

# U.S. Individual Life Insurance Persistency

A Joint Study Sponsored by the Society of Actuaries and LIMRA





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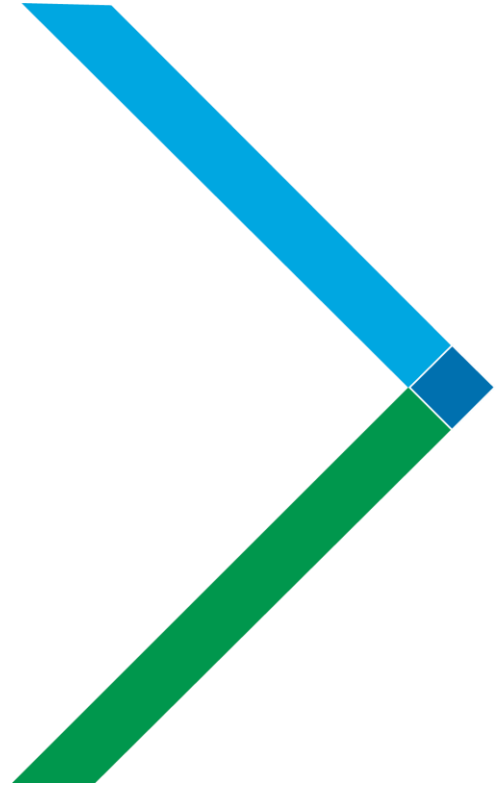
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# Overview

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This report presents the results of individual life insurance lapse experience in the United States between observation years 2009 and 2013. This study was conducted jointly by LIMRA and the Society of Actuaries (SOA) and was based on data provided by 16 life insurance writers. Similar to prior reports, we present the lapse experience for whole life, term life, universal life, and variable universal life plans issued between 1918 and 2012. Results for most key policy and product factors are examined. New to this report is an examination of lapse experience for joint-life plans, along with a more detailed analysis of lapse experience on universal life plans with secondary guarantees.

Note that many of the term policies that reach the end of the level premium guarantee period during the experience period were priced in the pre-Regulation XXX environment, where products were neither designed nor priced with the same post-guarantee period premium increases seen in today's term products. Therefore, shock lapse rates at the end of the level premium term period may be lower than future results.

## Highlights

- The overall annual policy lapse rate was 4.0 percent annually, down from 4.5 percent in the 2007-2009 study and also down from the 4.2 percent in the 2005-2007 study. Lapse rates on a face amount basis also decreased to 5.3 percent from 5.7 percent in the 2007-2009 study. Decreases in lapse rates occurred most significantly in the first three policy years, reversing the increases seen in the last study stemming from the economic downturn.
- The whole life policy lapse rate was 2.9 percent annually, down from both the 2007-2009 and 2005-2007 studies. The lapse rate on a face amount basis was 3.7 percent, down from the 4.1 percent in the 2007-2009 study and similar to the 2005-2007 study.
- The term life policy lapse rate was 6.2 percent annually, down from 6.9 percent and 6.4 percent in the prior two studies. First-year lapse rates noticeably decreased to 8.6 percent for all term plans from 11.2 percent in the prior study. This is most likely due to a combination of the change in the mix of companies submitting data along with changing economic conditions. Shock lapse rates for level premium guarantee term plans continue to be high, with shock lapse rates of 66.7 percent on a policy basis for 10-year level premium term plans in the eleventh policy year.
- The universal life policy lapse rate was 4.3 percent annually, down from 4.5 percent and 4.6 percent in the prior two studies. The lapse rate on a face amount basis was 5.3 percent, down from 5.9 percent in the 2007-2009 study.
- The variable universal life policy lapse rate was 6.0 percent annually, down slightly from the 6.2 percent 2007-2009 study, but still up noticeably from 4.8 percent in the 2005-2007 study. Lapse rates on a face amount basis were 7.0 percent annually, up slightly from 6.9 percent in 2007-2009, and up even further from 5.0 percent in the 2005-2007 study.
- New to this report are lapse rates for joint-life plans. Lapse rates tend to be markedly lower on joint life plans than single life plans, with an overall lapse rate of 3.6 percent on both a policy and face amount basis. The pattern of lapse rates by policy year is also quite different than single life plans.

## Lapse Definition

***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 terminations for unknown reason. This is consistent with the definition of lapse applied to other LIMRA and the Society of Actuaries experience studies.***

# Recommendations

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This report examines lapse experience on individual life products for various policy types and product factors. The study can be used for industry benchmarking as well as for background information for product development and planning processes.

The data contained in this report can help companies identify factors that impact individual life insurance persistency, as well as validate lapse assumptions. While the study contributors represent a sizable portion of the life insurance industry, they do not represent the entire industry, and differences in results by company may vary. These results should be used only as a guide or supplement to the experience of individual carriers. Companies should carefully consider underlying differences such as distribution, product design, product development, and marketing strategy between their own organizations and the contributing companies.

To aid the reader in interpreting the information contained in this report, a spreadsheet providing exposure and lapse information by policy factor and data cell is available on both the LIMRA and the SOA websites ([www.limra.com](http://www.limra.com) and [www.soa.org](http://www.soa.org)).

## ***Acknowledgements***

The Society of Actuaries and LIMRA would like to extend our thanks to all participating companies for making this project a success. Without your support, such research projects would not be possible. We would also like to thank Mervyn Kopinsky from the SOA for his leadership and coordination of the project.

## ***Caveat and Disclaimer***

This study is published by the Society of Actuaries (SOA) and LIMRA. It contains information from a variety of sources. It may or may not reflect the experience of any individual company. The study is for informational purposes only and should not be construed as professional or financial advice. The sponsors of this report do not recommend or endorse any particular use of the information provided in this study and make no warranty, express or implied, or representation whatsoever and assume no liability in connection with the use or misuse of this study.

# Data Description

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Data supporting the results of this study were collected jointly with the Society of Actuaries. The data call format was new this year, updated from the prior Individual Life Experience Committee data call format. The new format was the VM-51 data format, which is an annual, calendar-year data call. Due to the change in format, the definitions of some key variables have changed, with changes outlined as necessary in the applicable report sections.

The observation years in the study were calendar years 2009 to 2013. Contributing companies were asked to provide information on their entire in-force block at the policy level. All calendar-year contributions were converted to policy year for analysis and any partial policy years were dropped. 2009 to 2013 calendar-year data combine to create a total of four possible complete policy years in this anniversary-to-anniversary study.

It should be noted that not all contributing companies in the study contributed data for their entire inforce block of subsidiaries, product lines, and observation years. In addition, several companies were not able to provide data for all policies and product factors requested. Lapse rate data is not reported for any cell for which there were fewer than three (3) companies or less than 1,000 policies exposed. All available data is reported in the spreadsheet mentioned in the Recommendations section, however, not all results are shown in this report.

## ***Data Exposure***

The 2009-2013 persistency experience study data was \$17.2 trillion in face amount exposed from 16 contributing companies. Companies with submissions from multiple subsidiaries were counted as one company. Of these contributors, 14 provided whole life data, 15 provided term life data, 14 provided universal life data, 11 provided universal life with guarantees data, 12 provided variable life or variable universal life data, seven provided variable universal life with guarantees data, and 12 provided joint life data.

Please note for all tables in this section exposure is reported based on all submitted data. There are instances in the product line sections where lapse rates are reported on a sampled dataset due to overexposure of one or two companies in a particular product line.

Table 1 compares the results of the current study with LIMRA's Annual Life Insurance Inforce Survey. Due to fewer than normal company participants in this study, the current persistency study exposure base is overweighted slightly to whole life and underweighted towards term.



**Table 1 — Study Exposure and Industry Inforce**

	LIMRA's 2011 Annual Life Insurance Inforce Survey		Current Persistency Study Exposure Base	
	Policies	Face Amount	Policies	Face Amount
Whole Life	50%	13%	56%	21%
Term	29%	63%	22%	54%
Universal Life	17%	17%	15%	14%
Variable Universal Life	4%	7%	7%	10%

Tables 2 and 3 below summarize the policy and face amount exposures by issue year for each product line included in this study. All product lines are mutually exclusive. Again, please note that not all contributing companies submitted data for all affiliated companies, product lines, and observation years.

**Table 2 — Policy Exposure by Issue Year**

Issue Year	Whole Life	Term Life	Universal Life (UL)	UL With Guarantees	Variable Life/ Variable UL	Variable UL With Guarantees	Joint Life
Pre 1989	29,706,752	662,287	4,180,621	2,491	726,197	429	36,906
1989-1993	5,796,121	936,535	2,423,525	307	659,953	53,261	102,473
1994-1998	4,041,478	2,411,743	1,755,484	7,569	1,256,348	260,230	158,036
1999-2003	3,337,851	4,660,860	1,356,421	203,426	1,009,186	877,094	142,754
2004-2008	4,322,446	6,405,759	1,119,504	1,080,798	621,000	645,205	147,092
2009	1,175,038	1,722,784	264,862	227,625	42,936	97,527	27,320
2010	949,090	1,295,614	244,224	193,178	27,039	81,228	21,329
2011	647,322	959,318	182,887	146,332	19,862	52,604	13,435
2012	357,580	514,986	94,614	66,610	8,273	24,064	6,640
<b>Total</b>	<b>50,333,678</b>	<b>19,569,886</b>	<b>11,622,142</b>	<b>1,928,336</b>	<b>4,370,794</b>	<b>2,091,642</b>	<b>655,985</b>

**Table 3 —  
Face Amount Exposure by Issue Year (\$000,000s)**

Issue Year	Whole Life	Term Life	Universal Life (UL)	UL With Guarantees	Variable Life/ Variable UL	Variable UL With Guarantees	Joint Life
Pre 1989	851,418	54,034	346,553	63	73,759	85	17,880
1989-1993	565,157	147,286	208,200	30	125,608	8,032	79,572
1994-1998	440,163	625,316	188,312	2,746	253,408	67,301	178,800
1999-2003	493,080	1,957,884	245,129	82,784	320,397	229,776	302,673
2004-2008	747,367	3,755,024	371,709	496,843	268,364	244,024	511,472
2009	195,097	1,077,860	73,764	114,885	20,868	41,931	101,037
2010	174,087	806,219	64,317	92,907	12,691	36,895	72,823
2011	119,612	584,340	48,717	68,054	9,983	26,030	48,989
2012	66,683	307,840	26,602	30,769	4,022	11,054	27,785
<b>Total</b>	<b>3,652,664</b>	<b>9,315,803</b>	<b>1,573,303</b>	<b>889,082</b>	<b>1,092,101</b>	<b>665,128</b>	<b>1,341,031</b>

## Data Characteristics

The following is a brief summary of the exposure data characteristics by product line.

