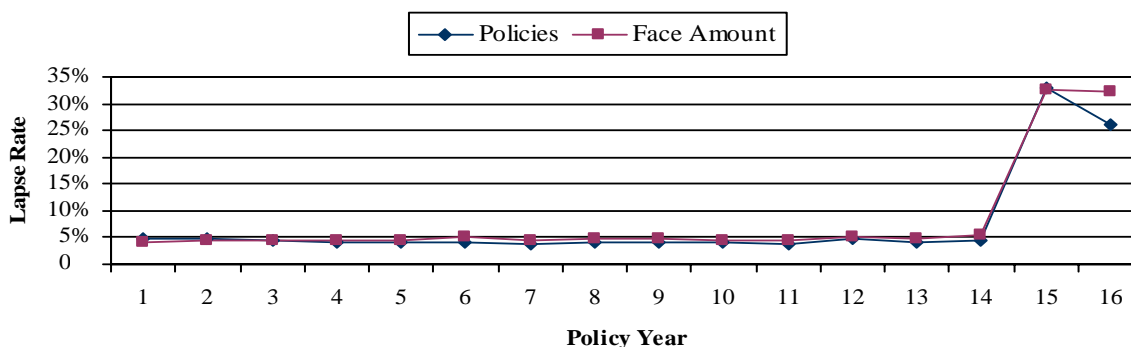
For 10-year level premium term policies, lapse rates are relatively level by duration during the premium guarantee period, generally varying between 6 and 7 percent. Shock lapse rates average 40 percent on a policy basis and 46 percent on a face amount basis in policy year 11. There does appear to be variation in shock lapse rates by policy size. Note that policies with face amounts under \$200,000 exhibited shock lapse rates around 35 percent in policy year 11 while policies with face amounts in excess of \$200,000 experienced shock lapse rates in the range of 48 to 52 percent (Figure 31). Again it is important to point out that the level premium term products included in this study were designed and priced with the post-guarantee period premium levels of 10 to 15 years ago. Therefore, future post-level premium-period shock lapse rates are likely to be higher than the results shown in the current study.

Figure 31  
10-Year Level Premium Term Lapse Rates by Policy Size



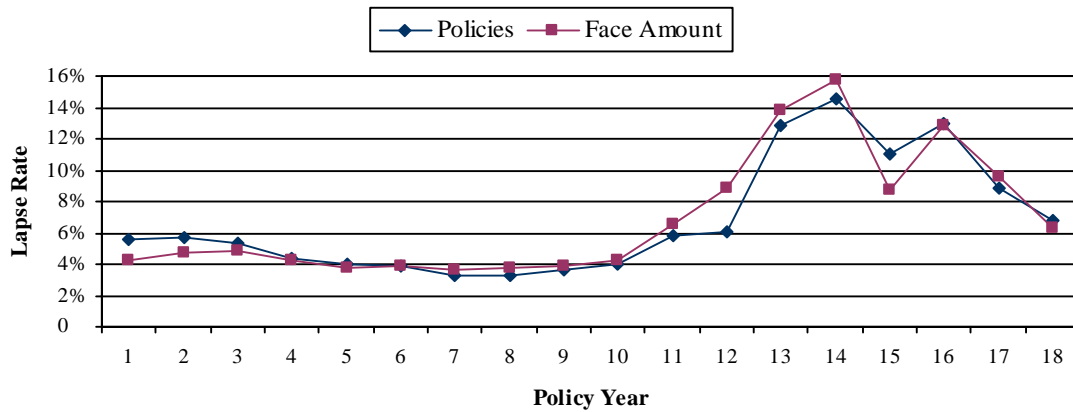
Lapse rates for 15-year level premium term business also exhibit a level pattern by duration with rates around 5 percent during the level premium period (Figure 32). Here shock lapse rates appear to be slightly lower than the 10-year level premium term products, averaging 33 percent in policy year 15 on both a policy count and a face amount basis.

Figure 32  
15-Year Level Premium Term Lapse Rates



For the 20-year term policies, only a handful of carriers report in force beyond policy year 15. So results for business in policy years just before and just after the expiration of the level premium guarantee period are unknown (Figure 33). However, note that the spike in lapse rates began earlier for the 20-year plans than what was reported for the 10- and 15-year level term business.

Figure 33  
20-Year Level Premium Term Lapse Rates



The remainder of this section examines those factors most likely to affect lapse experience for term insurance plans. These factors include gender, issue age, attained age, premium payment mode, risk class, smoking status, and underwriting method.

## GENDER

The term exposure is distributed by gender as follows:

Table 8  
Term Plans — Distribution of Exposure by Gender

Plan	Policy Basis		Face Amount Basis	
	Males	Females	Males	Females
YRT	59%	41%	71%	29%
5 yr term	55%	45%	67%	33%
10 yr level prem term	63%	37%	75%	25%
15 yr level prem term	63%	37%	75%	25%
20 yr level prem term	59%	41%	70%	30%



## YRT by Gender

For YRT business, females exhibit slightly lower rates of policy lapsation than males across all policy years (Figure 34). Results are similar on a face amount basis (Figure 35).

Figure 34  
YRT Policy Lapse Rates by Gender  
Includes 25 Companies

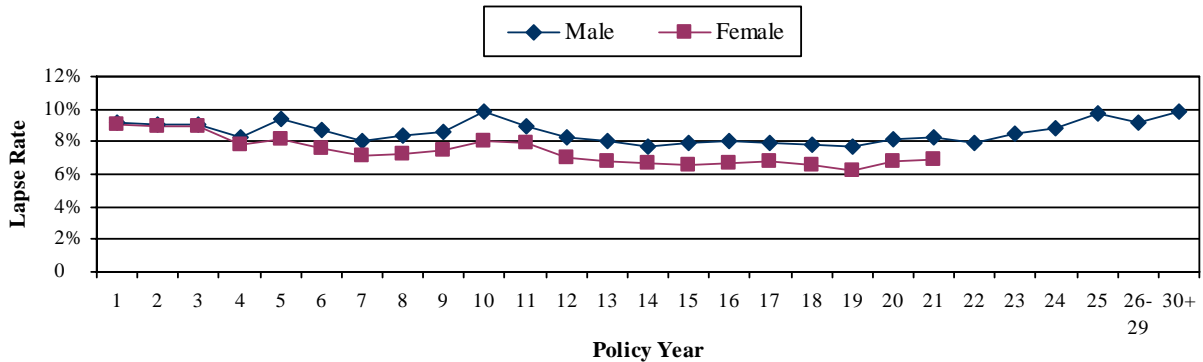
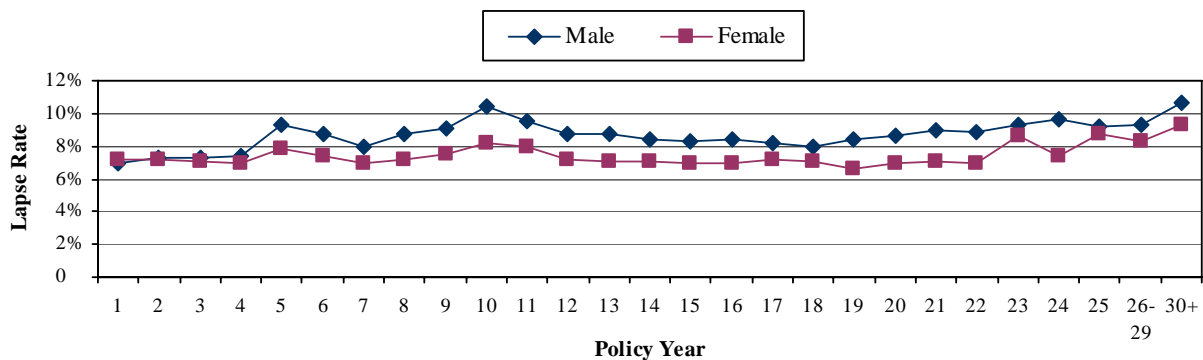


Figure 35  
YRT Face Amount Lapse Rates by Gender  
Includes 25 Companies



## 10-Year Level Premium Term by Gender

For 10-year level premium term policies, lapse experience is similar for males and females (Figures 36 and 37). Note that the exception to this is the shock lapse rates. Lapse rates for policy years 10 through 12 are higher for males than females on both a policy and a face amount basis. This same phenomena occurs for the 5- and 15-year term plans included in the study.

Figure 36  
 10-Year Level Premium Term Policy Lapse Rates by Gender  
 Includes 26 Companies

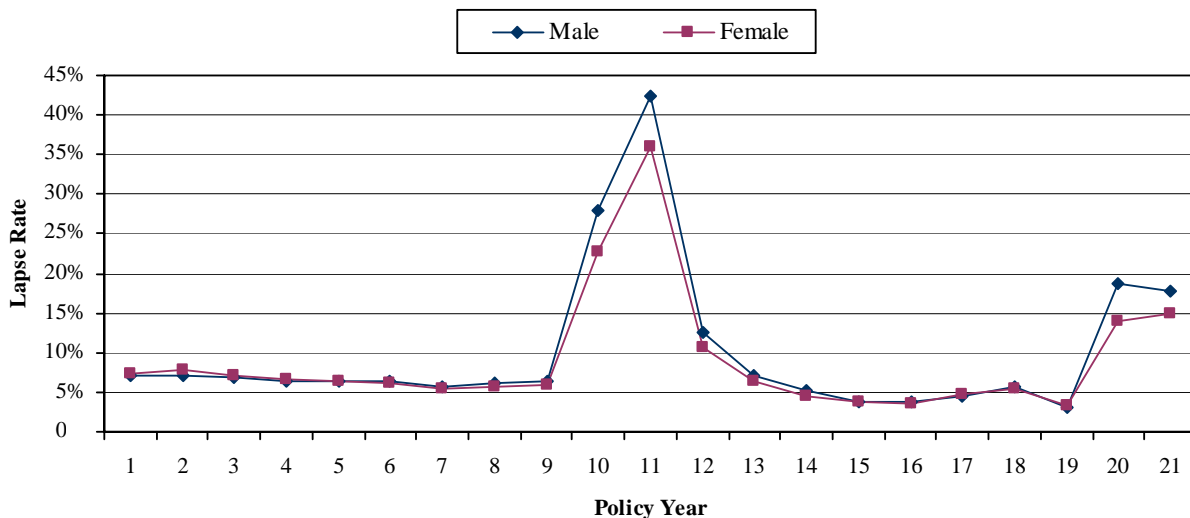
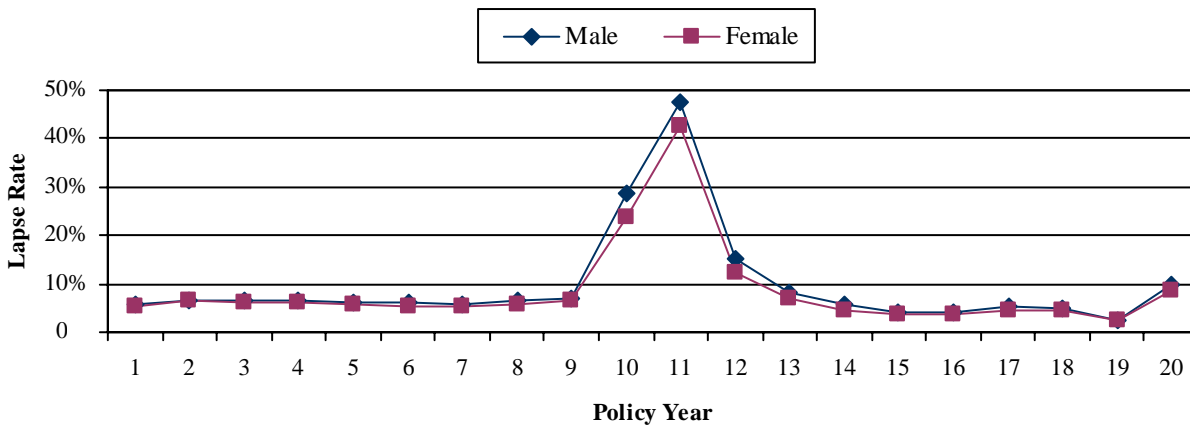


Figure 37  
 10-Year Level Premium Term Face Amount Lapse Rates by Gender  
 Includes 26 Companies



### 20-Year Level Premium Term by Gender

Like the 10-year level premium term business, there is little variation in policy lapse experience by gender for the 20-year level premium term products (Figures 38 and 39).

Figure 38  
20-Year Level Premium Term Policy Lapse Rates by Gender  
Includes 25 Companies

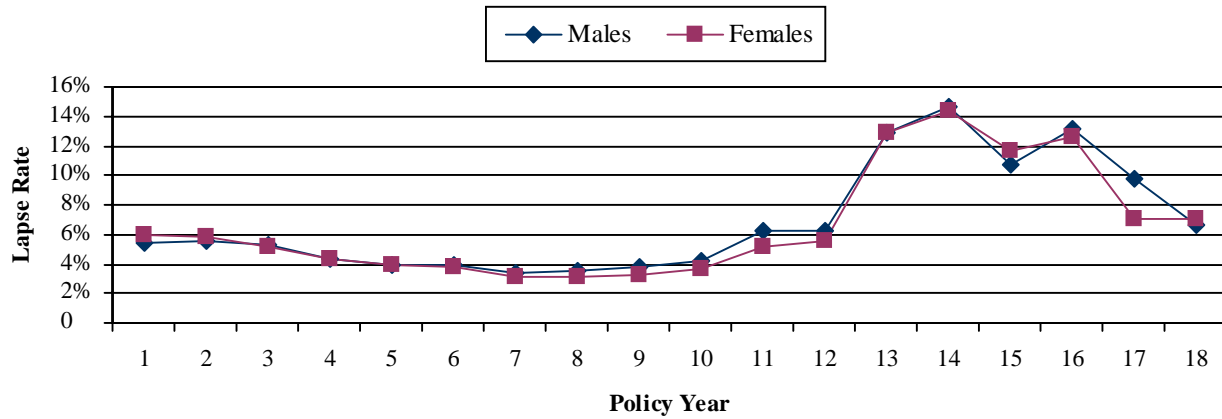
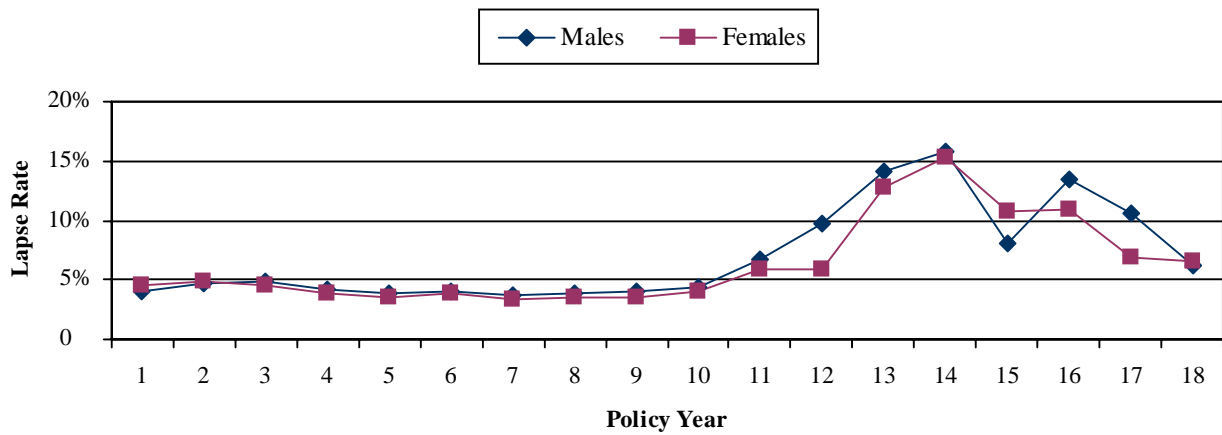


Figure 39  
20-Year Level Premium Term Face Amount Lapse Rates by Gender  
Includes 25 Companies



## ISSUE AGE

### YRT by Issue Age Cohort

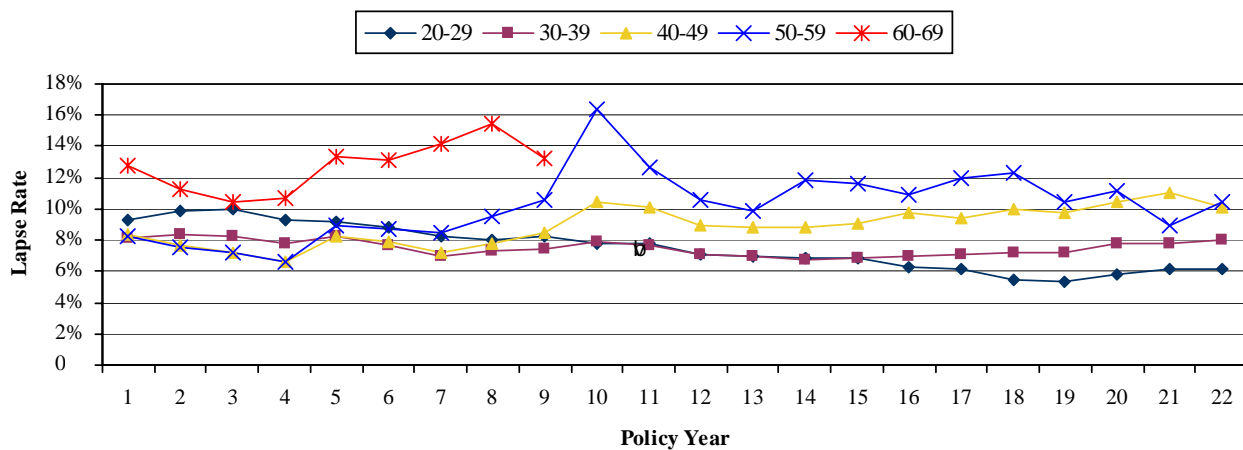
By issue age cohort, the YRT exposure base breaks down as follows:

Table 9  
YRT Policy Exposure by Issue Age Cohort

Issue Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$23,000	6%
20-29	\$172,000	20%
30-39	\$288,000	45%
40-49	\$303,000	22%
50-59	\$267,000	6%
60-69	\$187,000	1%
<b>Total</b>	<b>\$250,000</b>	<b>100%</b>

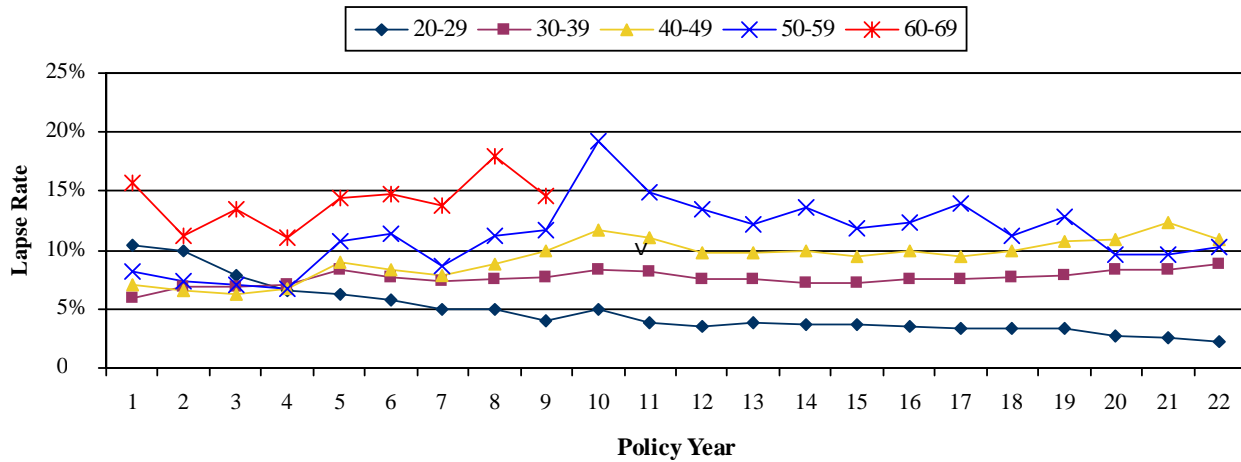
In contrast to permanent life insurance products, for term insurance, policies issued to individuals age 60 and older exhibit the highest rates of lapsation (Figure 40). For policy years 10 and later there seems to be a more pronounced pattern of increased rates of lapse with increased age at issue.