**Table 4 — Exposure Data Characteristics for Permanent Products**

	Whole Life	Universal Life (UL)	UL With Guarantees	Variable Life/ Variable UL	Variable UL With Guarantees	Joint Life
Policy exposure in policy years 1-2	5%	5%	24%	2%	9%	8%
Policy exposure in policy years 1-5	11%	11%	57%	9%	28%	21%
Policy exposure in policy years 1-10	18%	22%	98%	25%	62%	42%
Policy exposure in policy years 30+	46%	1%	—	2%	—	3%
Avg face amount exposed	\$73,000	\$135,000	\$461,000	\$250,000	\$318,000	\$2,044,000
Avg new issue face amount exposed	\$175,000	\$276,000	\$475,000	\$490,000	\$464,000	\$3,685,000
Avg issue age*	27	32	53	34	37	53
New issue avg issue age*	29	40	54	35	38	60
Avg attained age*	56	50	57	49	46	65
Percent male in policy exposure*	62%	54%	54%	62%	56%	46%
Percent non-tobacco in policy exposure*	88%	89%	95%	89%	92%	94%

— Less than 1%

\* For joint life results consider both insureds

**Table 5 — Exposure Data Characteristics for Term Products**

	YRT	10-year LPT	15-year LPT	20-year LPT	30-year LPT	All Term*
Policy exposure base	27%	10%	5%	31%	5%	100%
Avg face amount exposed	\$406,000	\$628,000	\$498,000	\$564,000	\$540,000	\$476,000
Avg new issue face amount exposed	\$616,000	\$762,000	\$654,000	\$679,000	\$559,000	\$600,000
Avg issue age	33	44	45	40	35	38
New issue avg issue age	33	46	46	40	35	39
Percent male in policy exposure	66%	68%	64%	60%	55%	57%
Percent non-tobacco in policy exposure	92%	90%	94%	95%	98%	92%

\* Also includes other term plans not shown in table

## Data Quality Checks

For quality control purposes, the following checks were performed.

- **Records by Experience Year** — For each company, the total number of policy records and associated face amount submitted for each study experience year was compared to the annual statement information to determine whether the contributing carrier had provided a full or partial inforce sample. If a partial inforce was received, efforts to obtain full inforce data were made, however not all carriers were able to provide a full inforce.
- **Records by Product Line** — For each company, the total inforce policy records and associated face amounts for each product line were compared to LIMRA's Annual Life Insurance Inforce Survey results. LIMRA's *Annual Life Insurance Inforce Survey* collects policies, face amounts, and annual premium inforce for each year by product line. In total, the exposure for this study is slightly overweighted to whole life and term, and underweighted to universal life.
- **New Issues** — For each company, the number of newly issued policies and face amounts within each observation year were compared to LIMRA's Annual Life Insurance Sales Survey. LIMRA's *Annual Life Insurance Sales Survey* collects policies, face amounts, and annual premiums sold for each calendar year by product line.
- **Lapse Rates by Company and by Product Line** — For each company, lapse rates were calculated by product line and provided to each company. Results were compared to prior studies when available. The data contacts were asked to review the lapse rate results and report any discrepancies between the industry study and the results of their own experience studies. Where possible, each data contact signed off that their company results within the industry study were representative of their actual company results.

# Overall Results

This report presents the results of the individual life insurance lapse experience study in the United States for observation years 2009–2013. This study was conducted jointly by LIMRA and the SOA. Sixteen individual life insurance companies participated. For this report, subsidiaries were not counted as separate companies.

Similar to prior reports, we present the lapse experience for whole life, term life, universal life, and variable universal life plans issued between 1918 and 2012. New to this report is an examination of lapse experience for joint-life plans, as well as a more detailed analysis of lapse experience on universal life with guarantees. This report highlights results for most key policy and product factors. An Excel spreadsheet containing the supporting source lapse rates for each figure is available on the LIMRA and SOA websites.

The overall annual policy lapse rate was 4.0 percent annually, down from 4.5 percent in the 2007-2009 study and also down from the 4.2 percent in the 2005-2007 study. Decreases in lapse rates occurred most significantly in the first three policy years, reversing the increases seen in the last study stemming from the economic downturn (Figure 1). Some of the variation between studies can be attributed to differences in the underlying data contributors, including mix of business. Additionally, the economic swings occurring late in the prior study and early in this study likely contributed to increased lapse rates. A more detailed analysis of results by study year are explored in the various product line sections.

**Figure 1 — Current Study versus Prior Study Policy Lapse Rates**

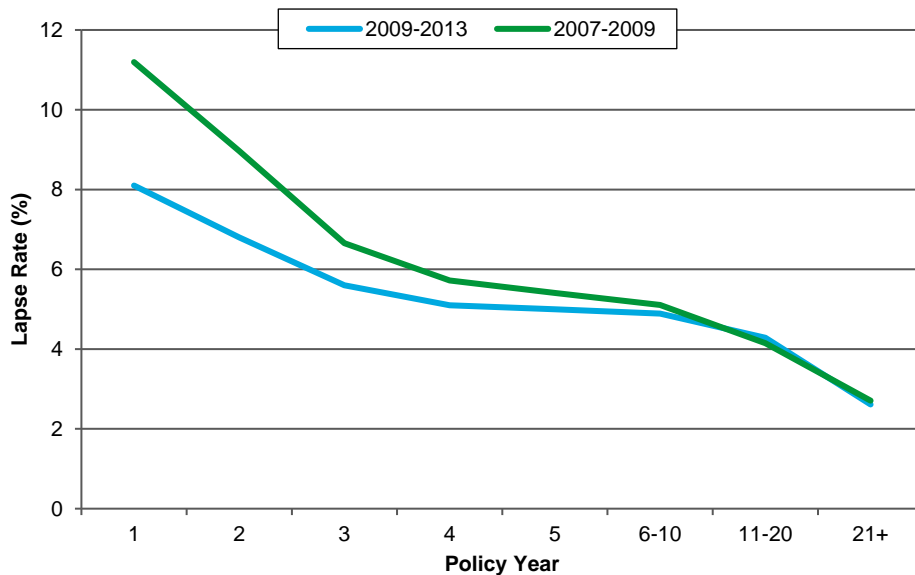
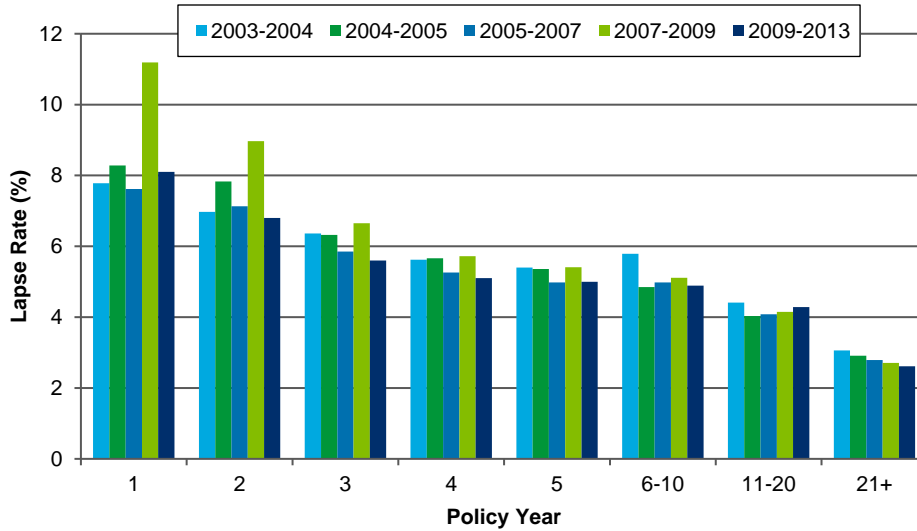


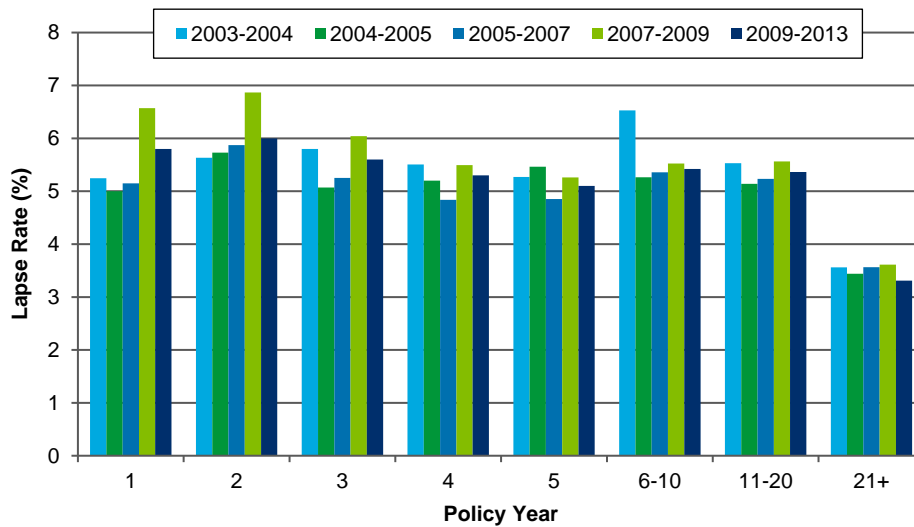
Figure 2 compares the policy lapse rates of the current study to the five prior studies. Lapse rates increased in policy years 11-20. This was due to a change in the mix of business, with more exposure to term, which has higher lapse rates than other product lines in those policy years. An increase in lapse rates in later policy years will also likely continue in future studies as the longer level premium term policies (e.g., 20-year level premium term) reach the end of the level premium period.

**Figure 2 — Trends in Policy Lapse Rates**



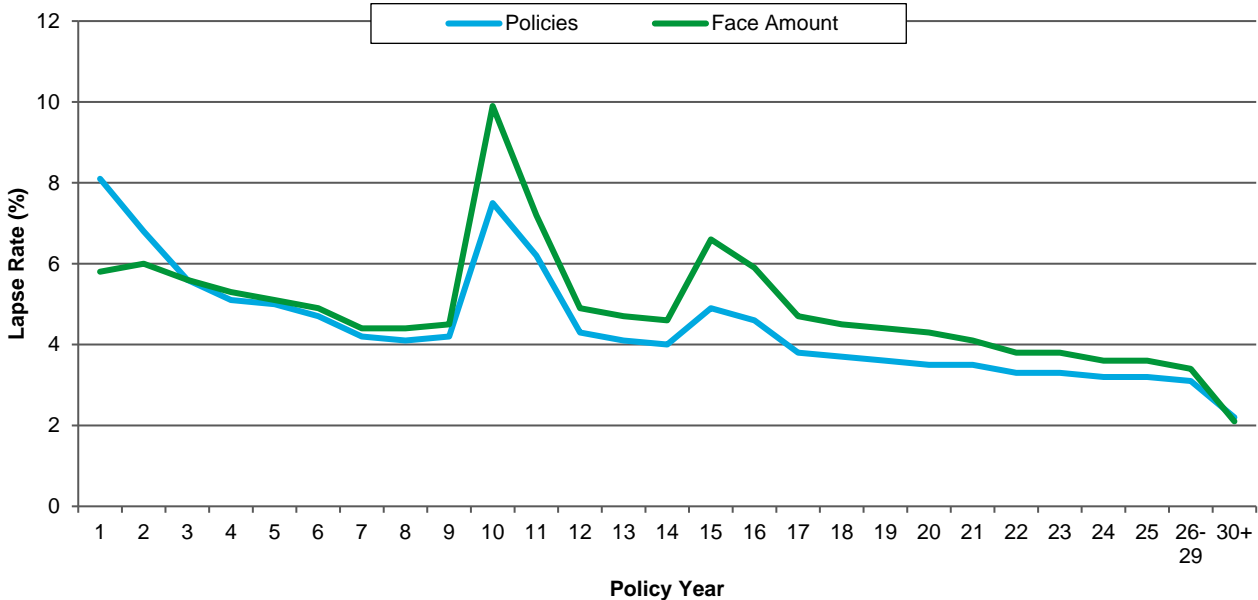
On a face amount basis, overall lapse rates averaged 5.3 percent annually, a decrease from 5.7 percent in the 2007-2009 study. Lapse rates decreased most noticeably in the first three policy years (Figure 3). Unlike lapse rates by policy, face amount lapse rates decreased in policy years 11-20.