Figure 40  
YRT Policy Lapse Rates by Issue Age Group  
Includes 25 Companies



On a face amount basis, after year 4, lapse rates are generally higher for higher issue ages (Figure 41).

Figure 41  
YRT Face Amount Lapse Rates by Issue Age Group  
Includes 25 Companies



### 10-Year Level Premium Term by Issue Age Cohort

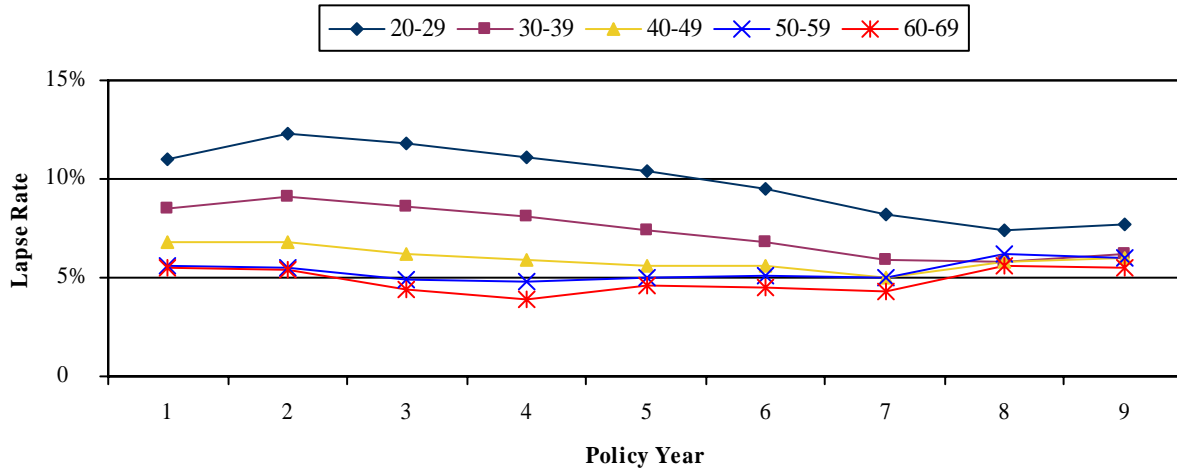
For 10-year level term, the distribution of exposure by issue age is as follows:

Table 10  
10-Year Level Premium Term Exposure by Issue Age Cohort

Issue Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$125,000	1%
20-29	\$202,000	9%
30-39	\$296,000	32%
40-49	\$342,000	31%
50-59	\$343,000	20%
60-69	\$282,000	7%
<b>Total</b>	<b>\$308,000</b>	<b>100%</b>

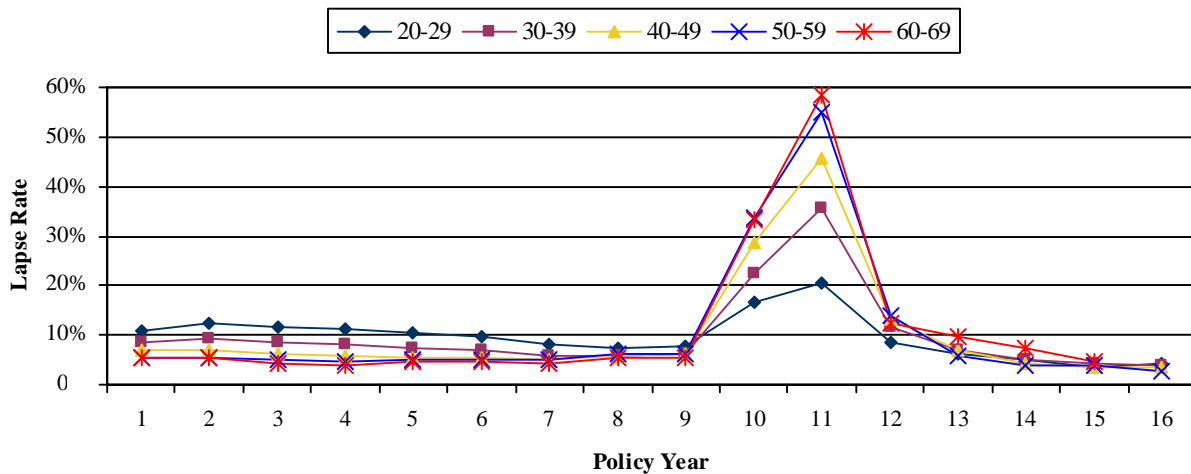
For the 10-year level premium term business, during the first nine policy years, the pattern of lapses by issue age group is similar to the pattern seen on permanent life insurance blocks of business with the youngest ages experiencing the highest rates of lapse (Figure 42).

Figure 42  
 10-Year Level Premium Term  
 Policy Lapse Rates by Issue Age Group — Policy Years 1-9  
 Includes 26 Companies



That pattern reverses itself at the end of the level premium guarantee period (Figure 43). Note that in policy years 10 and 11, the oldest ages experience the highest level of shock lapses. This is likely due to the fact that the increase in premium in policy year 11 has a greater impact at the older ages.

Figure 43  
 10-Year Level Premium Term  
 Policy Lapse Rates by Issue Age Group — All Durations  
 Includes 26 Companies



Although not as clear, results are similar on a face amount basis (Figures 44 and 45).

Figure 44  
 10-Year Level Premium Term  
 Face Amount Lapse Rates by Issue Age Group — Policy Years 1-9  
 Includes 26 Companies

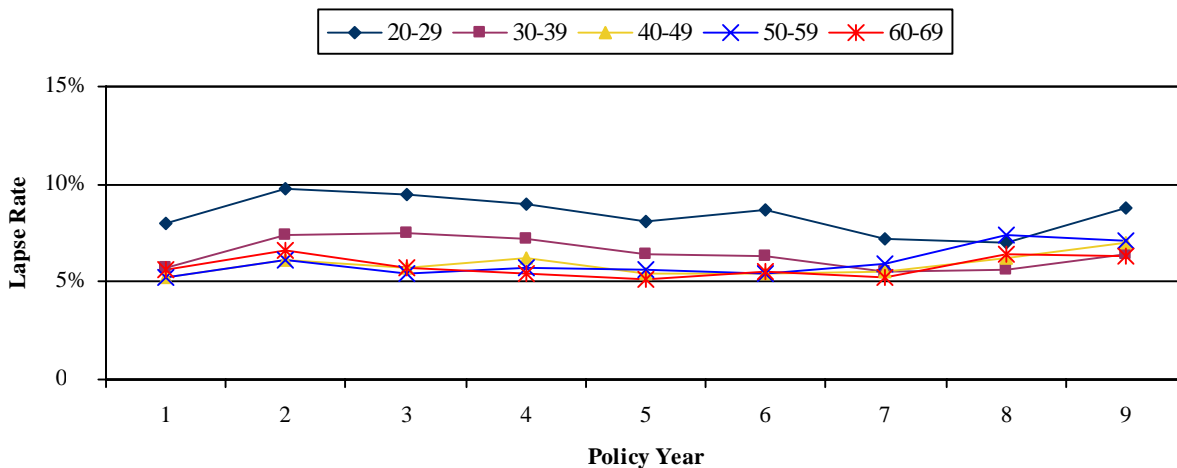
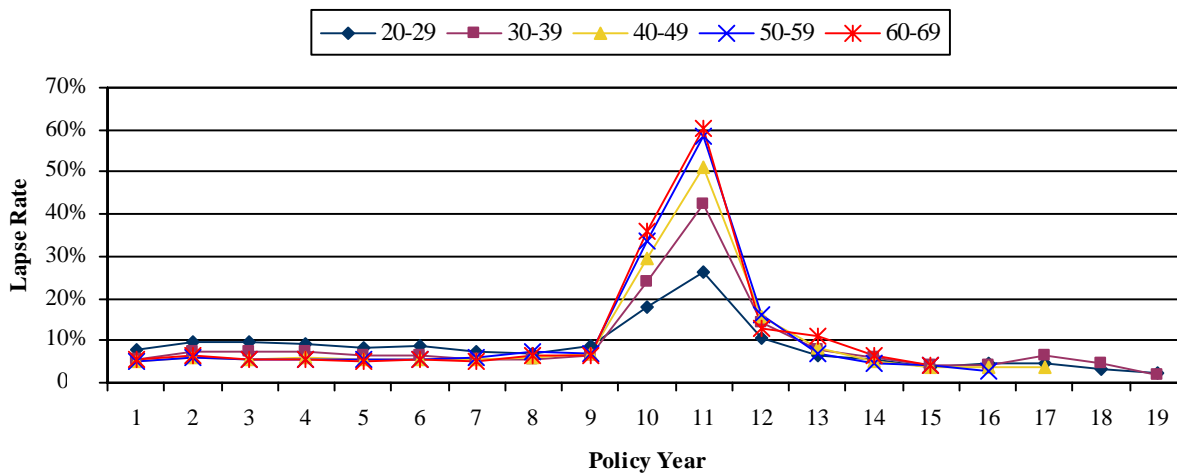


Figure 45  
 10-Year Level Premium Term  
 Face Amount Lapse Rates by Issue Age Group  
 Includes 26 Companies



### 20-Year Level Premium Term by Issue Age Cohort

The distribution of exposure by issue age for 20-year level premium term is as follows:

Table 11  
20-Year Level Premium Term Exposure by Issue Age Cohort

Issue Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	—	—
20-29	\$244,000	10%
30-39	\$386,000	39%
40-49	\$388,000	34%
50-59	\$301,000	15%
60-69	\$237,000	2%
<b>Total</b>	<b>\$356,000</b>	<b>100%</b>

The 20-year level premium term business shows an emerging pattern of experience similar to the 10-year level term plans (Figures 46 and 47). Through year 10, policy lapse rates decrease with increasing age at issue. Beginning in year 11, the pattern appears to be reversing itself.

Figure 46  
20-Year Level Premium Term  
Policy Lapse Rates by Issue Age Group  
Includes 25 Companies

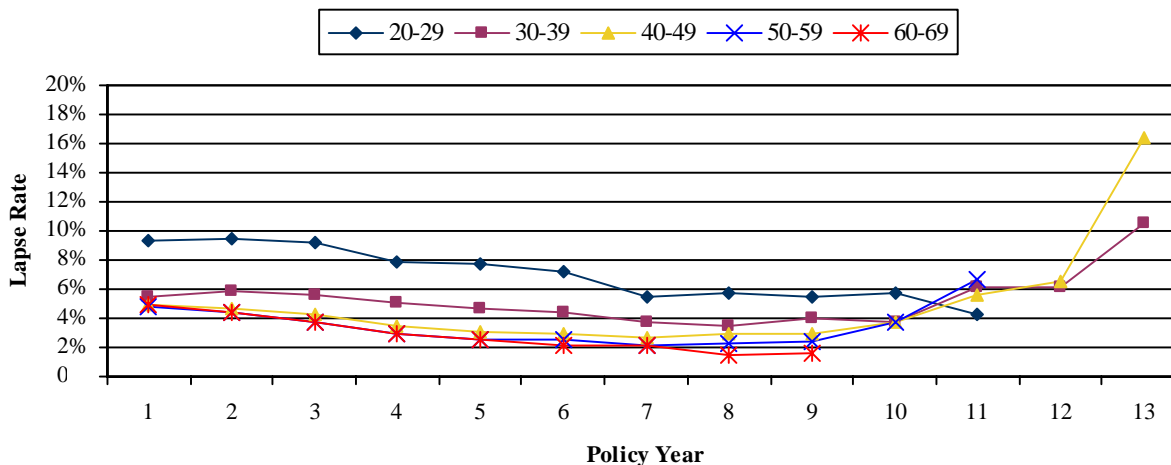
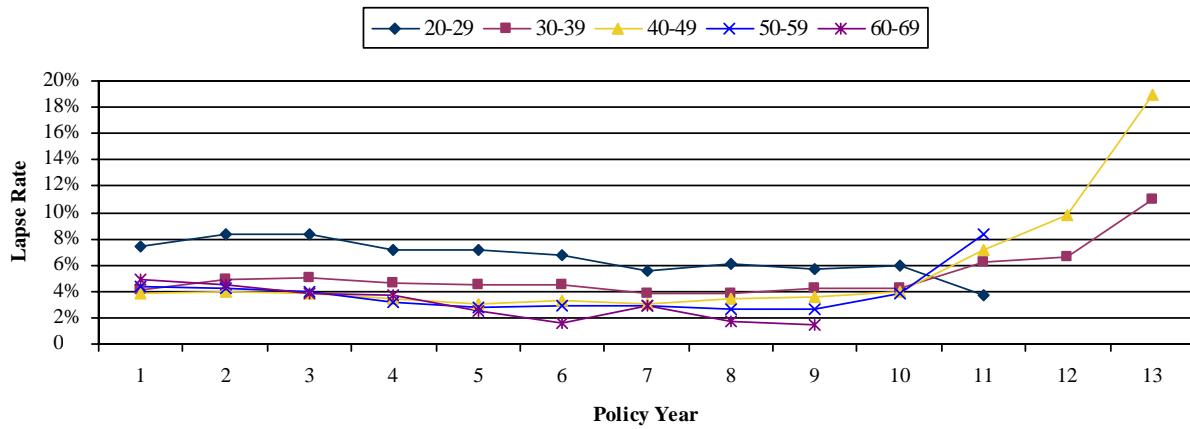




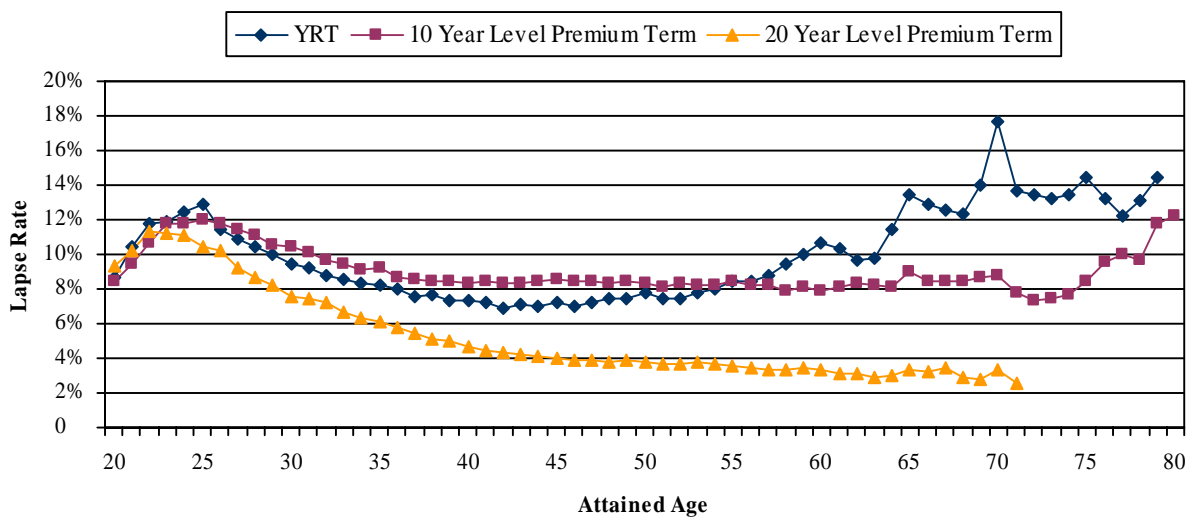
Figure 47  
 20-Year Level Premium Term  
 Face Amount Lapse Rates by Issue Age Group  
 Includes 25 Companies



### ATTAINED AGE

Figure 48 shows lapse rates for various attained ages by term plan. Note that after age 25, 20-year level term has experienced significantly lower rates of lapsation than other term products. Only the YRT plans show a material increase in lapse rates at typical retirement ages (65 and 70) as was seen with the whole life business.

Figure 48  
 Term Policy Lapse Rates by Attained Age  
 Includes 26 Companies



## PREMIUM PAYMENT MODE

For the twelve contributors that were able to split data by premium payment mode, the term insurance policy exposure is distributed as outlined in Table 12 below.

Table 12  
Term Policy Exposure by Premium Payment Mode

Premium Payment Mode	Average Face Amount Exposed	Percent of Policy Exposure
Annual	\$307,000	21%
Semi Annual	\$264,000	6%
Quarterly	\$244,000	20%
Monthly	\$246,000	53%
<b>Total</b>	<b>\$282,000</b>	<b>100%</b>

For permanent life insurance products, lapse rates generally increase with the number of premium payments made each year. In the case of term insurance business underlying the current study, semi annual policies exhibited slightly lower rates of lapse than their annual-pay counterparts (Figure 49). This result is largely driven by the YRT business (Figure 50).

Figure 49  
Term Policy Lapse Rates by Premium Payment Mode — All Plans Combined  
Includes 12 Companies

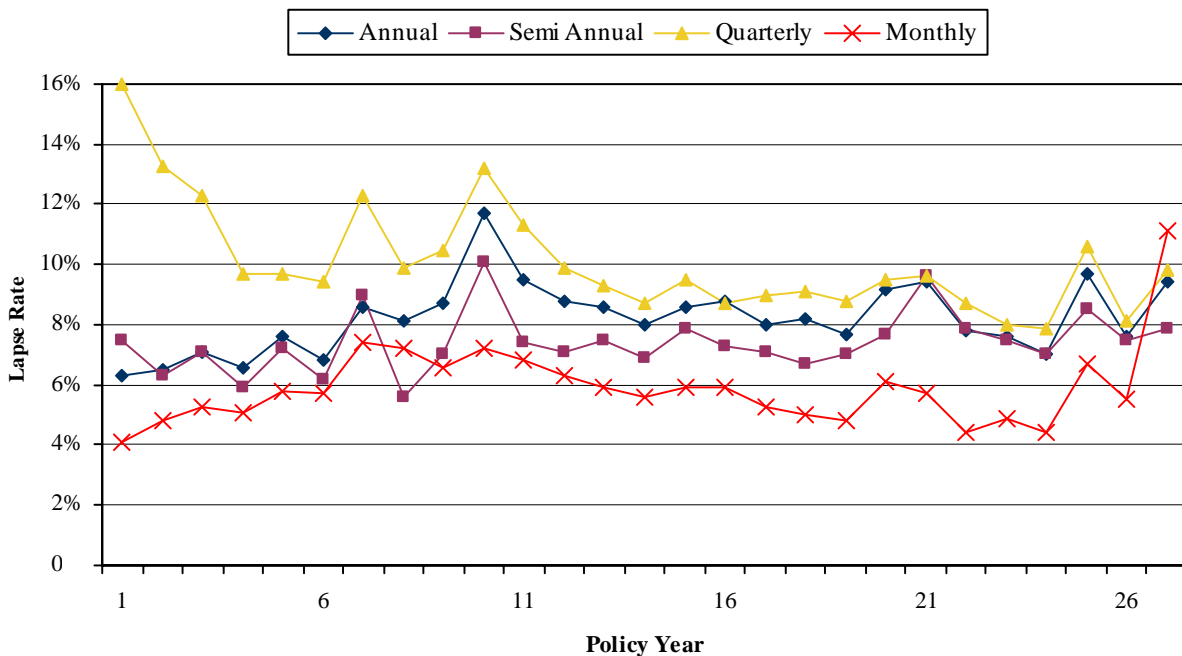
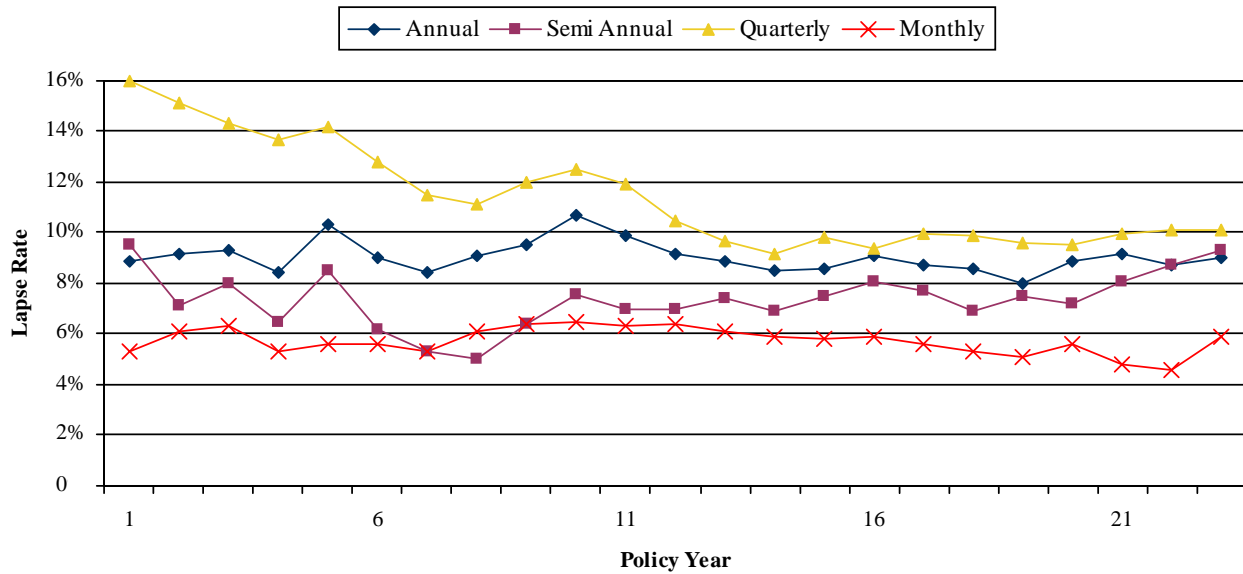


Figure 50  
YRT Policy Lapse Rates by Premium Payment Mode  
Includes 9 Companies



For the 10-year and 20-year level premium term blocks included in the current study, we see a pattern similar to permanent life insurance products with more frequent premium payment generally coinciding with higher rates of lapsation (again with the exception of the monthly-pay business) (Figures 51 and 52).

Figure 51  
10-Year Level Premium Term  
Policy Lapse Rates by Premium Payment Mode  
Includes 9 Companies

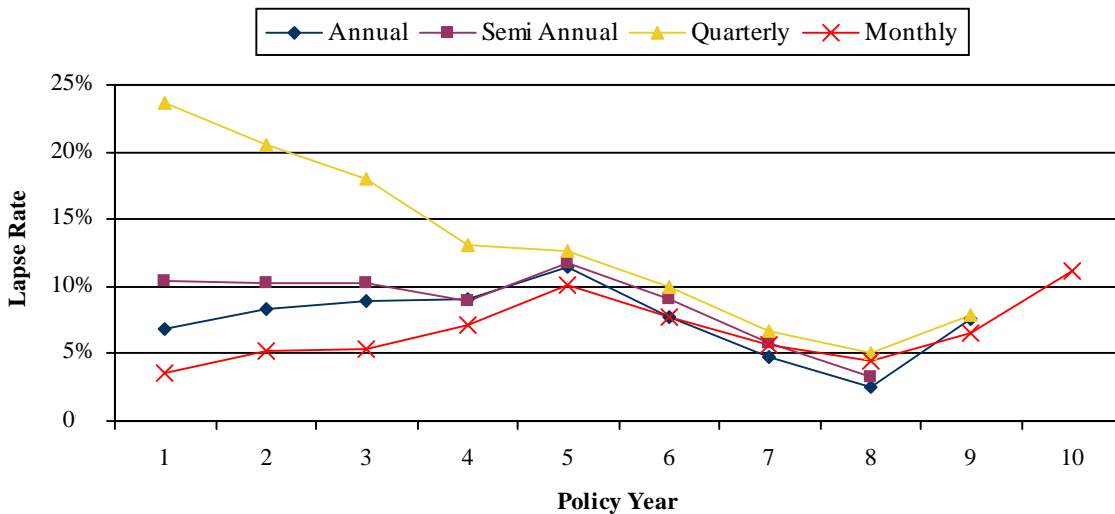
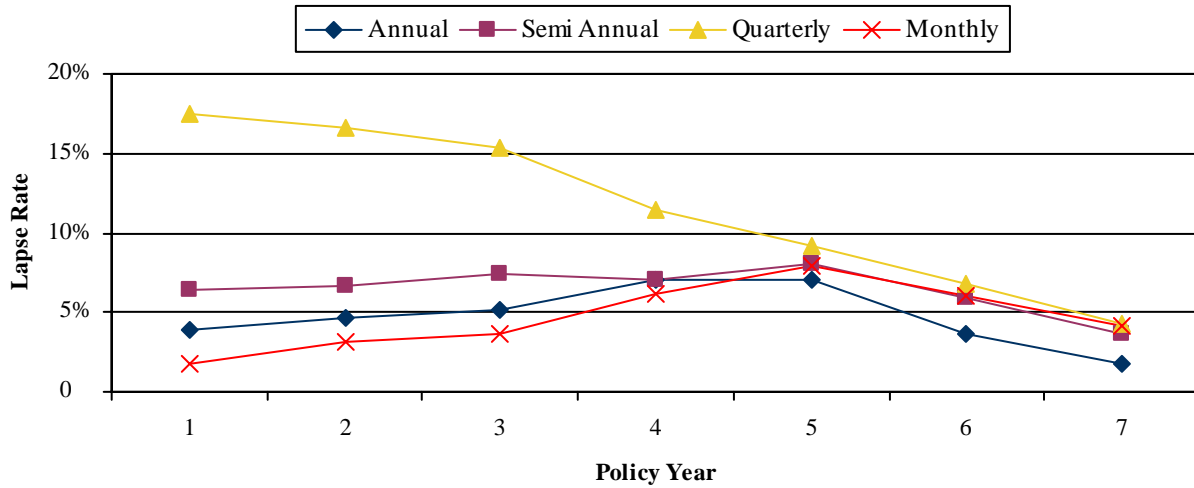


Figure 52  
 20-Year Level Premium Term  
 Policy Lapse Rates by Premium Payment Mode  
 Includes 9 Companies



## RISK CLASS

There were 11 companies that were able to contribute data split by risk class.

### YRT by Risk Class

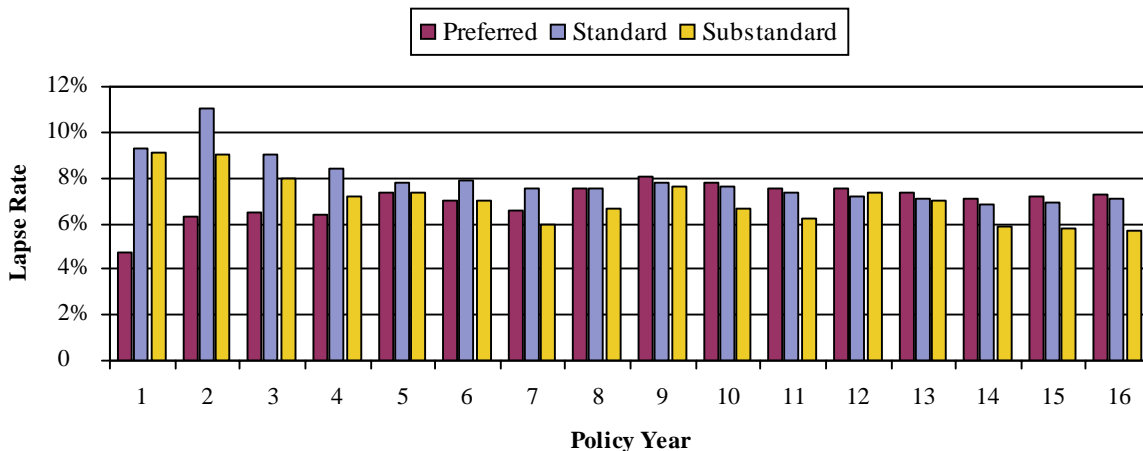
For the YRT products, the distribution of exposure by risk class is presented in Table 13.

Table 13  
 YRT Policy Exposure by Risk Class

Risk Class	Average Face Amount Exposed	Percent of Policy Exposure
Standard Risks	\$405,000	48%
Preferred Risks	\$172,000	45%
Substandard Risks	\$296,000	7
<b>Total</b>	<b>\$261,000</b>	<b>100%</b>

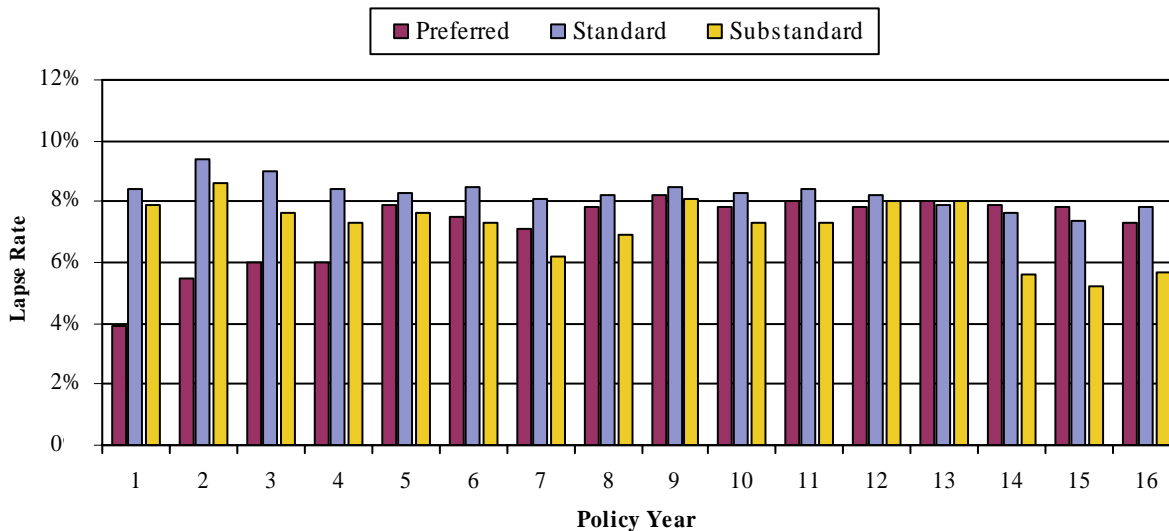
YRT policies classified as preferred risks at issue have the lowest rates of lapse during the first 6 policy years. In the later years, substandard policies exhibit similar or often lower lapse rates than policies issued as either preferred or standard risks (Figure 53).

Figure 53  
YRT Policy Lapse Rates by Risk Class  
Includes 11 Companies



The relationships are similar on a face amount basis but with lower rates of lapse for substandard policies beginning in year 5 (Figure 54).

Figure 54  
YRT Face Amount Lapse Rates by Risk Class  
Includes 11 Companies



### 10-Year Level Premium Term by Risk Class

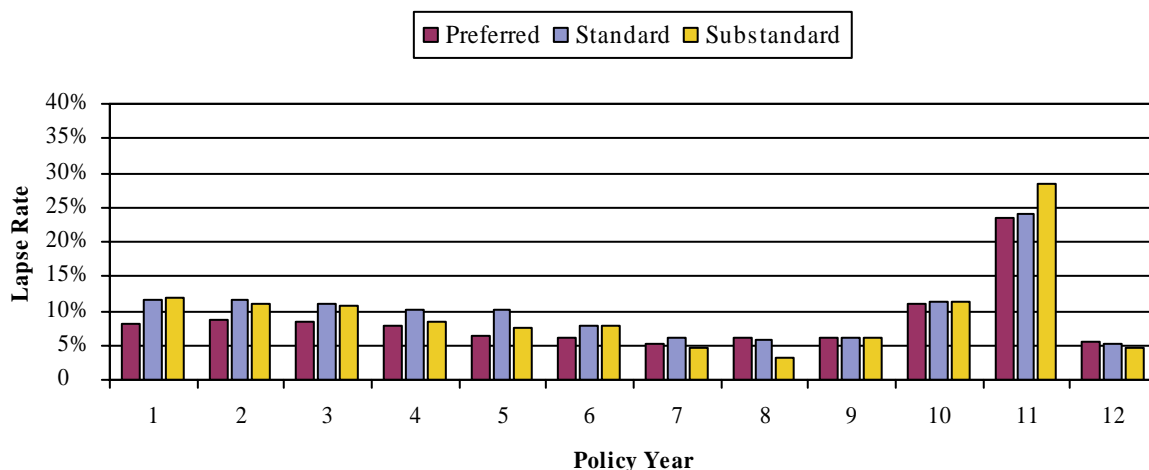
For the 10-year level premium term plans, the distribution of exposure by risk class is provided in Table 14.