**Figure 3 — Trends in Face Amount Lapse Rates**



During early policy years, smaller policies have a greater tendency to lapse, causing policy lapse rates to be higher than face amount lapse rates (Figure 4). Traditionally, lapses for these policies are more a function of socioeconomic factors, likely due to buyer’s remorse or additional price comparison shopping. However, in later policy years, face amount lapse rates are higher than policy lapse rates as more weight is given to lapses of larger policies. This trend can be seen across all products.

**Figure 4 — Individual Life Insurance Lapse Rates**

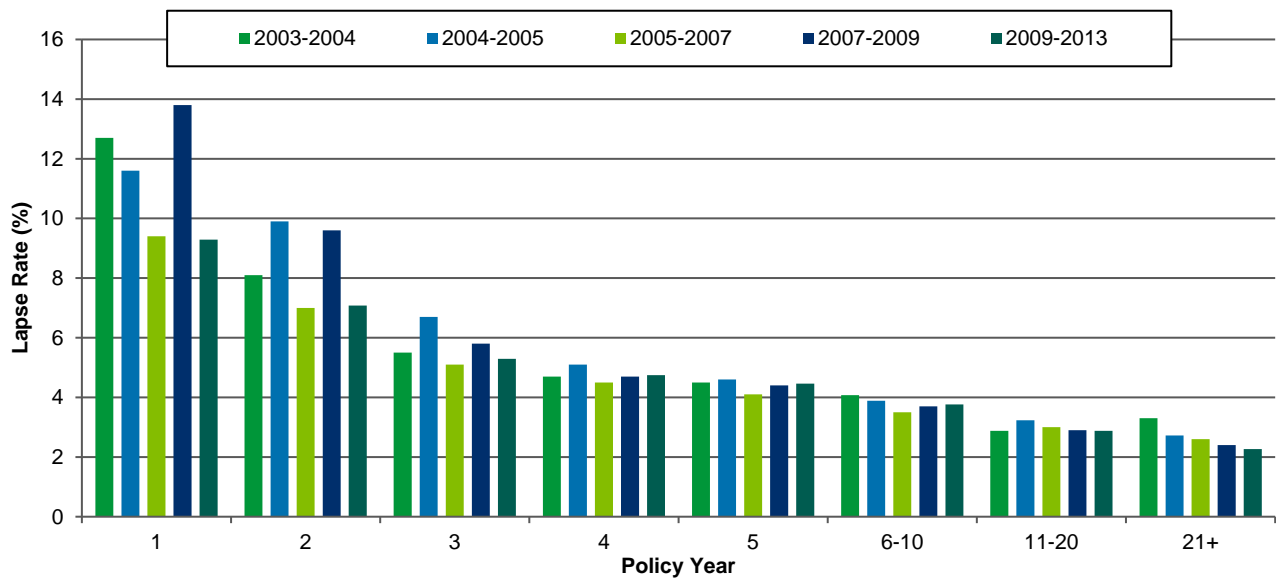


# Whole Life

Whole life data shown in this section were based on data from 13 contributors. Due to fewer than normal participants in this study, policy-year lapse rates by amount for whole life will not be shown in order to ensure that reported experience is not dominated by a limited number of companies. Policy count lapse rates by size grouping will be shown later in the report, however the data within those groupings have been sampled to ensure experience is not overweighted by company. Sampling was only performed for the results shown by size groupings.

The overall policy lapse rate was 2.9 percent annually, down from both the 3.1 percent in the 2007-2009 study and 3.0 percent in the 2005-2007 study. Current lapse rates are notably lower in the first three policy years (Figure 5). Similar to the overall results, the change in early lapse rates is most likely driven by varying economic conditions across the two studies.

**Figure 5 — Trends in Whole Life Insurance Policy Lapse Rates**



The overall lapse rate on a face amount basis decreased from 4.1 percent annually in the 2007-2009 study to 3.7 percent in the current study.



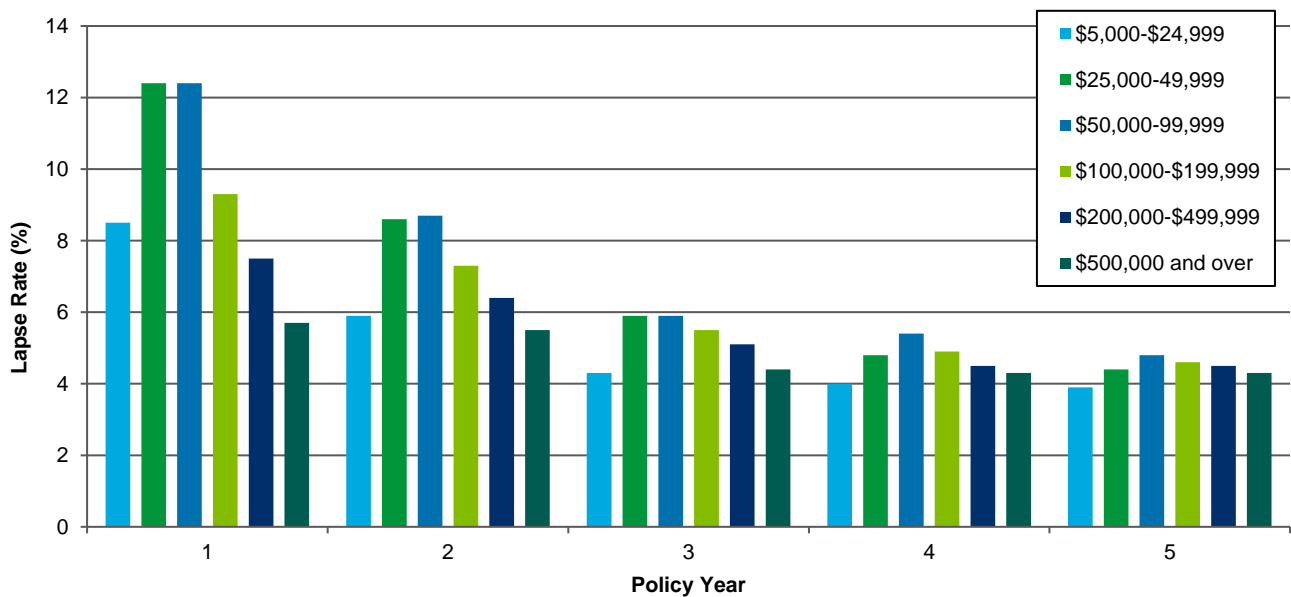
The distribution of exposures by policy size has shifted a bit towards larger size groupings, mainly due to the change in company participation. Policies under \$25,000 still account for over half of the whole life exposure.

**Table 6 — Whole Life Insurance Exposure by Policy Size**

Policy Size	Percent of Policy Exposure
Under \$5,000	14%
\$5,000-24,999	41%
\$25,000-49,999	16%
\$50,000-99,999	10%
\$100,000-199,999	12%
\$200,000-499,999	5%
\$500,000 and Over	2%
<b>Total</b>	<b>100%</b>

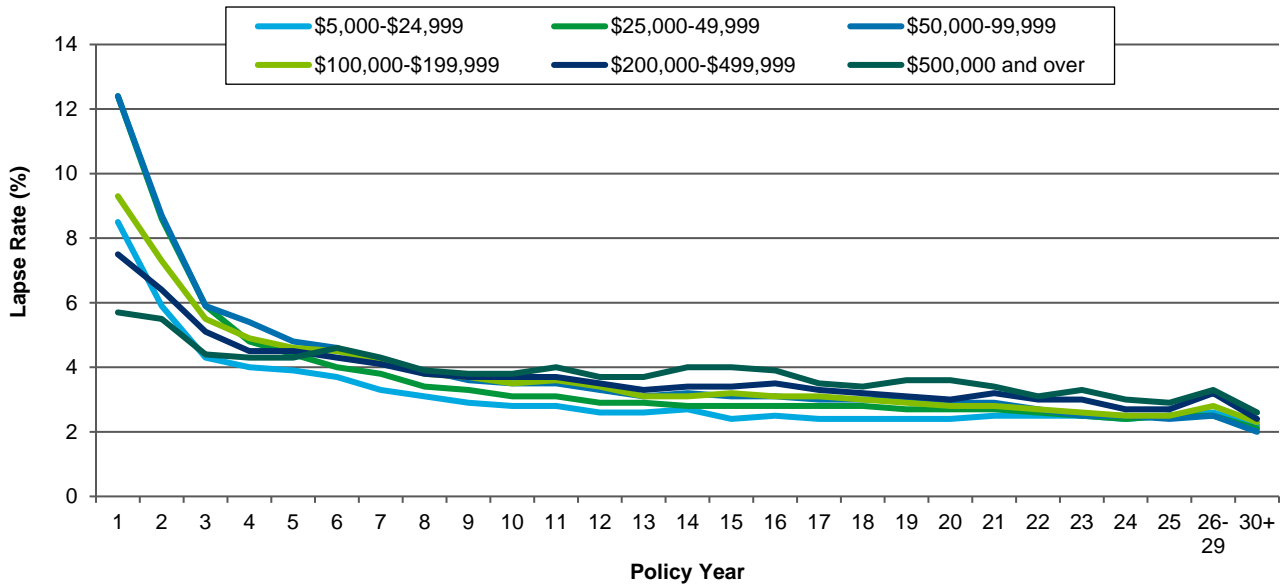
Consistent with the overall individual life results, during early policy years smaller face amount whole life policies tend to lapse more frequently than larger policies, with the exception of the \$5,000 to \$25,000 group (Figure 6). By policy year four, the difference between lapse rates for the various policy size groups is less significant.

**Figure 6 — Whole Life Insurance Policy Lapse Rates by Policy Size — Policy Year 1 to 5**



By policy year eight, lapse rates for most policy size groups have settled down below 4 percent. The exceptions are the largest face amount policies. Larger-sized policies, with face amounts greater than \$200,000, have more volatile lapse rates during policy years 10 through 25. These policies are more likely to be surrendered or converted during retirement. Ultimate lapse rates for most policies fall below the 3 percent mark by policy year 25.

**Figure 7 — Whole Life Insurance Policy Lapse Rates by Policy Size**

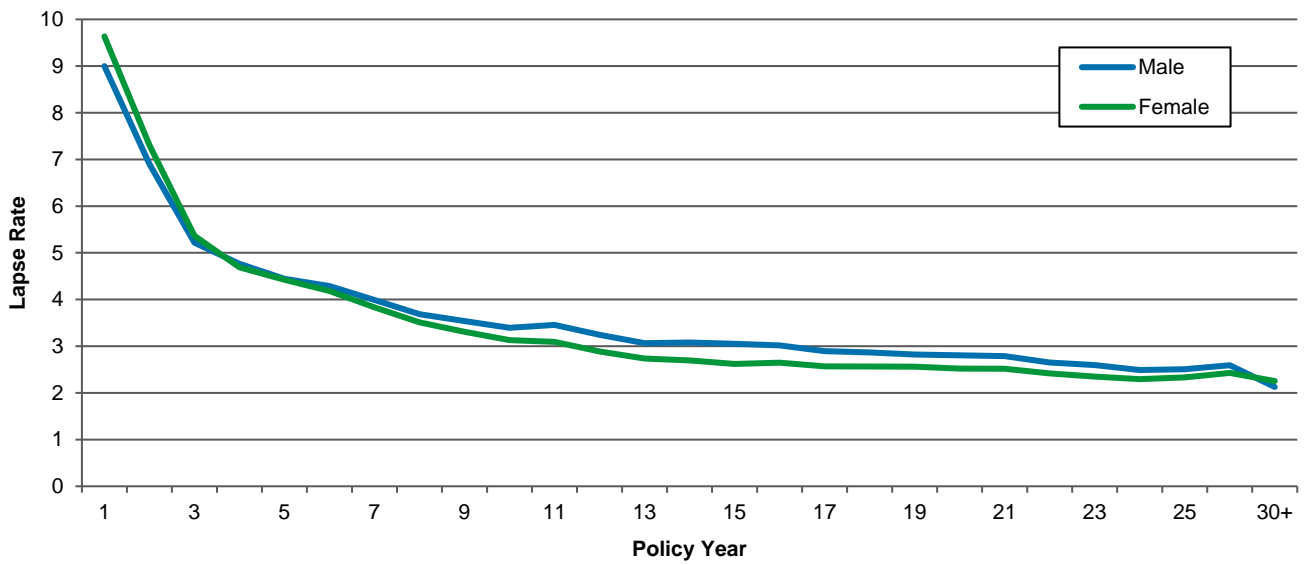


### Gender

The whole life exposure base was comprised of 62 percent male and 38 percent female on a policy basis. Consistent with prior studies, the male exposure base was higher on a face amount basis, with 67 percent male and 33 percent female. For new issues however, the exposure split was more even, with males comprising 52 percent of the exposure on a policy basis.

The average face amount exposed for males was \$78,000, while the average for females was \$63,000. These averages have fluctuated slightly over past studies, mainly due to the change in contributing whole life carriers. Overall, the policy lapse rates for males and females are about the same, with lapse rates for females slightly higher in the first few years and modestly lower in some later policy years. Figure 8 shows policy lapse rates by gender.

**Figure 8 — Whole Life Insurance Policy Lapse Rates by Gender**



**Issue Age**

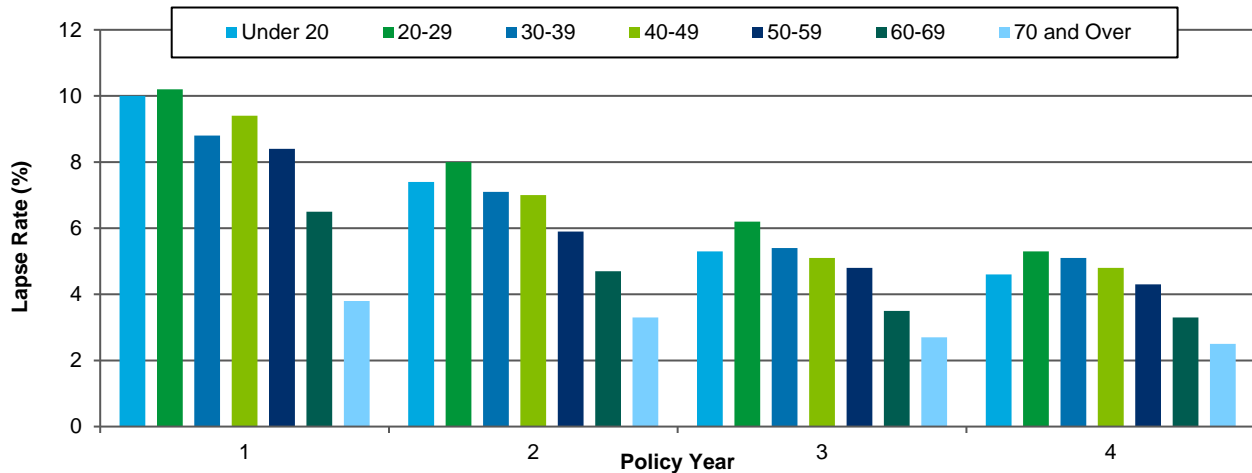
Much like prior studies, the distribution of the current study’s exposure base was skewed towards the younger issue age cohorts (Table 7). Policies issued to insureds under age 30 represent over half of the total whole life exposure.

**Table 7 — Whole Life Insurance Exposure by Issue Age Cohort**

Issue Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$35,000	32%
20-29	\$54,000	23%
30-39	\$111,000	21%
40-49	\$118,000	13%
50-59	\$101,000	7%
60-69	\$83,000	3%
70 and Over	\$85,000	1%
<b>Total</b>	<b>\$73,000</b>	<b>100%</b>

Early policy-year lapse rates for whole life insurance products are generally higher for younger issue ages. Historically, policies issued between the ages of 20 and 29 had the highest policy lapse rates of the various issue age groups in the first few policy years. This trend continues with this study through policy year 4 (Figure 9).

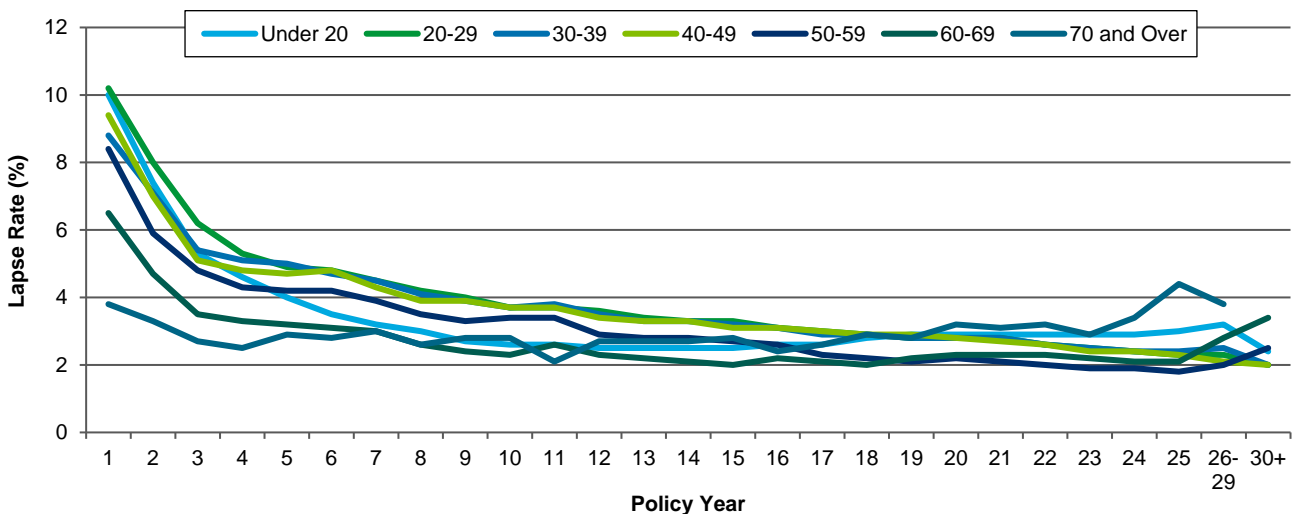
**Figure 9 — Whole Life Insurance Policy Lapse Rates by Issue Age Cohort — Policy Year 1 to 4**



For policies with issue ages under 20, one of two patterns emerges depending on the mix of contributing whole life carriers. In the current study and prior studies, the lapse pattern mimics those issued between the ages of 30 and 59. This occurs when the under issue age 20 cohort is weighted more towards infant and young juvenile policies, where the parents or older relatives are paying policy premiums. If the cohort contained a greater number of older juvenile policies, where the insured is more likely paying the premiums, the lapse pattern is closer to policies with issue ages of 20 to 29.

Regardless of issue age, after policy year three lapse rates decrease towards 2 percent for most issue age cohorts (Figure 10). Lapse rates for issue ages 50 and older do begin to increase in later policy years as surrenders and conversions increase at older attained ages.

**Figure 10 — Whole Life Insurance Policy Lapse Rates by Issue Age Cohort**



## Attained Age

Unlike the distribution of issue age cohorts, the exposure base by attained age cohorts leans towards older ages. Over 60 percent of the current whole life exposure base has attained ages of 50 or older (Table 8). This disparity is due to the significant portion of older policies. Also, 46 percent of the whole life exposure base is in policy year 30 or later.

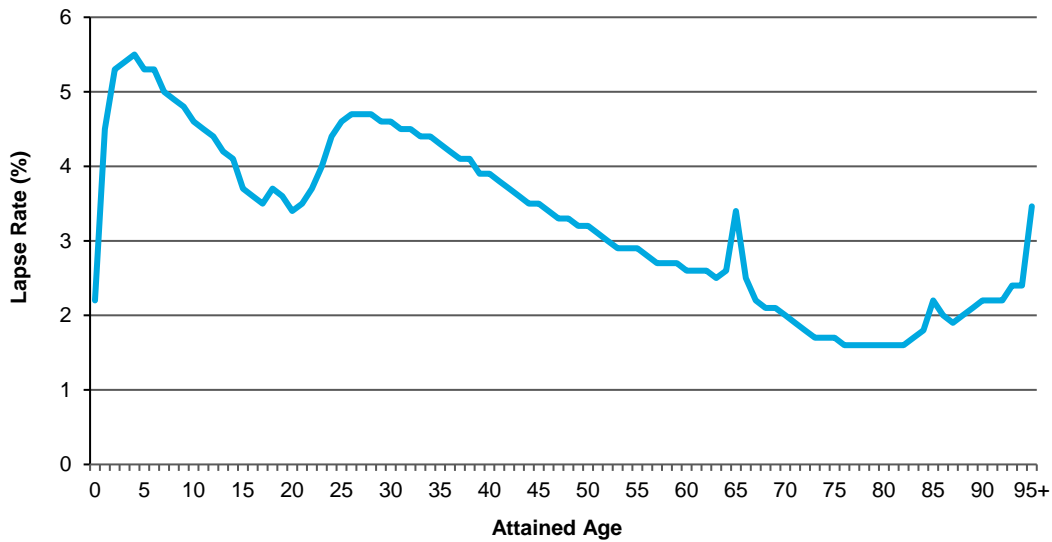
**Table 8 — Whole Life Insurance Exposure by Attained Age**

Attained Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20 years	\$80,000	7%
20-29 years	\$81,000	6%
30-39 years	\$116,000	9%
40-49 years	\$120,000	13%
50-59 years	\$90,000	19%
60-69 years	\$60,000	19%
70 and Over	\$30,000	27%
<b>Total</b>	<b>\$73,000</b>	<b>100%</b>

Figure 11 shows lapse rates by attained age on a policy basis. Unlike issue age trends, attained age lapse rates for infant and juvenile policies are higher than lapse rates of older juvenile policies. This is due to the fact that many of the policies with attained age under 10 are still in the first couple policy years, where lapse rates are high, while those with attained age between 10 and 20 are a blend of new and older issue policies.