Table 14  
10-Year Term Policy Exposure by Risk Class

Risk Class	Average Face Amount Exposed	Percent of Policy Exposure
Standard Risks	\$217,000	20%
Preferred Risks	\$327,000	60%
Substandard Risks	\$78,000	20%
<b>Total</b>	<b>\$254,000</b>	<b>100%</b>

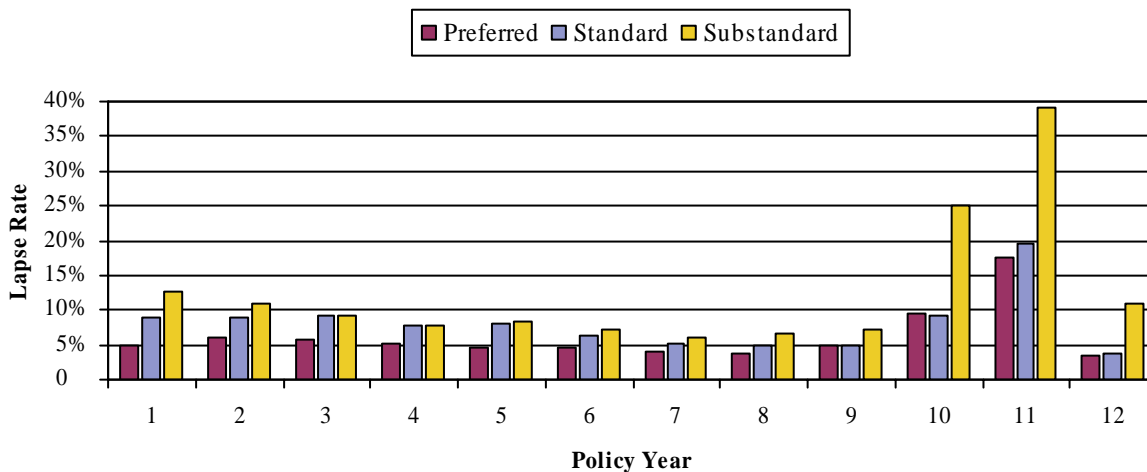
Like YRT, the 10-year level term insurance policies that were classified as preferred risks at issue exhibited the lowest rates of lapsation during the first several policy years (Figure 55). However, substandard policies experienced the same or lower rates of lapse as standard business until policy year 11 where the impact of the higher post-guarantee premium levels appears to have a slightly greater impact on substandard business (28 percent lapse rate for substandard policies versus 24 percent lapse rate for preferred and standard policies).

Figure 55  
10-Year Term Policy Lapse Rates by Risk Class  
Includes 8 Companies



There is a much greater variation in shock lapse rates on a face amount basis than on a policy basis (39 percent lapse rate in policy year 11 for substandard policies versus 18 percent for preferred and 20 percent for standard) (Figure 56).

Figure 56  
10-Year Term Face Amount Lapse Rates by Risk Class  
Includes 8 Companies



## SMOKING STATUS

Twenty-three companies contributed data split by smoking status.

### YRT by Smoking Status

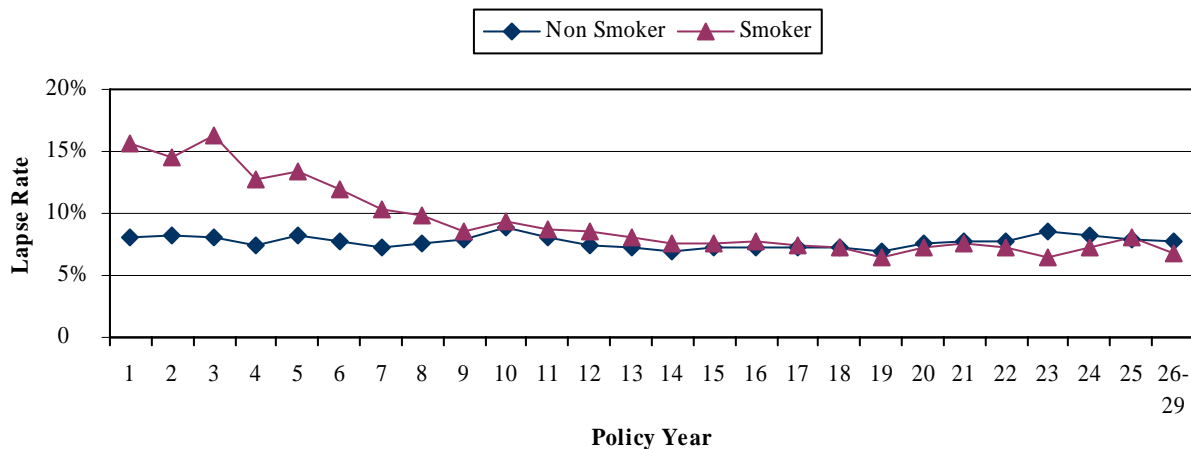
For YRT plans, the distribution of exposure by smoking status is presented in Table 15.

Table 15  
YRT Policy Exposure by Smoking Status

Smoking Status	Average Face Amount Exposed	Percent of Policy Exposure
Smokers	\$151,000	12%
Non Smokers	\$284,000	88%
<b>Total</b>	<b>\$268,000</b>	<b>100%</b>

Smokers lapse more often than nonsmokers in the early policy years (Figure 57). After duration 8, lapse rates for smokers and non smokers are similar. For term insurance buyers, price is often the key consideration in the purchase and retention of a policy. It is possible that smokers either found their policies too expensive to maintain or they may have shopped for more competitive rates.

Figure 57  
 YRT Policy Lapse Rates by Smoking Status  
 Includes 22 Companies



These results are consistent across all term insurance product designs. The difference in lapse rates between smokers and non smokers appears to wear off faster for 10-year level premium term than YRT. (Figures 58 and 59) There is very little variation in shock lapse rates by smoking status.

### 10-Year Level Premium Term by Smoking Status

For the 10-year level premium term plans, the distribution of exposure by smoking status is presented in Table 16.

Table 16  
 10-Year Term Policy Exposure by Smoking Status

Smoking Status	Average Face Amount Exposed	Percent of Policy Exposure
Smokers	\$406,000	12%
Non Smokers	\$325,000	88%
<b>Total</b>	<b>\$335,000</b>	<b>100%</b>



Figure 58  
 10-Year Term Policy Lapse Rates by Smoking Status  
 Includes 23 Companies

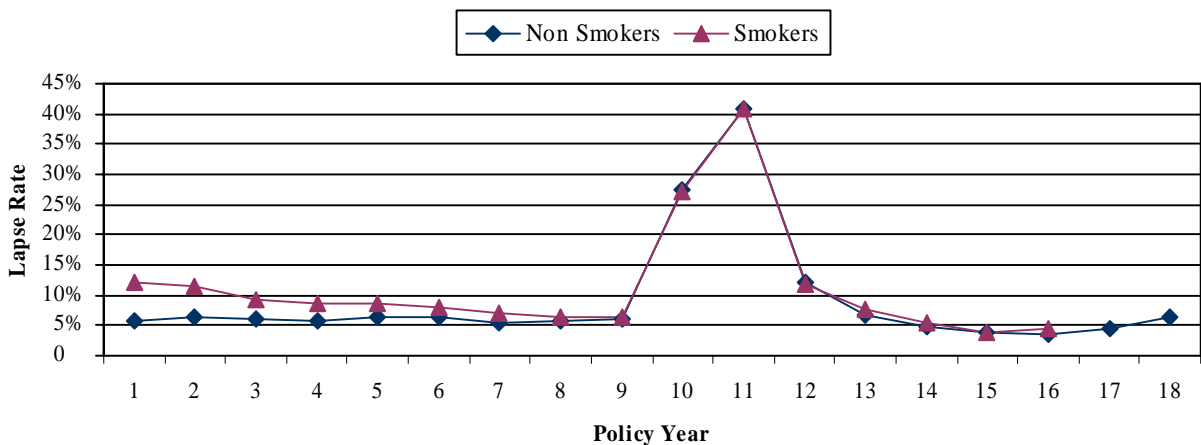
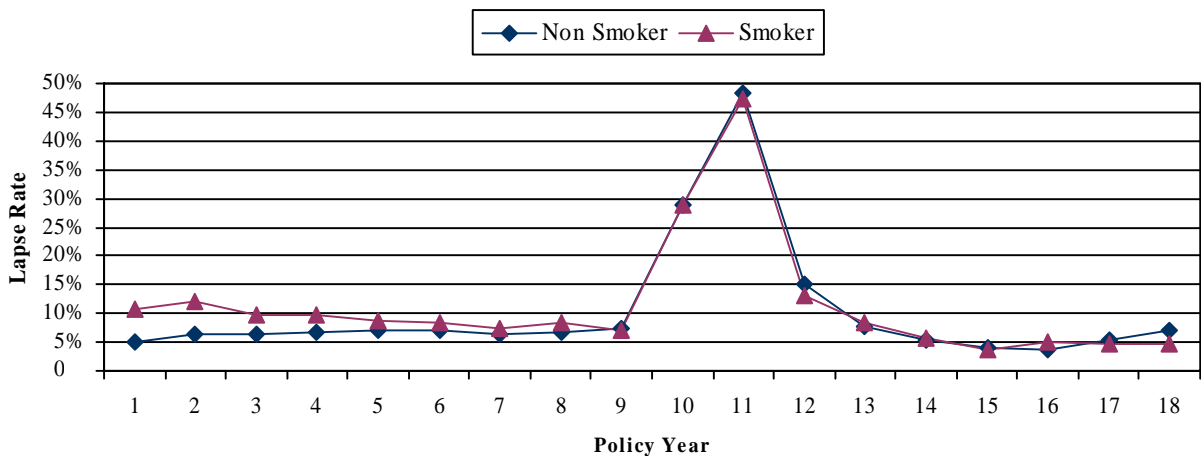


Figure 59  
 10-Year Term Face Amount Lapse Rates by Smoking Status  
 Includes 23 Companies



**20-Year Level Premium Term by Smoking Status**

For the 20-year level premium term plans, the distribution of exposure by smoking status is presented in Table 17.

Table 17  
20-Year Term Policy Exposure by Smoking Status

Smoking Status	Average Face Amount Exposed	Percent of Policy Exposure
Smokers	\$196,000	7%
Non Smokers	\$366,000	93%
<b>Total</b>	<b>\$355,000</b>	<b>100%</b>

In contrast to the 10-year level term business, for 20-year level term policies, the difference in lapse experience between smokers and non smokers appears to continue beyond policy year 11 (Figures 60 and 61).

Figure 60  
20-Year Term Policy Lapse Rates by Smoking Status  
Includes 23 Companies

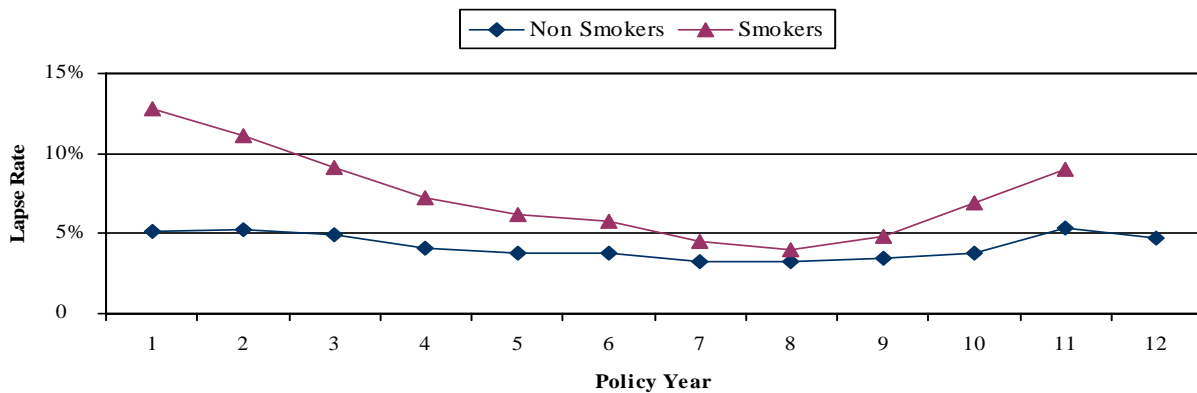
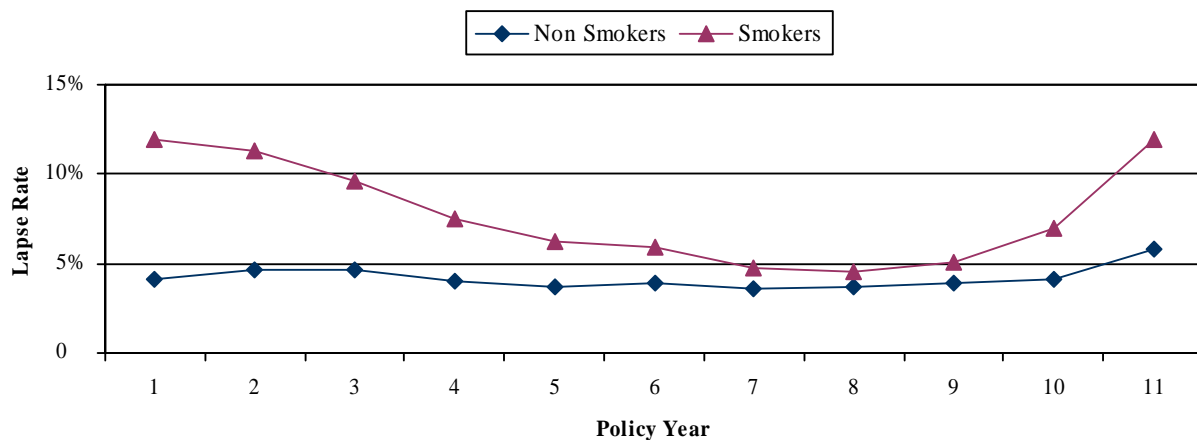


Figure 61  
20-Year Term Face Amount Lapse Rates by Smoking Status  
Includes 23 Companies



## UNDERWRITING METHOD

Thirteen companies contributed term data split by underwriting method.

### YRT by Underwriting Method

For YRT plans, the distribution of exposure by underwriting method is presented in Table 18.

Table 18  
YRT Policy Exposure by Underwriting Method

Underwriting Method	Average Face Amount Exposed	Percent of Policy Exposure
Full Medical Underwriting	\$393,000	19%
Paramedical Underwriting	\$341,000	41%
Non Medical Underwriting	\$108,000	40%
<b>Total</b>	<b>\$258,000</b>	<b>100%</b>

Looking at results by the underwriting method used, after duration 4, YRT policies issued on a medical or paramedical basis experienced higher lapse rates than those issued on a non medical basis (Figures 62 and 63). Paramedical and medical business tends to include more of the larger policies and therefore may be more likely to be shopped and subsequently replaced.

Figure 62  
YRT Policy Lapse Rates by Underwriting Method  
Includes 13 Companies

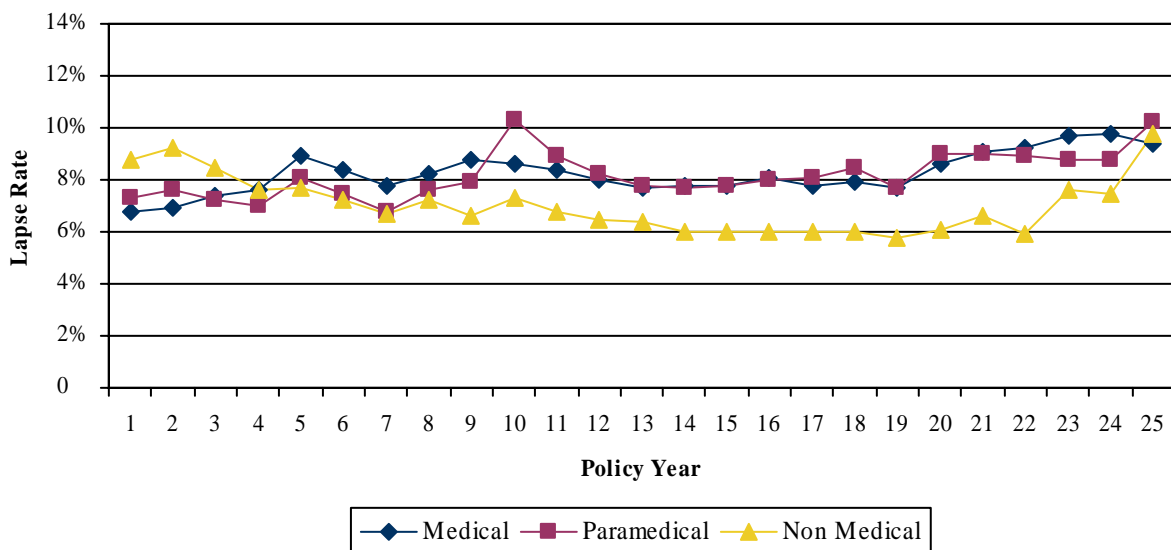
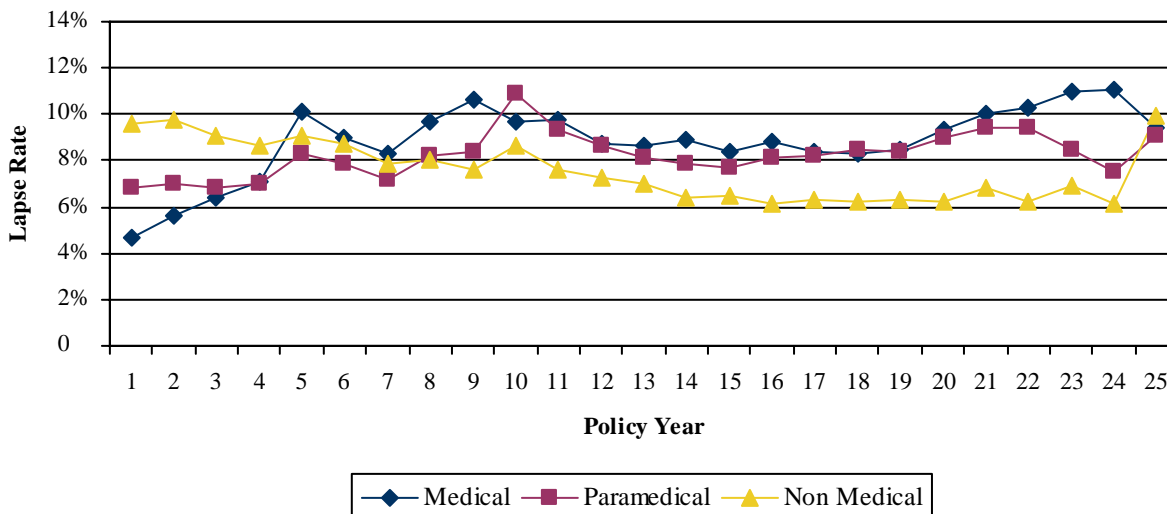


Figure 63  
YRT Face Amount Lapse Rates by Underwriting Method  
Includes 13 Companies



### 10-Year Level Premium Term by Underwriting Method

For 10-year level premium term plans, the distribution of exposure by underwriting method is presented in Table 19.