Consistent with prior studies, after attained age 28 lapse rates generally decrease as the insured ages. However, there are increases in lapses around age 65, where we would expect to see the impact of retirement, and age 85.

**Figure 11 — Whole Life Insurance Policy Lapse Rates by Attained Age**



### **Premium Payment Mode**

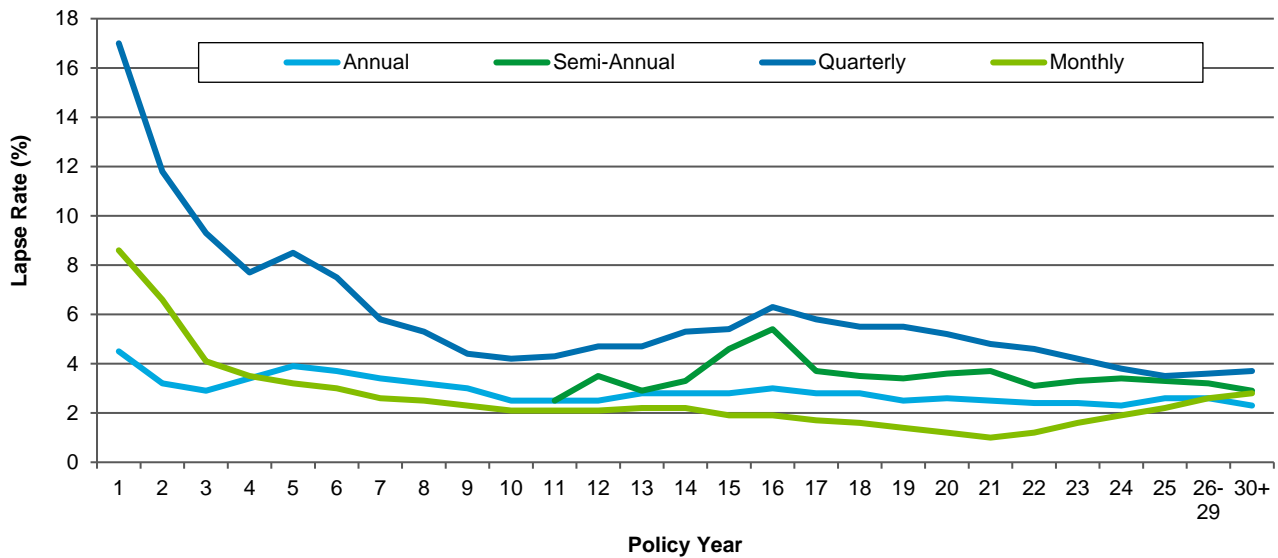
For the four contributing whole life carriers that provided data by premium payment mode, the distribution of policy exposures and the average face amounts are shown in Table 9. For the past few studies, annual and monthly premium payment modes have made up the majority of the policy exposures.

**Table 9 — Whole Life Insurance Exposure by Premium Payment Mode**

Premium Mode	Average Face Amount Exposed	Percent of Policy Exposure
Annual	\$46,000	30%
Semi-Annual	\$21,000	7%
Quarterly	\$23,000	15%
Monthly	\$18,000	48%
<b>Total</b>	<b>\$27,000</b>	<b>100%</b>

Lapse rates tend to increase with the number of premium payments made each year (Figures 12). The one exception is policies paid on a monthly basis. This category consistently includes significantly more policies paid through electronic fund transfer methods and other automatic methods than other payment modes. The automatic nature of these transactions tends to lead to increased policy persistency for the monthly premium payment mode. Lapses for policies paid monthly are less than those paid annually in policy years 5 – 25.

**Figure 12 — Whole Life Insurance Policy Lapse Rates by Premium Payment Mode**



With an average face amount exposed at \$46,000 in the current whole life data, annual premium payment modes have comparatively larger policies. While policy size is a factor, lapse rates for policies with annual premium payment modes are lower, and much flatter, than the lapse rates of larger policies for most policy years. Policy lapse rates by policy size were shown previously in Figure 7.

**Risk Class**

Table 10 illustrates the average face amount and distribution of policy exposures for the 11 contributing whole life carriers that provided data by risk class. Regardless of the change in contributing whole life carriers from each study, the distribution of policy exposures by risk class stays generally the same, with the vast majority of exposure in the standard risk class.

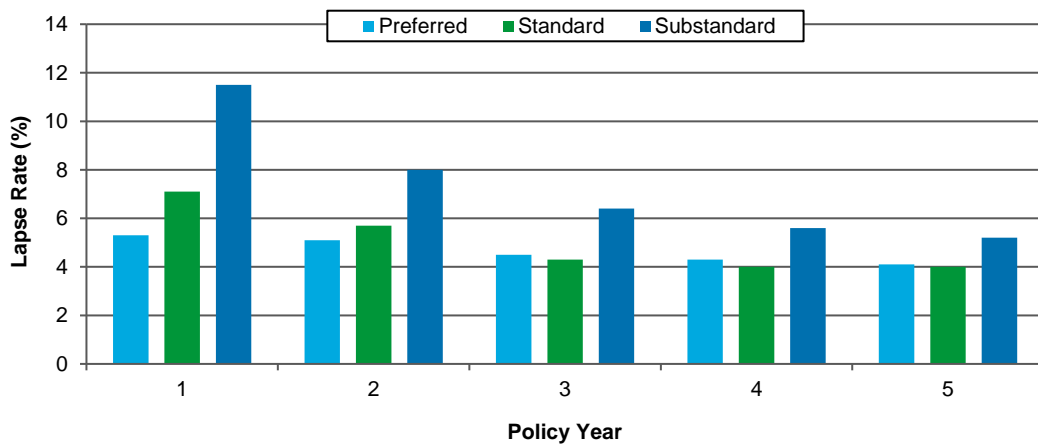
**Table 10 — Whole Life Insurance Exposure by Risk Class**

Risk Class	Average Face Amount Exposed	Percent of Policy Exposure
Preferred	\$206,000	7%
Standard	\$53,000	89%
Substandard	\$121,000	4%
<b>Total</b>	<b>\$67,000</b>	<b>100%</b>

The preferred risk class continues to carry a significantly higher average face amount compared to the standard and substandard risk class policies. For this study, the average face amount increased for all three risk classes.

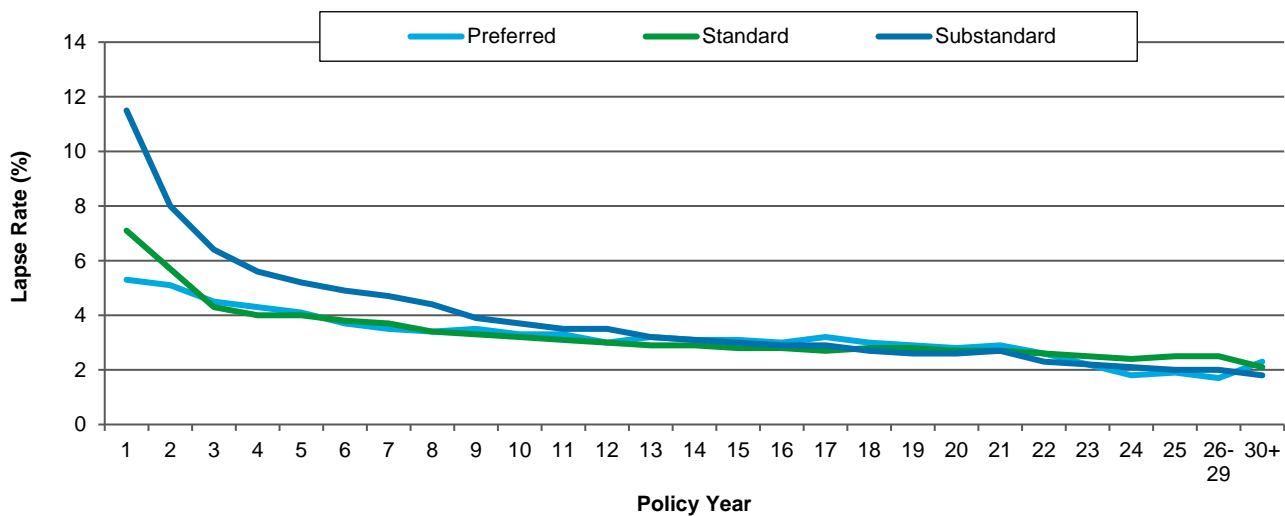
In early policy years, lapse rates for preferred risk class policies tend to be lower than those with standard and substandard risk (Figure 13). This is partially due to the trend of larger preferred risk policies having lower lapse rates in early policy years compared to the smaller standard and substandard risk policies. The lower cost and best price of preferred risk policies is also a contributing factor to lower lapse rates. Because of the variations in what is considered “standard” risk among carriers, the higher lapse rates in early policy years can also likely be attributed to additional price comparison shopping. Policyholders may continue to solicit quotes from other carriers after purchasing, looking for policies with lower premium, while other policyholders may attempt to improve their weight and health in hopes of being re-underwritten as preferred risk by a different insurer.

**Figure 13 — Whole Life Insurance Policy Lapse Rates by Risk Class – Policy Year 1 to 5**



However, as the effect of policy size wears off, lapse rates for preferred risk classes become higher than those with standard and substandard risk (Figure 14). The turning point begins in policy year three. This crossover point is earlier than prior studies.