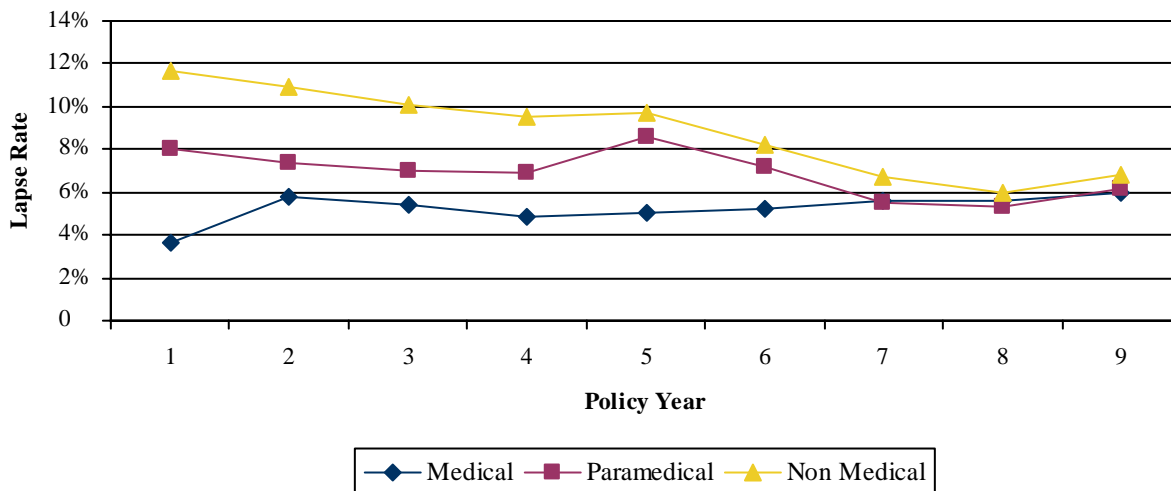
Table 19  
10-Year Term Policy Exposure by Underwriting Method

Underwriting Method	Average Face Amount Exposed	Percent of Policy Exposure
Full Medical Underwriting	\$369,000	34%
Paramedical Underwriting	\$307,000	39%
Non Medical Underwriting	\$157,000	27%
Simplified Issue Underwriting	—	—
<b>Total</b>	<b>\$286,000</b>	<b>100%</b>

— A small amount of 10-year term simplified issue business was submitted for the current study, however, there were too few companies represented to include in the results.

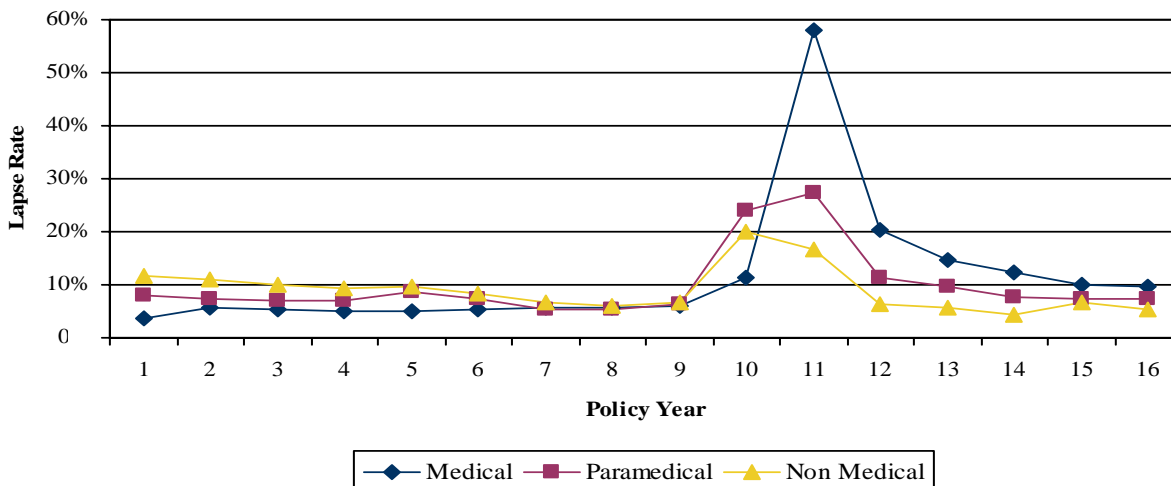
For the 10-year term business in the premium guarantee period, lapse rates tend to decrease as the underwriting process becomes more rigorous (Figure 64).

Figure 64  
10-Year Term Policy Lapse Rates by Underwriting Method — First 9 Policy Years  
Includes 13 Companies



However, that trend appears to reverse itself at the end of the premium guarantee period (Figure 65). Shock lapses are greater for blocks issued with more rigorous underwriting (58 percent for medical, 27 percent for paramedical, and 17 percent for non medical in policy year 11). This occurs on both a policy and a face amount basis. It is in part due to the increase in premium rates after policy year 10 having a greater impact on larger policies. However, this also demonstrates greater persistency on policies with less rigorous underwriting.

Figure 65  
10-Year Term Policy Lapse Rates by Underwriting Method — Shock Lapses  
Includes 13 Companies



## 20-Year Level Premium Term by Underwriting Method

For 20-year level premium term plans, the distribution of exposure by underwriting method is presented in Table 20.

Table 20  
20-Year Term Policy Exposure by Underwriting Method

Underwriting Method	Average Face Amount Exposed	Percent of Policy Exposure
Full Medical Underwriting	\$391,000	36%
Paramedical Underwriting	\$378,000	43%
Non Medical Underwriting	\$182,000	21%
Simplified Issue Underwriting	—	—
<b>Total</b>	<b>\$342,000</b>	<b>100%</b>

— A small amount of 20-year term simplified issue business was submitted for the current study, however, there were too few companies represented to include in the results.

The 20-year term plans show a pattern of emerging lapse experience very similar to the 10-year term plans (Figures 66 and 67). In the early years, lapse rates decline as the underwriting process becomes more rigorous.

Figure 66  
20-Year Term Policy Lapse Rates by Underwriting Method  
Includes 13 Companies

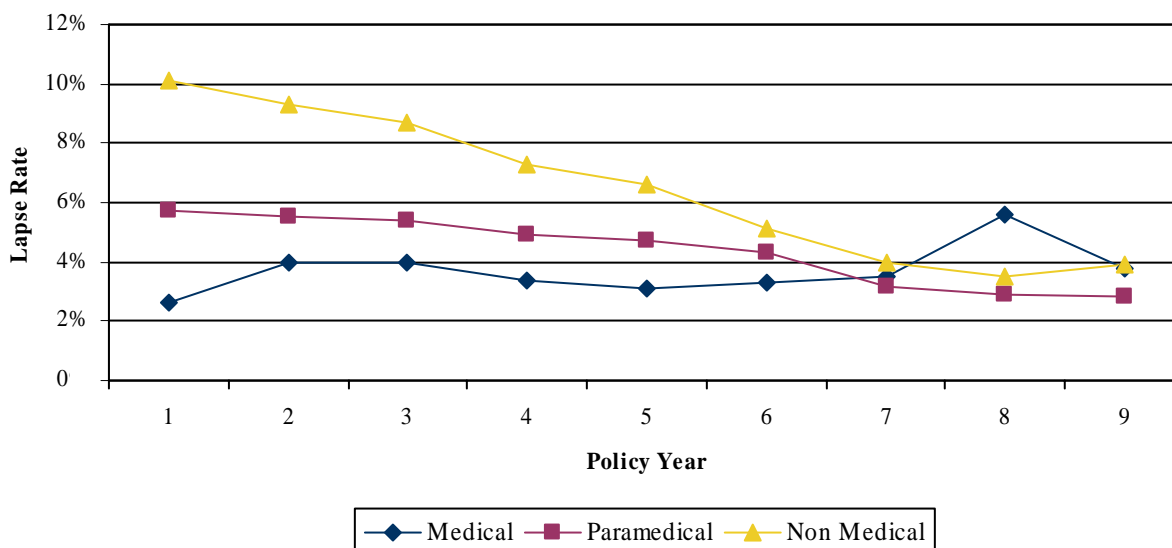
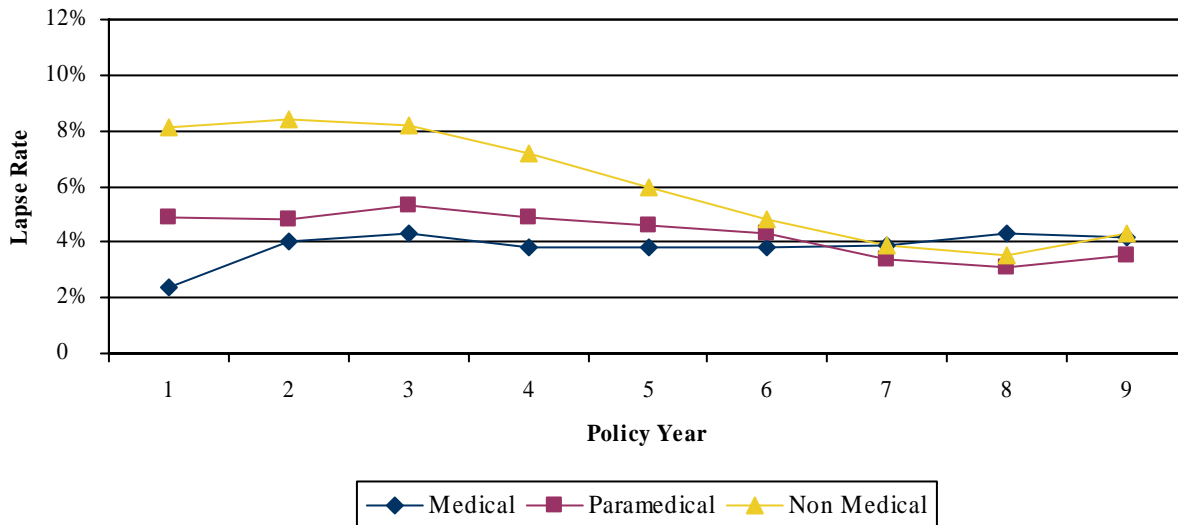


Figure 67  
20-Year Term Face Amount Lapse Rates by Underwriting Method  
Includes 13 Companies

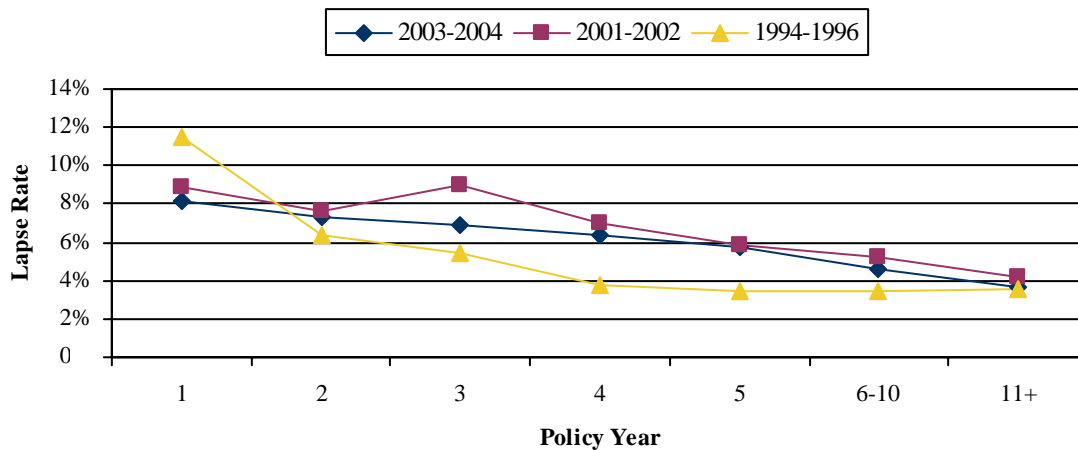


## UNIVERSAL LIFE INSURANCE

This chapter examines lapse experience for universal life insurance policies. As a result, the underlying data consists mostly of traditional current assumption universal life product designs. However, a portion of the policies covered by the observation period of the study were issued with the strong no-lapse guarantees that have become popular in the universal life marketplace over the past several years.

On a policy basis, the overall lapse rate for universal life products for all policy years combined declined to 4.6 percent during 2003-2004 from 5.3 percent during 2001-2002. Figure 68 below shows the trend in policy lapse rates by duration for universal life plans since the mid-1990s. There has been a slight reduction in lapse rates at all policy durations between the 2001-2002 experience period and the current study.

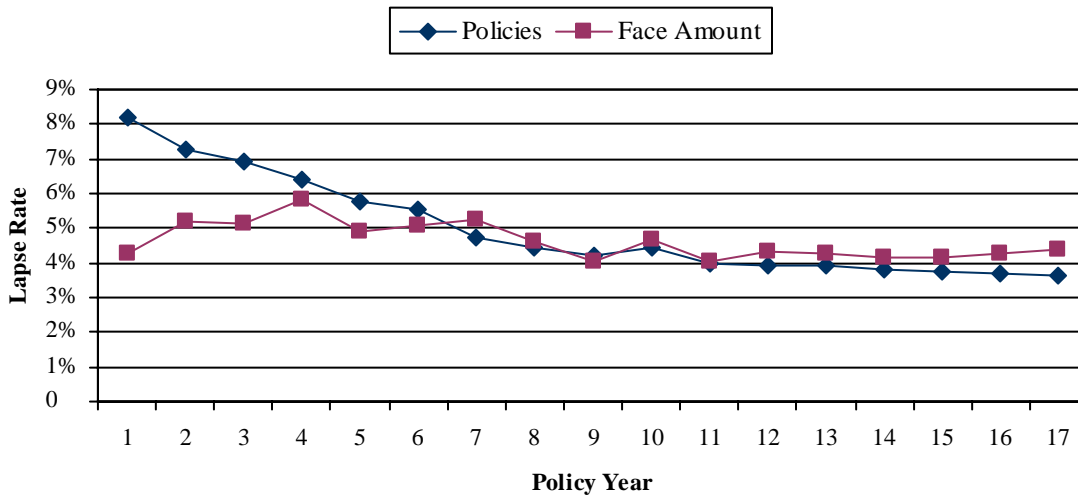
Figure 68  
Trend in Universal Life Insurance Policy Lapse Rates



For policies in years 1 through 6, lapse rates are lower on a face amount basis than on a policy basis (Figure 69). After duration 6, lapses rates on policy basis and face amount basis are similar.



Figure 69  
Universal Life Insurance Lapse Rates

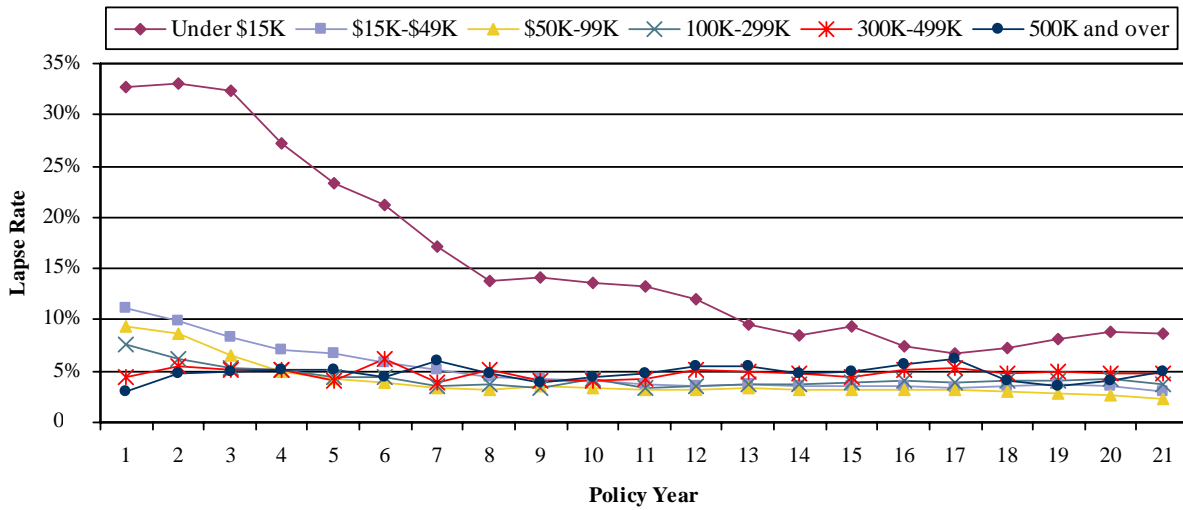


For the 36 individual life carriers that provided universal life data for this report, the average face amount exposed was \$126,000 (Table 21). For new issues the average policy size was \$234,000. The smallest policies — those under \$15,000 in face amount, have significantly higher rates of lapsation than all the other policy size groups examined (Figure 70). Lapse rates for more recently issued policies tend to decrease as the size of the policy increases. After the first five years, lapse rates are similar for policy size groups over \$15,000.