**Figure 14 — Whole Life Insurance Policy Lapse Rates by Risk Class**

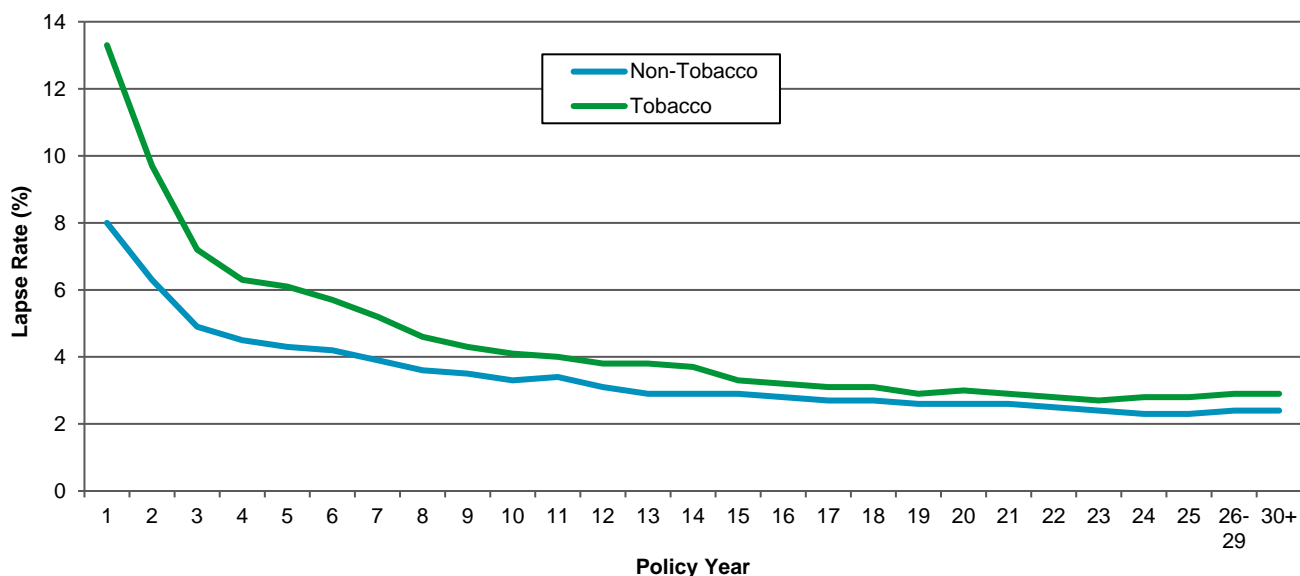




## Tobacco Status

The whole life policy exposure in the current study was 88 percent non-tobacco. This percentage fluctuates with the change in contributing whole life carriers and their submitted blocks of business. As with prior studies, tobacco users exhibit much higher lapse rates than non-tobacco users during the first few policy years (Figure 15). They then settle into a matching lapse pattern in later years, however lapse rates on tobacco policies are higher in each policy year.

Figure 15 — Whole Life Insurance Policy Lapse Rates by Tobacco Use

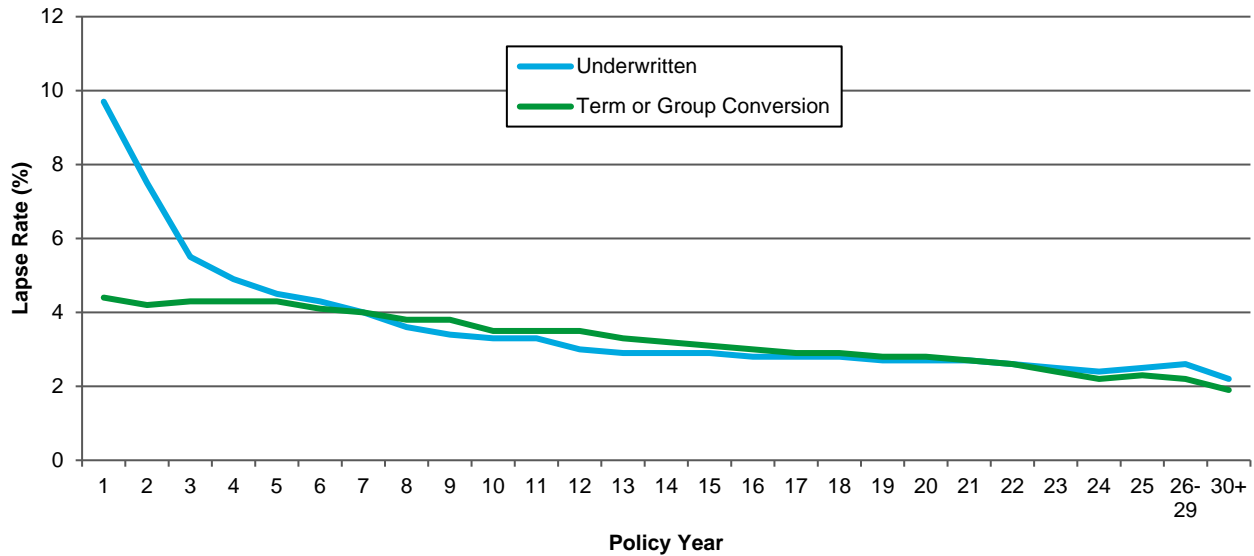


## Underwriting Method

Due to the previously mentioned change in data format, the definitions of underwriting method have significantly changed for this study. The detailed breakdown of level of underwriting (medical vs. paramedical vs. nonmedical) is no longer available. Newer versions of the VM-51 data format do include a question regarding whether fluids were collected, however that information is not available for the current study years.

Compared to policies issued through conversion, underwritten policies have higher lapse rates in the early policy years. Lapse rates for policies issued through conversion are much flatter than those that were underwritten. This pattern is most likely due to converted policies technically being in later policy durations when considering the initial term or group plan. After duration 5, the level and pattern of lapse rates is similar between the two issue methods.

**Figure 16 — Whole Life Insurance Policy Lapse Rates by Underwriting Method**



**Observation/Study Year**

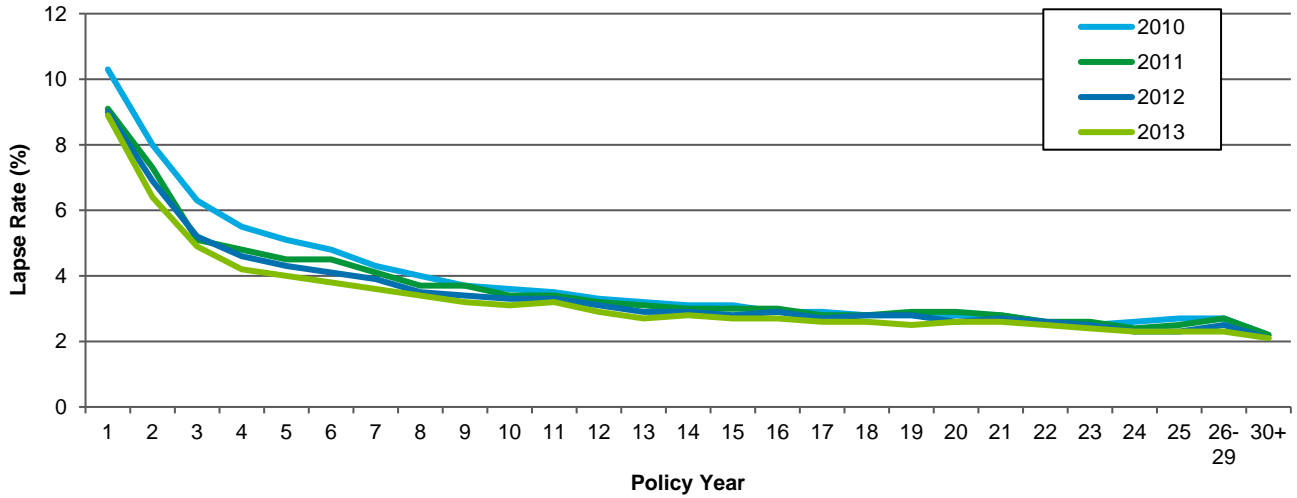
Due to the varying economic conditions throughout the study period, an analysis of results by study year was performed. There are four complete, anniversary-to-anniversary study years in this report, study year 2010 through study year 2013. Study year is defined as the policy year ending in the named calendar year (Table 11).

**Table 11 — Study Year Definitions**

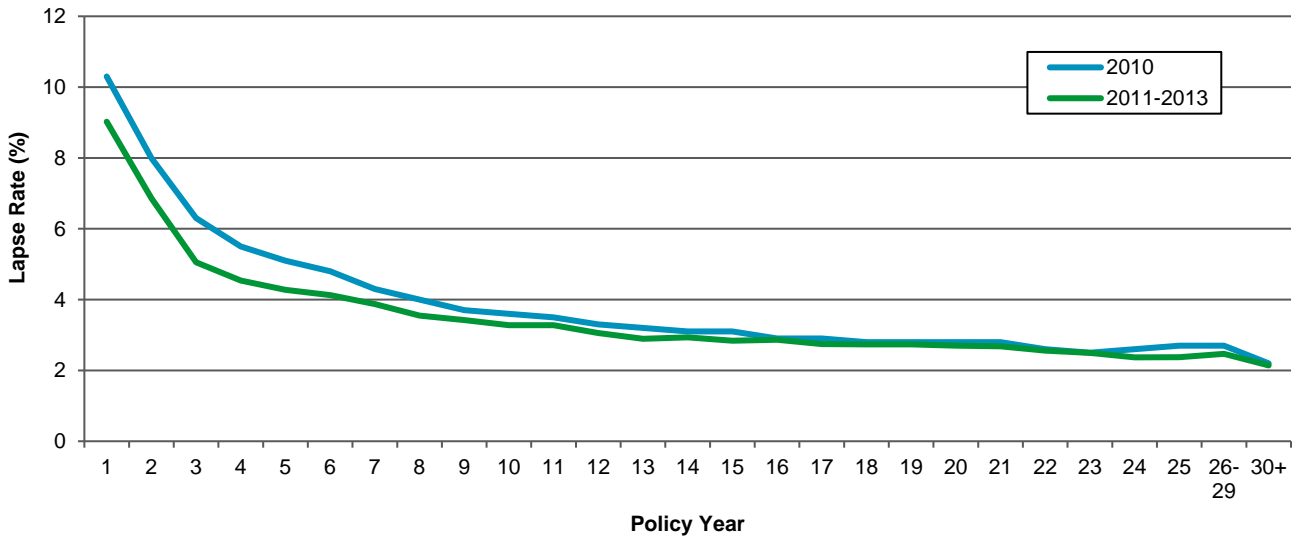
Study Year	Period Definition
Study Year 2010	2009 policy anniversary – 2010 policy anniversary
Study Year 2011	2010 policy anniversary – 2011 policy anniversary
Study Year 2012	2011 policy anniversary – 2012 policy anniversary
Study Year 2013	2012 policy anniversary – 2013 policy anniversary

Whole life lapse rates were noticeably higher in the early policy years for study year 2010 relative to the other study years (Figure 17). This increase in early lapse rates in study year 2010 may be caused by the recessionary economic conditions. However, after policy year 10 or so lapse rates were not as noticeably different by study year. Figure 18 groups study years 2011 to 2013 together to better show the impact of study year on lapse rates.