Table 21  
Universal Life Exposure by Policy Size

Policy Size	Average Face Amount Exposed	Percent of Policy Exposure
Under \$15,000	\$8,700	4%
\$15,000-\$49,999	\$25,000	26%
\$50,000-\$99,999	\$57,000	33%
\$100,000-299,999	\$139,000	30%
\$300,000-499,999	\$357,000	3%
\$500,000 and over	\$1,160,000	4%
<b>Total</b>	<b>\$126,000</b>	<b>100%</b>

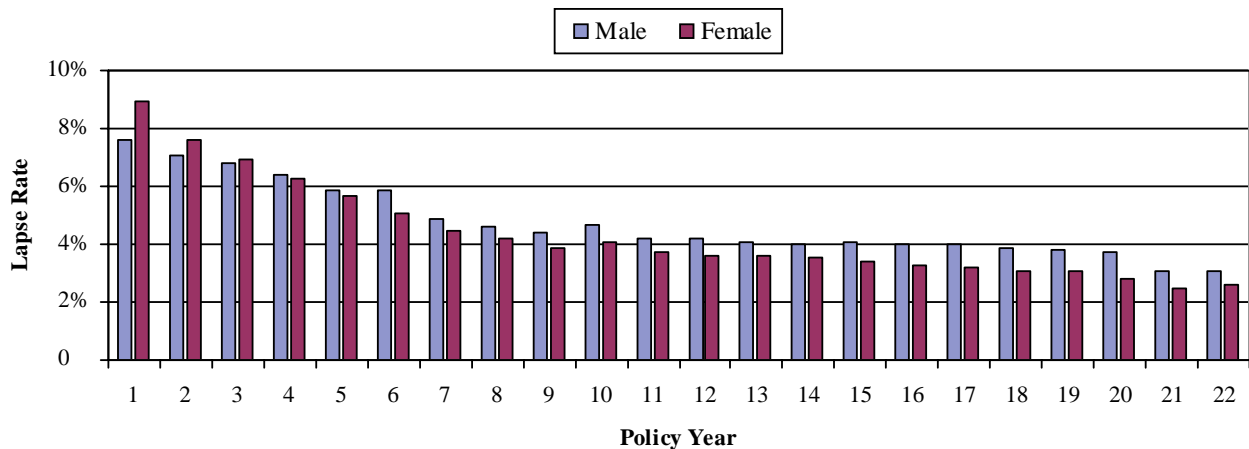
Figure 70  
Universal Life Lapse Rates by Policy Size



## GENDER

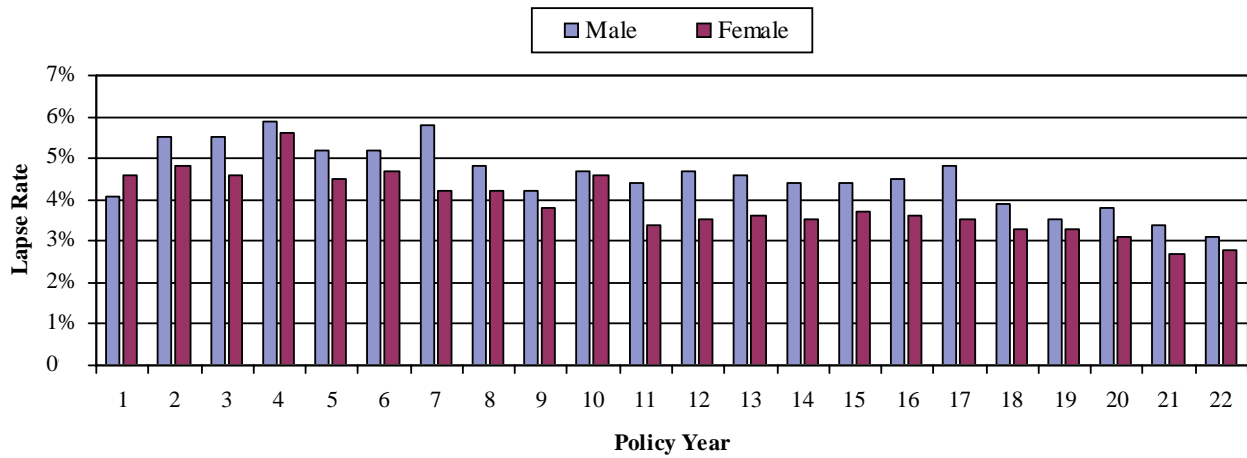
Universal life policies are distributed 57 percent male (down from 65 percent in 2002) and 43 percent female (up from 35 percent in 2002) by policy count. By face amount, exposure is distributed 66 percent male and 34 percent female. The average face amount for males is \$145,000 while the average for females is \$103,000. On a policy basis, rates of lapsation for female universal life policyholders are higher than males during the first three policy years (Figure 71). After year 3, lapses for females are consistently lower than for males.

Figure 71  
Universal Life Policy Lapse Rates by Gender  
Includes 36 Companies



On a face amount basis, women exhibited lower lapse rates than their male counterparts for all policy durations after year one (Figure 72).

Figure 72  
 Universal Life Face Amount Lapse Rates by Gender  
 Includes 36 Companies



## ISSUE AGE

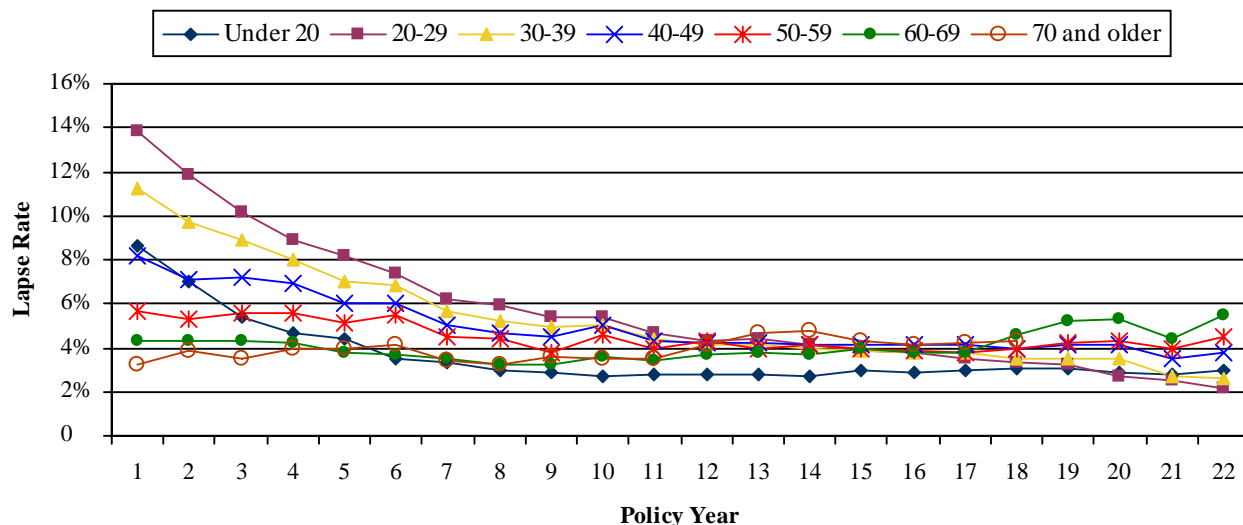
By issue age cohort, the universal life exposure base breaks down as follows:

Table 22  
 Universal Life Policy Exposure by Issue Age Cohort

Issue Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$38,000	19%
20-29	\$89,000	15%
30-39	\$130,000	24%
40-49	\$160,000	21%
50-59	\$177,000	13%
60-69	\$188,000	6%
70 and older	\$318,000	2%
<b>Total</b>	<b>\$126,000</b>	<b>100%</b>

Like whole life products, universal life insurance lapse rates generally decrease with increasing age at issue during the first 10 years (Figure 73). The exception to this is when policyholders are under age 20 at issue.

Figure 73  
 Universal Life Policy Lapse Rates by Issue Age Group  
 Includes 36 Companies



## ATTAINED AGE

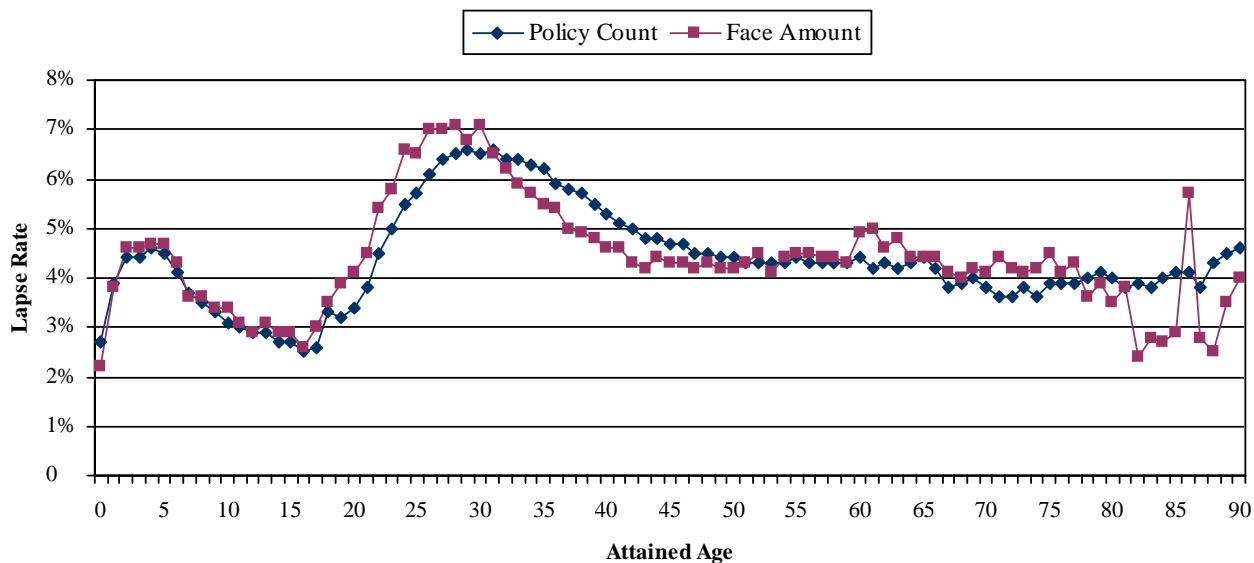
By attained age cohort, the current study universal life exposure base breaks down as follows:

Table 23  
 Universal Life Policy Exposure by Attained Age Cohort

Attained Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$36,000	10%
20-29	\$55,000	8%
30-39	\$111,000	13%
40-49	\$137,000	22%
50-59	\$149,000	23%
60-69	\$157,000	14%
70 and older	\$176,000	10%
<b>Total</b>	<b>\$126,000</b>	<b>100%</b>

Figure 74 shows lapse rates by attained age for universal life plans included in the current study. As has been demonstrated in past industry studies of individual life insurance lapse experience, for permanent life insurance products and ages over 30, persistency generally improves significantly with increasing attained age.

Figure 74  
 Universal Life Policy Lapse Rates by Attained Age  
 Includes 36 Companies



## RISK CLASS

There were 12 companies that contributed universal life data split by risk class.

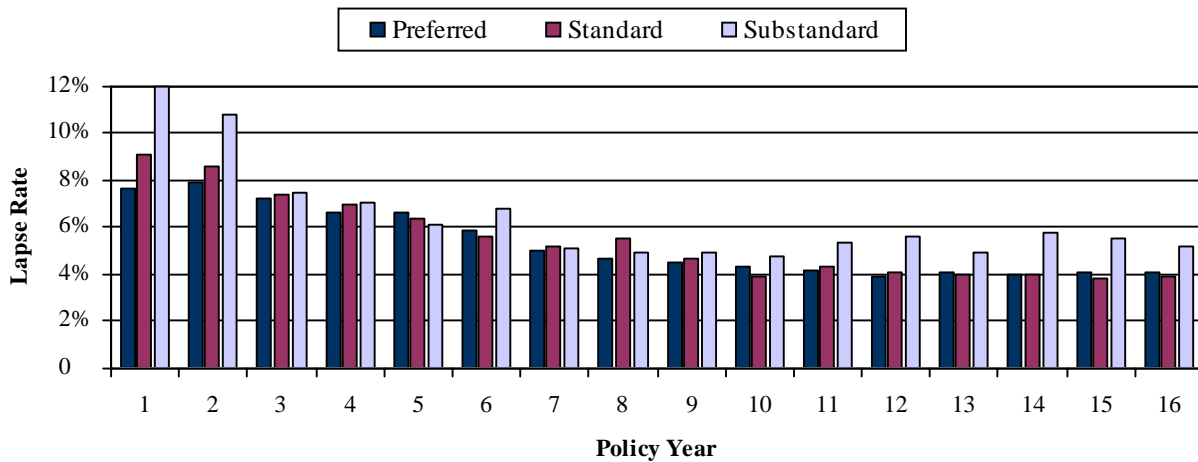
The distribution of exposure by risk class is presented in Table 24.

Table 24  
 UL Policy Exposure by Risk Class

Risk Class	Average Face Amount Exposed	Percent of Policy Exposure
Preferred Risks	\$138,000	38%
Standard Risks	\$99,000	59%
Substandard Risks	\$155,000	3%
<b>Total</b>	<b>\$116,000</b>	<b>100%</b>

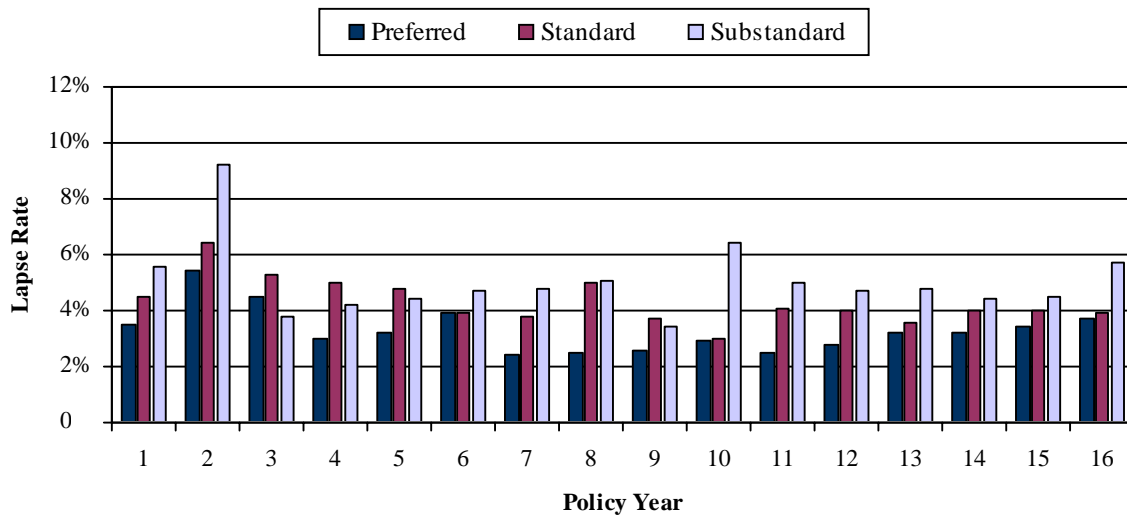
Overall substandard UL policies exhibit a greater rate of lapse (7.1 percent on a policy basis) than policies issued on either a standard or preferred basis (4.7 percent and 5.2 percent respectively) (Figure 75).

Figure 75  
UL Policy Lapse Rates by Risk Class  
Includes 12 Companies



Experience by risk class is similar on a face amount basis (Figure 76).

Figure 76  
UL Face Amount Lapse Rates by Risk Class  
Includes 12 Companies



## SMOKING STATUS

The universal life policy exposure base is 85 percent non smoker. Smokers exhibit higher rates of lapse than non smokers at all policy durations (Figure 77). The lapse pattern is similar on a face amount basis (Figure 78).

Figure 77  
UL Policy Lapse Rates by Smoking Status  
Includes 36 Companies

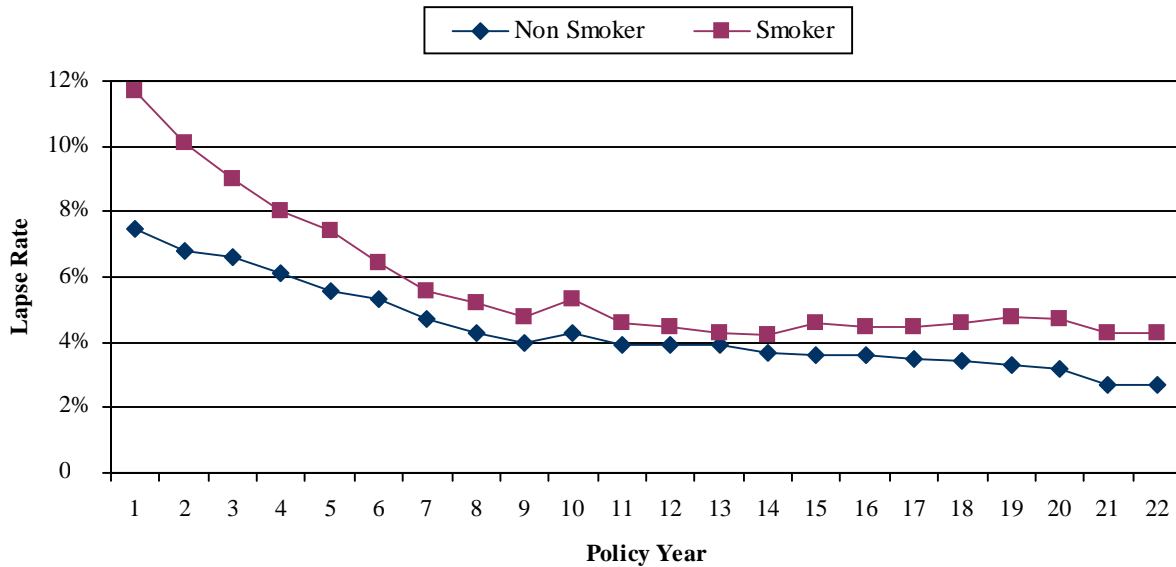
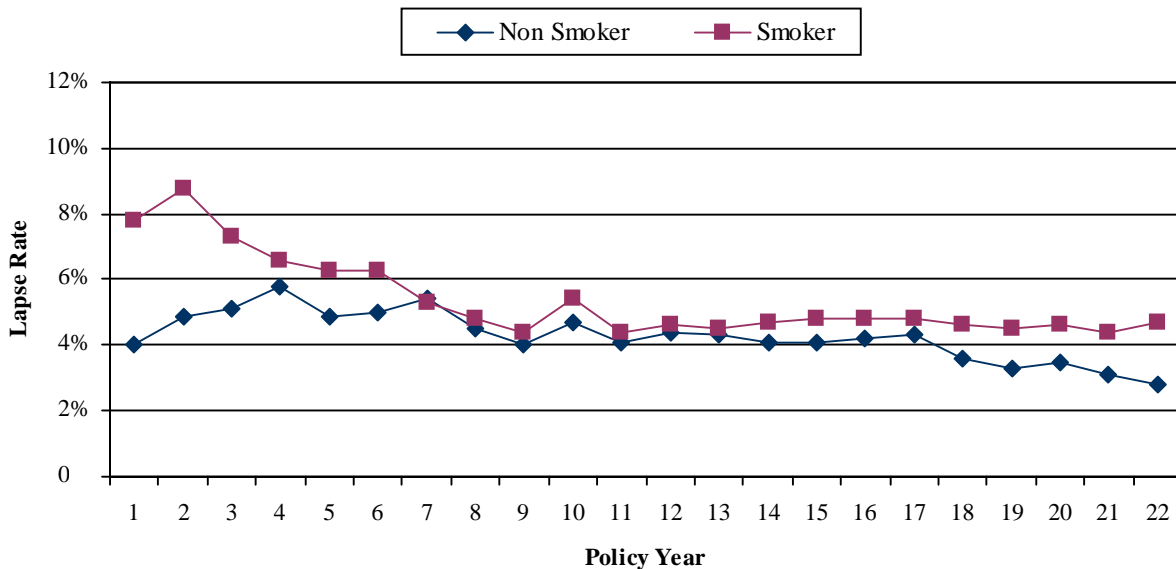


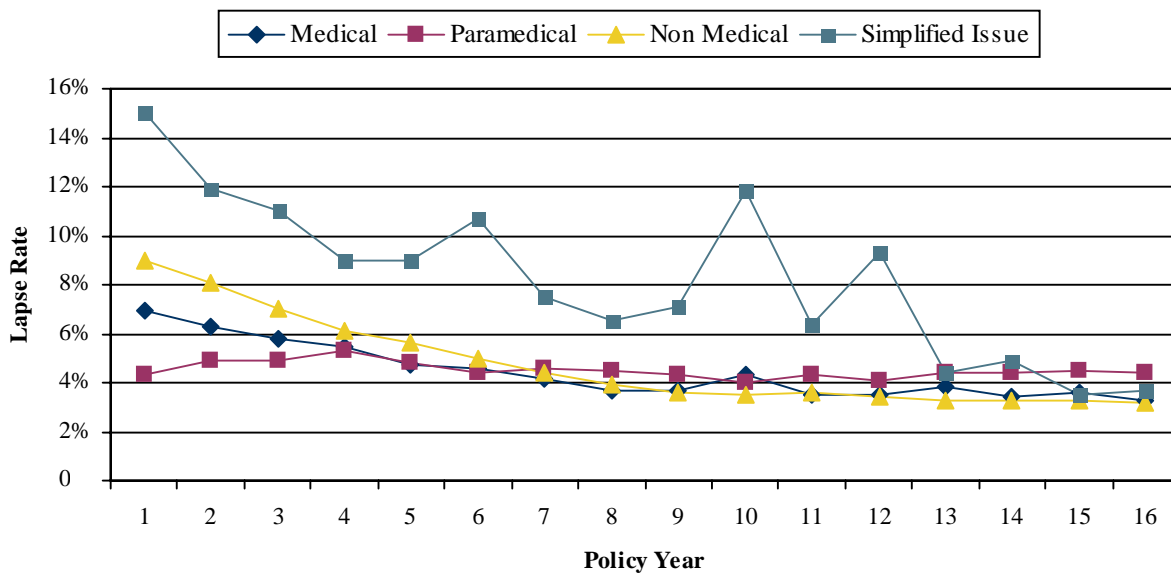
Figure 78  
UL Face Amount Lapse Rates by Smoking Status  
Includes 36 Companies



## UNDERWRITING METHOD

The policy exposure underlying the universal life lapse results by underwriting method was distributed 64 percent non-medical, 11 percent medical, 19 percent paramedical, and 5 percent simplified issue. In the early durations, UL policies issued with full medical underwriting or on a paramedical basis exhibit the lowest rates of lapse (Figure 79). As is seen with other products, policies issued on a simplified underwriting basis exhibit higher rates of lapsation until the later policy years.

Figure 79  
UL Policy Lapse Rates by Underwriting Method  
Includes 20 Companies





## DEATH BENEFIT OPTION

For the few contributors that provided universal life insurance data split by death benefit option, the policy exposure was split 76 percent level death benefit and 24 percent level net amount at risk. Lapse rates for policies that elect a level net amount at risk tend to be higher during the early policy years and lower during the later years (Figures 80 and 81).

Figure 80  
Universal Life Policy Lapse Rates by Death Benefit Option  
Includes 6 Companies

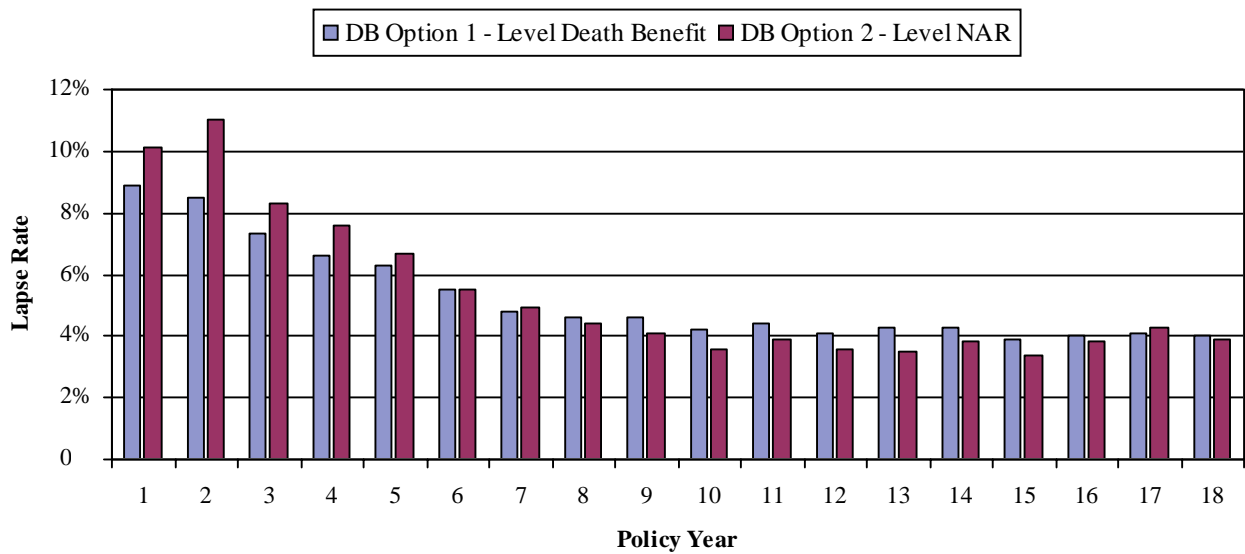
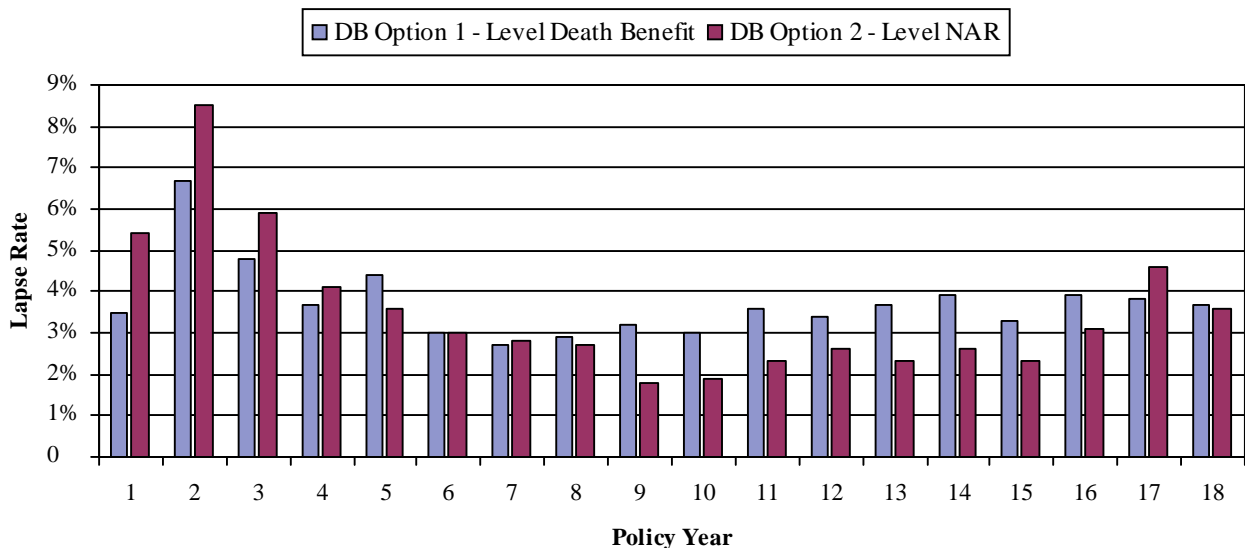


Figure 81  
Universal Life Face Amount Lapse Rates by Death Benefit Option  
Includes 6 Companies

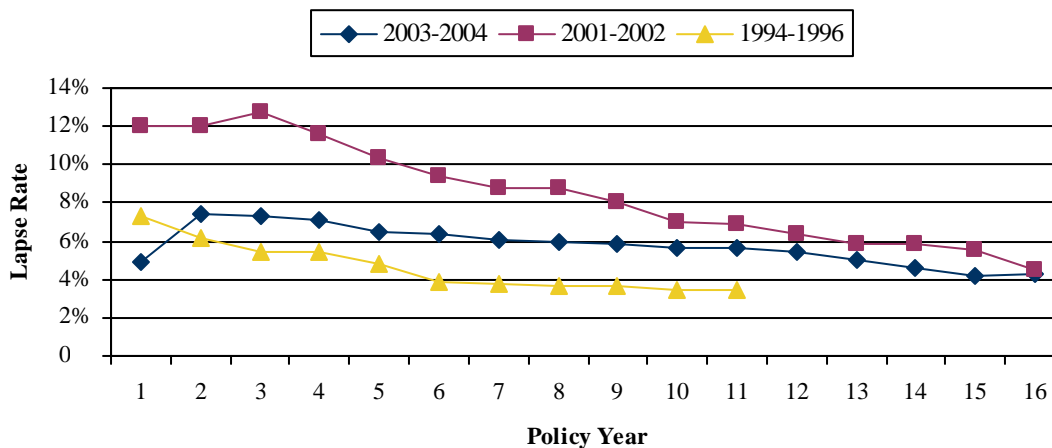


## VARIABLE UNIVERSAL LIFE INSURANCE

The variable universal life insurance portion of this report is based on data submitted by 21 VUL carriers.

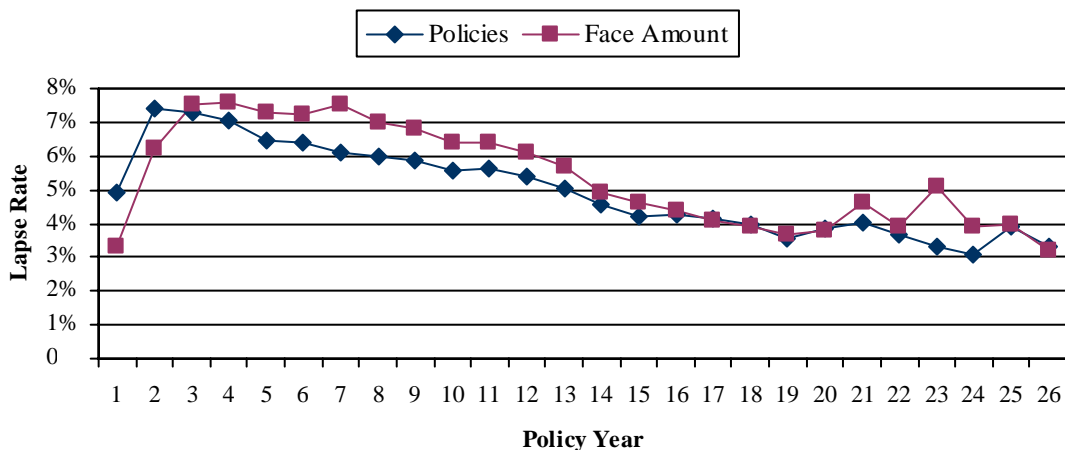
The overall lapse rate for variable universal life plans covered by the current study is 5.7 percent on a policy basis (down from 8.5 percent during calendar years 2001-2002) and 6.4 percent on a face amount basis (down from 8.8 percent during calendar years 2001-2002). Figure 82 below shows policy lapse rates by year for variable universal life plans over the past decade. Lapse rates have come down from the 2001-2002 level, but are not at the levels that were seen in the mid-1990s.

Figure 82  
Trend in Variable Universal Life Insurance Policy Lapse Rates



Lapse rates for variable universal life plans are generally higher on a face amount basis than on a policy basis — indicating a tendency for larger policies to lapse during the most recent experience period (Figure 83).

Figure 83  
Variable Universal Life Lapse Rates



## GENDER

Variable universal life policies are distributed 60 percent male and 40 percent female by policy count and 68 percent male and 32 percent female by face amount. The average face amount for males is \$213,000 while the average for females is \$148,000. Lapse rates for male variable universal life policyholders are slightly higher than females at most policy durations (Figures 84 and 85).

Figure 84  
Variable Universal Life Policy Lapse Rates by Gender  
Includes 21 Companies

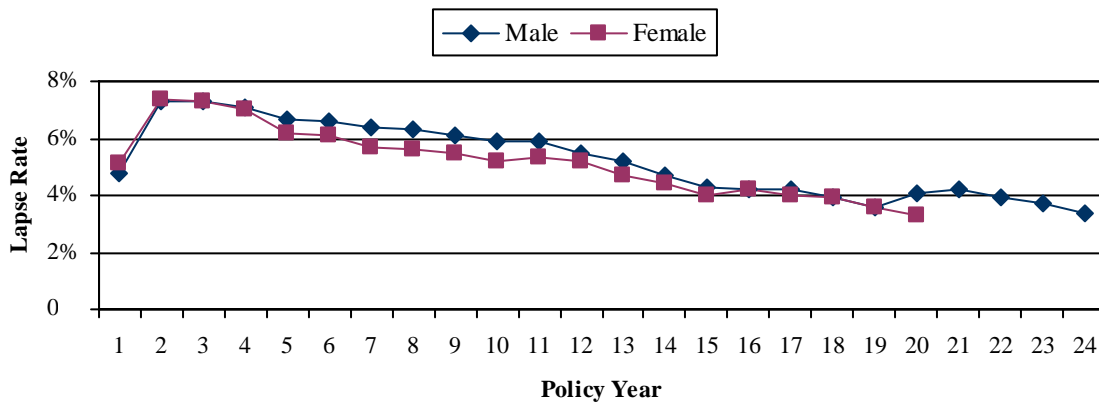
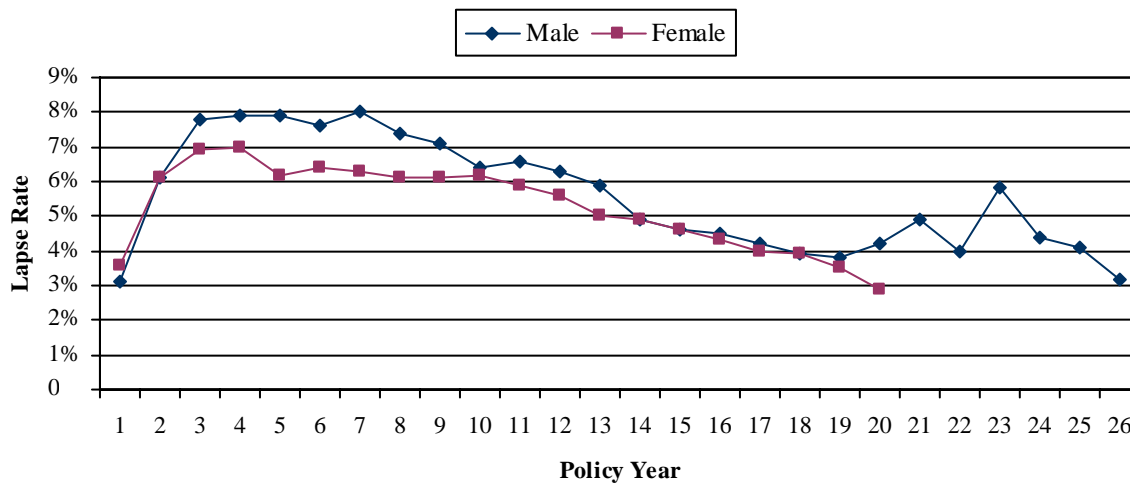


Figure 85  
Variable Universal Life Face Amount Lapse Rates by Gender  
Includes 21 Companies



## ISSUE AGE

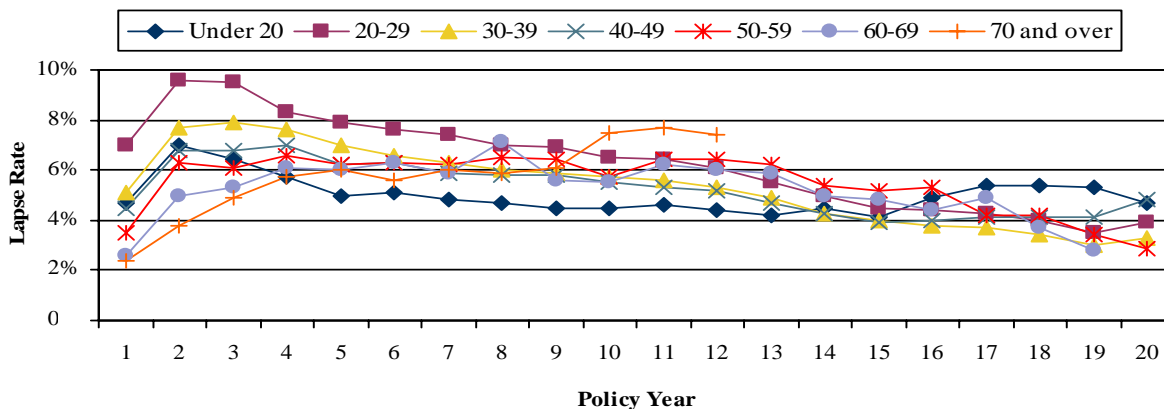
By issue age cohort, the variable universal life exposure base breaks down as follows:

Table 25  
Variable Universal Life Policy Exposure by Issue Age Cohort

Issue Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$84,000	14%
20-29	\$133,000	17%
30-39	\$199,000	31%
40-49	\$235,000	23%
50-59	\$251,000	10%
60-69	\$220,000	4%
70 and older	\$251,000	1%
<b>Total</b>	<b>\$187,000</b>	<b>100%</b>

Like other permanent life insurance products, variable universal life lapse rates generally decrease with increasing age at issue during the first several policy years (Figure 86). At around duration 10, this trend appears to reverse and older issue ages exhibit higher lapse rates (Figure 87).