**Figure 17 — Whole Life Insurance Policy Lapse Rates by Study Year**

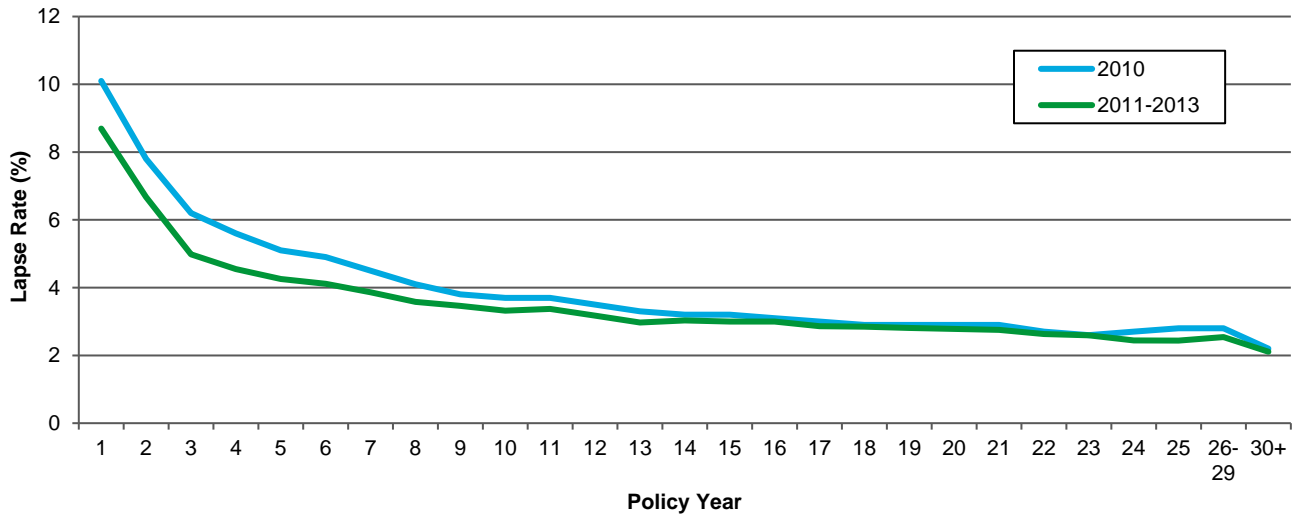


**Figure 18 — Whole Life Insurance Policy Lapse Rates by Study Year (Combined 2011-2013)**

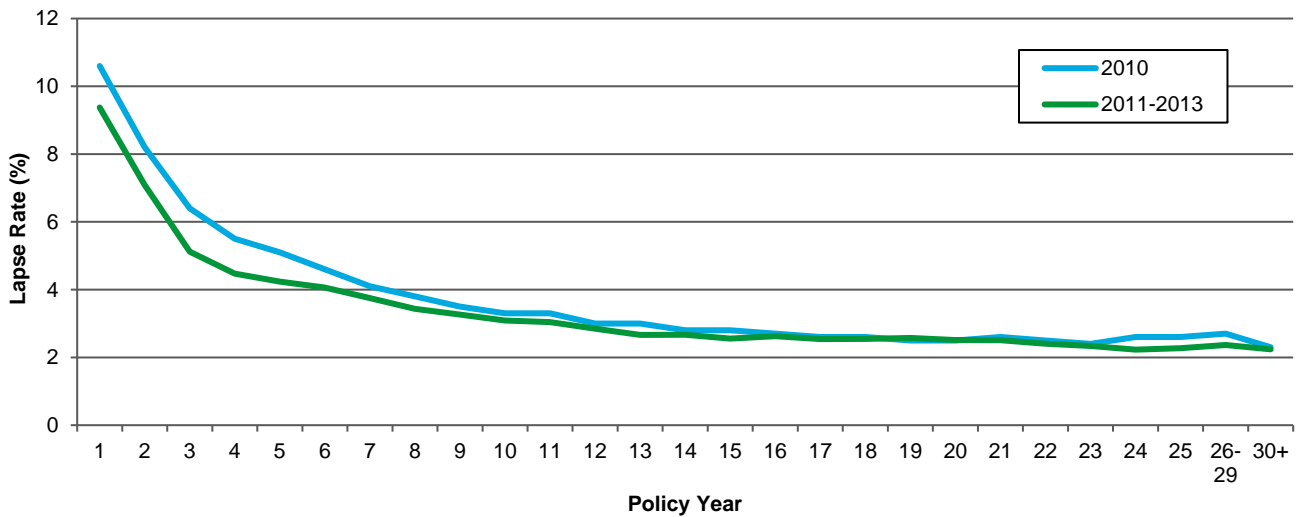


The disparity between study year 2010 and study years 2011-2013 was fairly similar by gender. For males, the overall lapse rate was 3.0 percent in study year 2010 relative to 2.8 percent in policy years 2011-2013. For females, the overall lapse rate was 3.2 percent in study year 2010 relative to 3.0 percent in policy years 2011-2013.

**Figure 19 — Whole Life Insurance Policy Lapse Rates by Study Year for Males**

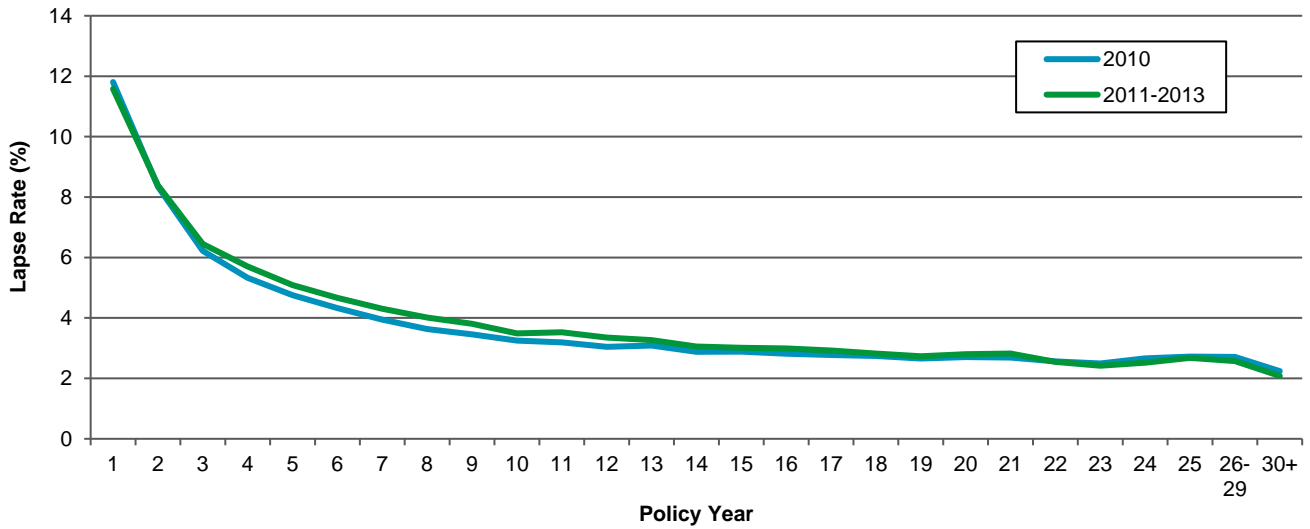


**Figure 20 — Whole Life Insurance Policy Lapse Rates by Study Year for Females**

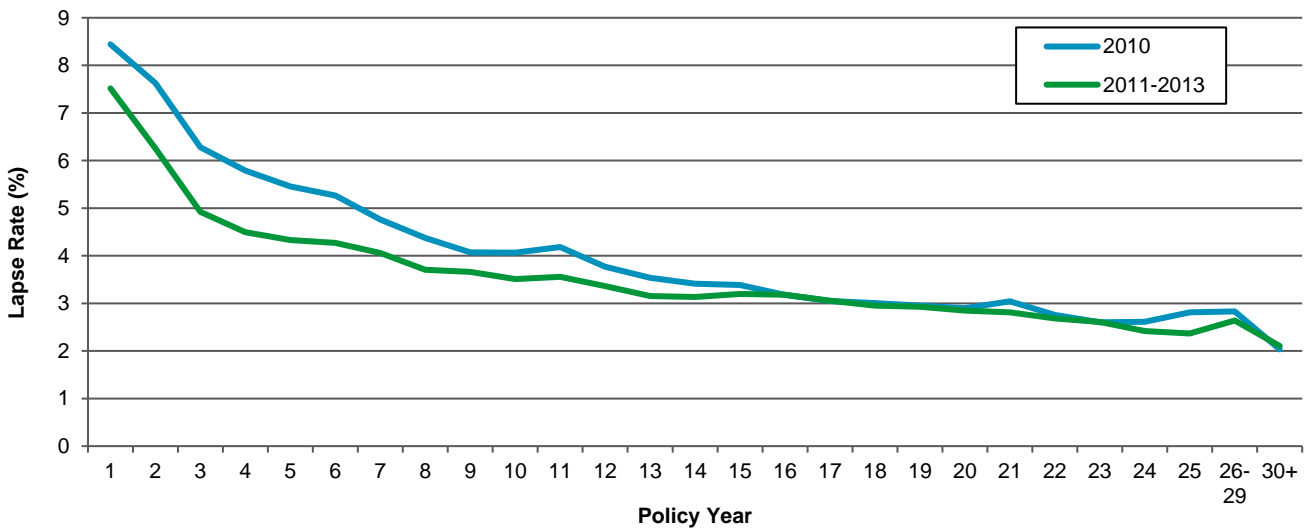


Lapse rates on larger-sized policies, with face amounts greater than \$100,000, were impacted by study year more than smaller size policies. In fact, study year did not have a noticeable impact on lapse rates on policies with face amounts less than \$100,000. If face amount is a proxy for the socioeconomic class of the policyholder, higher net worth individuals were more likely to react to the economic conditions than lower to middle class policyholders.