Figure 86  
Variable Universal Life Policy Lapse Rates by Issue Age Group  
Includes 21 Companies



## ATTAINED AGE

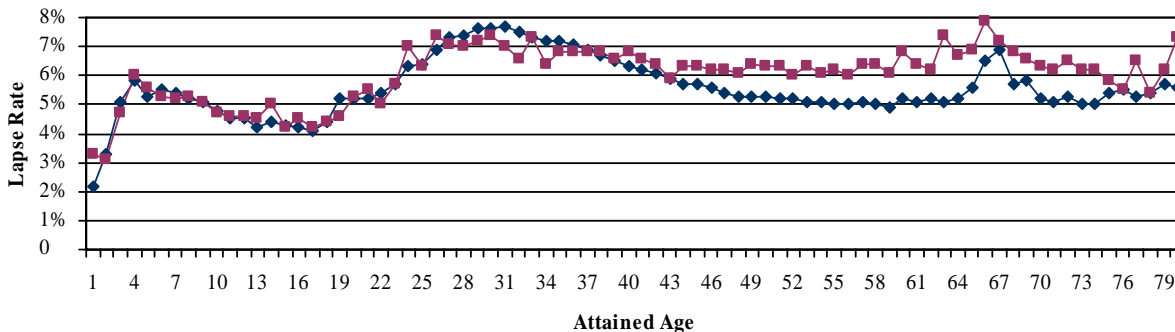
By attained age cohort, variable universal life exposure base breaks down as follows:

Table 26  
Variable Universal Life Policy Exposure by Attained Age Cohort

Attained Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$81,000	10%
20-29	\$134,000	7%
30-39	\$244,000	18%
40-49	\$212,000	28%
50-59	\$209,000	23%
60-69	\$197,000	10%
70 and older	\$169,000	4%
<b>Total</b>	<b>\$187,000</b>	<b>100%</b>

Figure 87 shows lapse rates by attained age for variable universal life plans. As with other permanent individual life insurance plans, for ages over 30, persistency generally improves significantly with increasing attained age. With VUL there is a spike in lapse rates at attained ages around normal retirement. This may be due to the fact that a key market for VUL products is pre-retirees (as a supplemental retirement income vehicle). Presumably some of these policyholders would eventually be accessing their cash values in retirement — either through partial withdrawals or possibly a full surrender. Today, LIMRA sales surveys indicate that approximately 85 percent of new VUL premium is going into the cash-accumulation-focused product designs.

Figure 87  
 Variable Universal Life Policy Lapse Rates by Attained Age  
 Includes 21 Companies



## RISK CLASS

There were 6 companies that were able to contribute variable universal life data split by risk class.

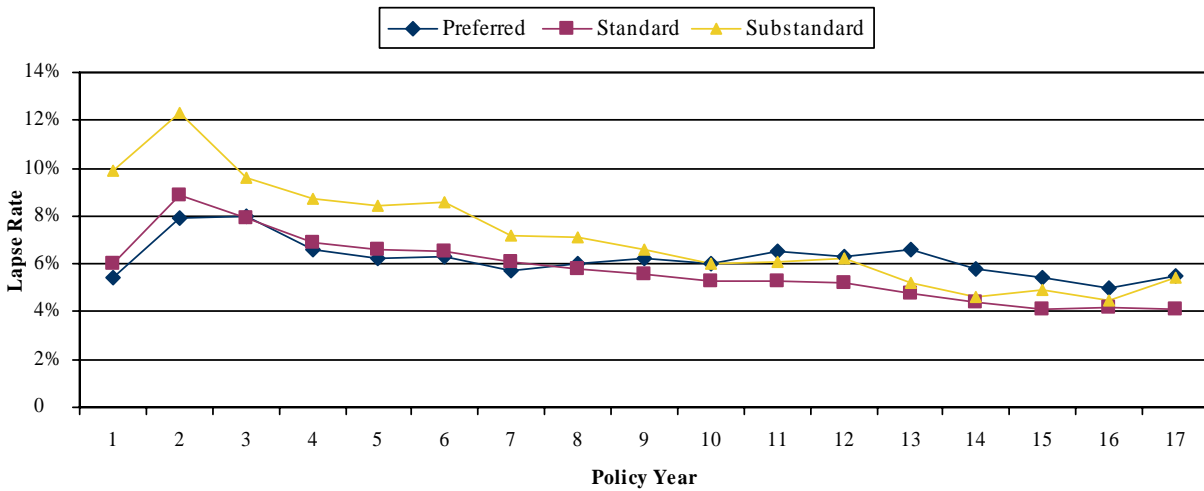
The distribution of exposure by risk class is presented in Table 27.

Table 27  
 Variable Universal Life Policy Exposure by Risk Class

Risk Class	Average Face Amount Exposed	Percent of Policy Exposure
Preferred Risks	\$275,000	17%
Standard Risks	\$136,000	78%
Substandard Risks	\$128,000	5%
<b>Total</b>	<b>\$160,000</b>	<b>100%</b>

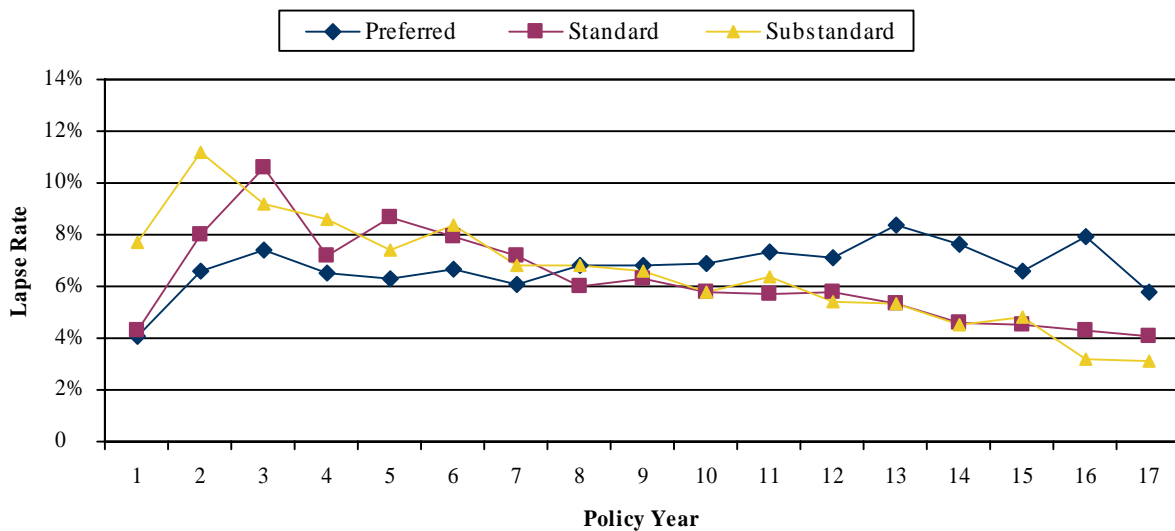
Substandard VUL policies exhibit a higher lapse rate (7.0% for all policy years combined) than preferred or standard policies (6.6% and 5.2% respectively) with the most significant variation seen in the first six policy years (Figure 88).

Figure 88  
VUL Policy Lapse Rates by Risk Class  
Includes 6 Companies



On a face amount basis, preferred rates are lowest in the early policy years and highest in the later years (Figure 89).

Figure 89  
VUL Face Amount Lapse Rates by Risk Class  
Includes 6 Companies



## SMOKING STATUS

The variable universal life policy exposure is 86 percent non smoker. Smokers exhibit higher lapse rates than nonsmokers during the early policy years (Figure 90). However, smokers and non smokers have similar lapse experience after duration 7. The same pattern of lapse is seen on a face amount basis (Figure 91).

Figure 90  
VUL Policy Lapse Rates by Smoking Status  
Includes 20 Companies

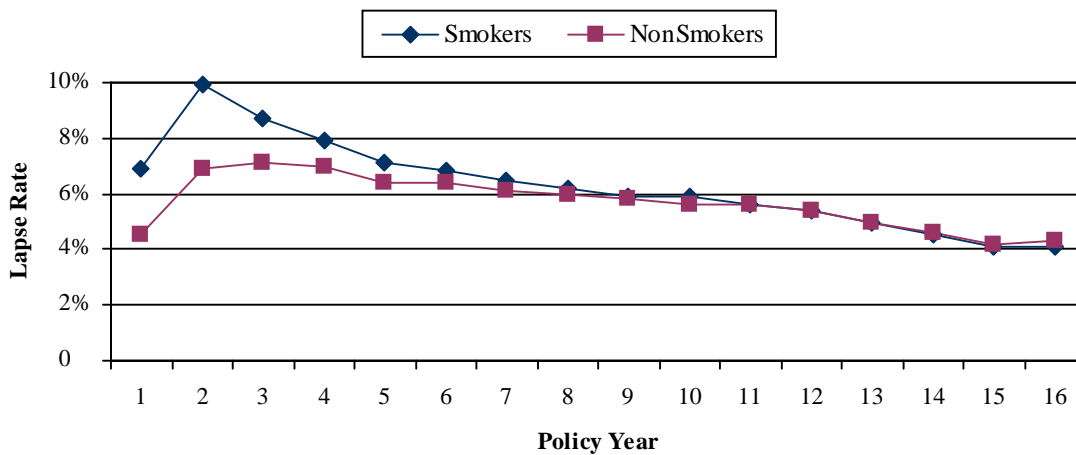
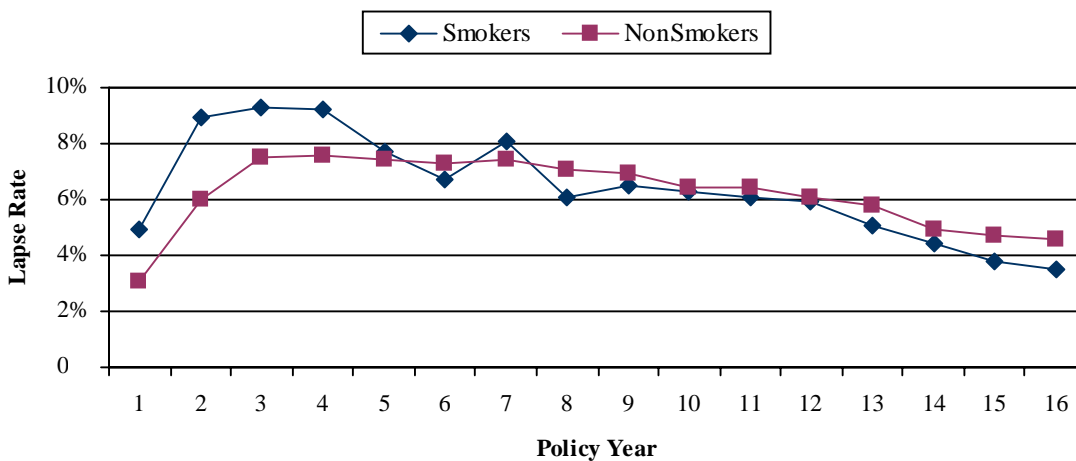


Figure 91  
VUL Face Amount Lapse Rates by Smoking Status  
Includes 20 Companies





## APPENDIX A: PARTICIPATING COMPANIES

AAA Life	Lincoln Benefit
AIG/American General	MassMutual
Allstate	MetLife
Allstate (New York)	Minnesota Life
American Family Life	Mutual of Omaha
American United Life	New York Life
Amerus	Northwestern Mutual Life
AXA/Equitable	Ohio National
AXA/MONY	Pacific Life
Columbus Life	Principal Financial
Empire General	Protective Life
Farm Family Life	Protective Life and Annuity
Farm Bureau	Prudential
Genworth	Security Mutual
Government Personnel Mutual Life	Sun Life
Guardian Life Insurance Company of America	Thrivent Financial
Hartford Life	Transamerica Occidental Life
Horace Mann	USAA
IDS/Riversource	West Coast Life
ING	
Jackson National	
Jefferson Pilot	
John Hancock	

## RELATED LINKS

The following links are valid as of 10/31/07.

### LIMRA

#### *Individual Life Insurance Persistency Update (2006)*

This study examines individual life insurance persistency experience for 13 participating U.S. companies. The report provides lapse rates separately for traditional whole life, term, universal life, and variable universal life products. Lapse results are reviewed for a variety of policy and product features, which explain some of the variations in experience from one study period to the next.

<http://www.limra.com/members/abstracts/5256.aspx>

#### *Individual Life Insurance Persistency (2001)*

This study examines individual life insurance persistency experience for 13 participating U.S. companies. The report provides lapse rates separately for traditional whole life, term, universal life, and variable universal life products. Lapse results are reviewed for a variety of policy and product features, which explain some of the variations in experience from one study period to the next.

<http://www.limra.com/members/abstracts/3506.aspx>

#### *Finding New Customers: Who Is Buying Individual Life and Why? (2005)*

This report is the first in a series of reports exploring the attitudes and opinions of recent individual life buyers. It defines the differences in the wants and needs of buyers of different age and income groups. It explores why consumers from different backgrounds buy insurance, what they are looking for in a policy and how this shapes the type of product they buy.

<http://www.limra.com/members/abPdf/4909.pdf>

#### *A Universal Challenge: The Future of Flexible Premium Products (2005)*

This report presents an overview of the market for universal life (UL) and variable universal life (VUL) products based on data collected from 26 companies representing nearly 70 percent of the UL and VUL sales in 2004 and supplemented by data from LIMRA's Individual life Insurance Sales survey. Trends in product design, distribution, sales results, and producer compensation are examined.

<http://www.limra.com/members/abPdf/4943.pdf>

## *U.S. Individual Life Insurance Persistency Update*

### *US Individual Life Insurance Sales, 2007 4<sup>th</sup> quarter (2007)*

This report tracks individual life insurance sales results measured by annualized premiums, face amount, and number of policies, with results reported separately for various distribution systems. Contributors include 76 U.S. companies and their 83 subsidiaries. The study tracks separate data for individual products such as universal life, term, variable life, variable universal life, survivorship life, and whole life. The survey also tracks universal life interest-rate data.

<http://www.limra.com/members/abTech/5982tech.pdf>

### *US Individual Life Insurance Sales Trends, 1975-2004 (2005)*

This report provides industry estimates of individual life insurance sales results measured by annualized premiums, face amount, and number of policies.

<http://www.limra.com/members/abPdf/1746.pdf>

### *US Long-Term Care Insurance Persistency Experience (2007)*

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.

<http://www.limra.com/members/abPdf/5633.pdf>

### *US Long-Term Care Insurance Persistency Experience (2004)*

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.

<http://www.limra.com/members/abPdf/4482.pdf>

### *Individual Disability Income Insurance Lapse Experience (2004)*

This report examines individual disability income lapse experience including both guaranteed renewable and noncancelable business. Eight of the major individual DI writers submitted data representing experience for years 1999 through 2001.

<http://www.limra.com/members/abPdf/4661.pdf>

## Non-LIMRA

### *1984-2001 Long-Term Care Experience Committee's Intercompany Study*

Based on data from twelve participating companies, this report represents the first study of lapse experience for Canadian Universal Life Level Cost of Insurance plans.

<http://www.soa.org/professional-interests/long-term-care-insurance/long-term-care-insurance-subtracks/Actuarial/lhci-1984-2001-long-term-care-experience-committees-intercompany-study.aspx>

### *SOA/Milliman Report on Post Level Premium Period Assumptions and Experience for Level Premium Term Plans (2007)*

Based on data from eighteen participating companies, this report represents the first study of post-level premium period lapse and mortality experience for level premium term plans.

<http://www.soa.org/files/pdf/post-level-premiumsurvey-final.pdf>