**Figure 21 — Whole Life Insurance Policy Lapse Rates by Study Year, Policy Size Less Than \$100,000**

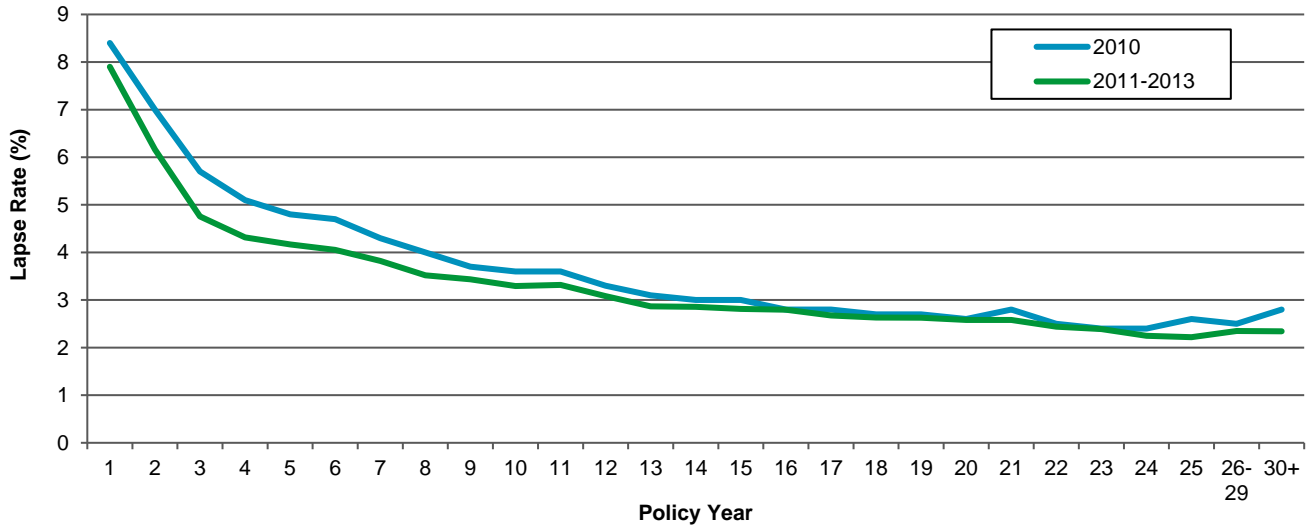


**Figure 22 — Whole Life Insurance Policy Lapse Rates by Study Year, Policy Size \$100,000+**

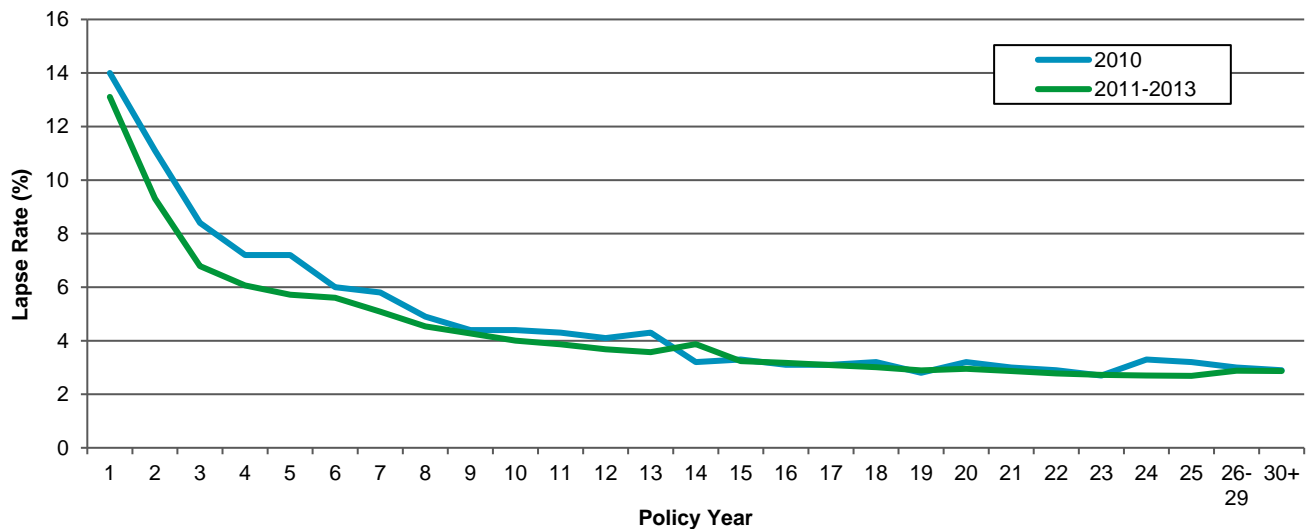


The impact of study year was similar between non-tobacco and tobacco users. For non-tobacco, the overall lapse rate was 3.6 percent in study year 2010 relative to 3.3 percent for study years 2011-2013. For tobacco, the overall lapse rate was 4.4 percent in study year 2010 relative to 4.0 percent for the remaining years.

**Figure 23 — Whole Life Insurance Policy Lapse Rates by Study Year, Non-Tobacco**



**Figure 24 — Whole Life Insurance Policy Lapse Rates by Study Year, Tobacco**

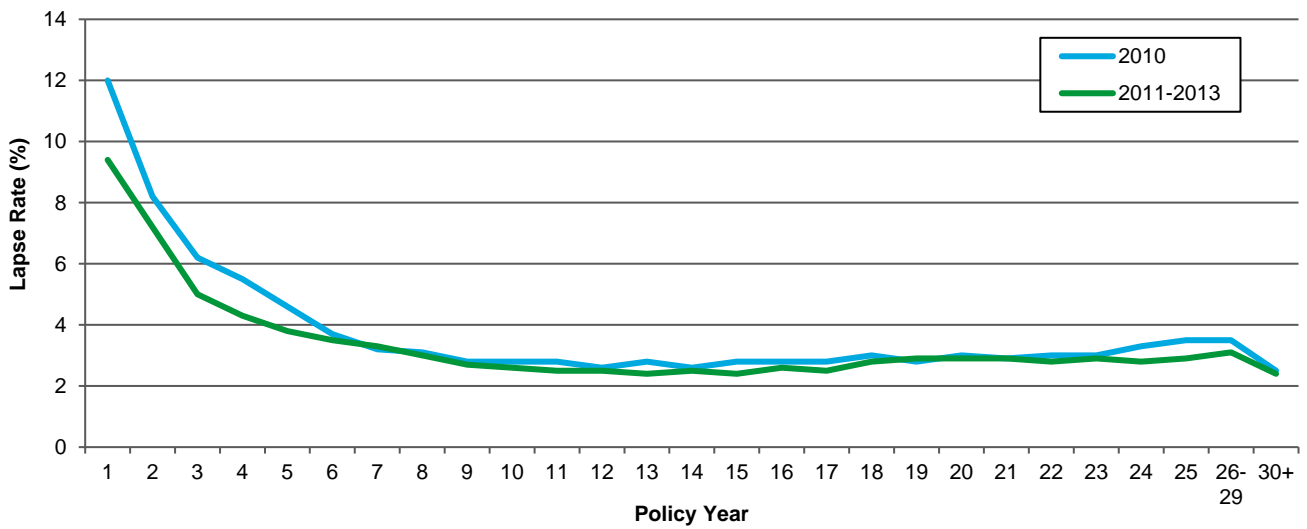


It also appears that younger issue ages were more likely to react to the economic conditions than older issue ages. Below is a table comparing the overall lapse rate in 2010 to that of the other study years by issue age band. Figures 25-29 illustrate policy-year lapse rates by study year and issue age.

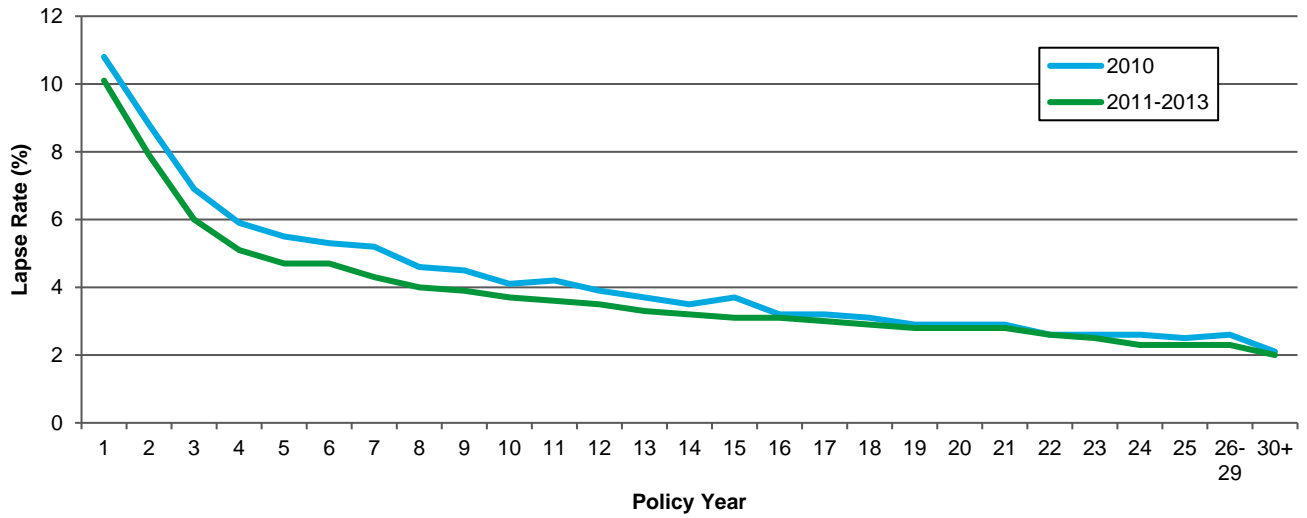
**Table 12 — Overall Policy Lapse Rates by Issue Age Band and Study Year**

Issue Age Band	Study Year 2010	Study Year 2011-2013
Less than 20	3.3%	2.9%
20-29	3.0%	2.7%
30-39	3.2%	2.9%
40-49	3.2%	3.0%
50+	3.0%	2.9%

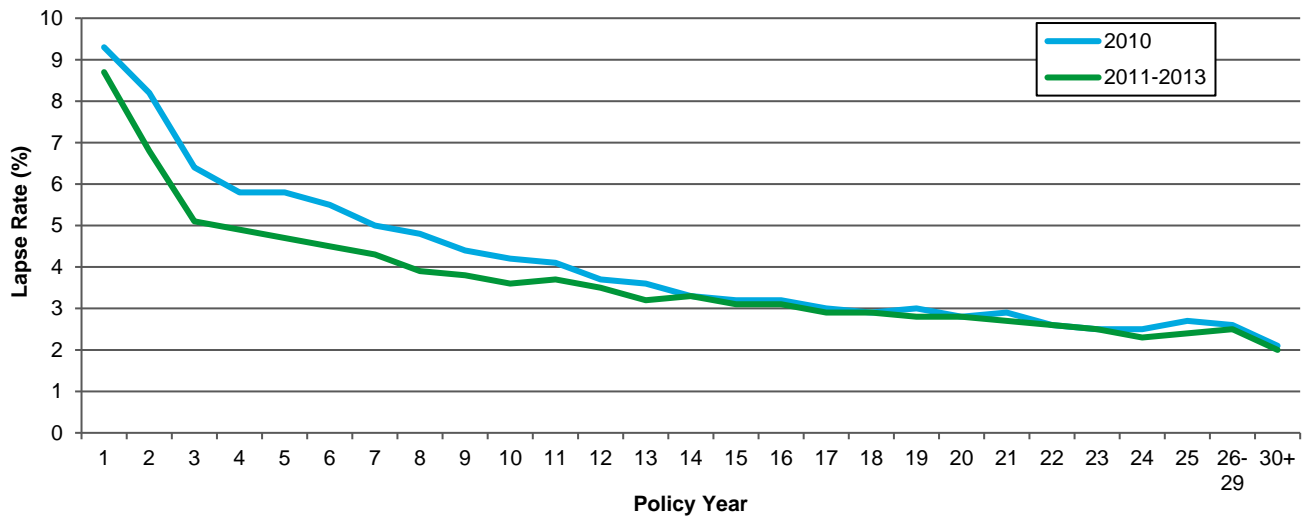
**Figure 25 — Whole Life Insurance Policy Lapse Rates by Study Year for Issue Age Under 20**



**Figure 26 — Whole Life Insurance Policy Lapse Rates by Study Year for Issue Age 20-29**

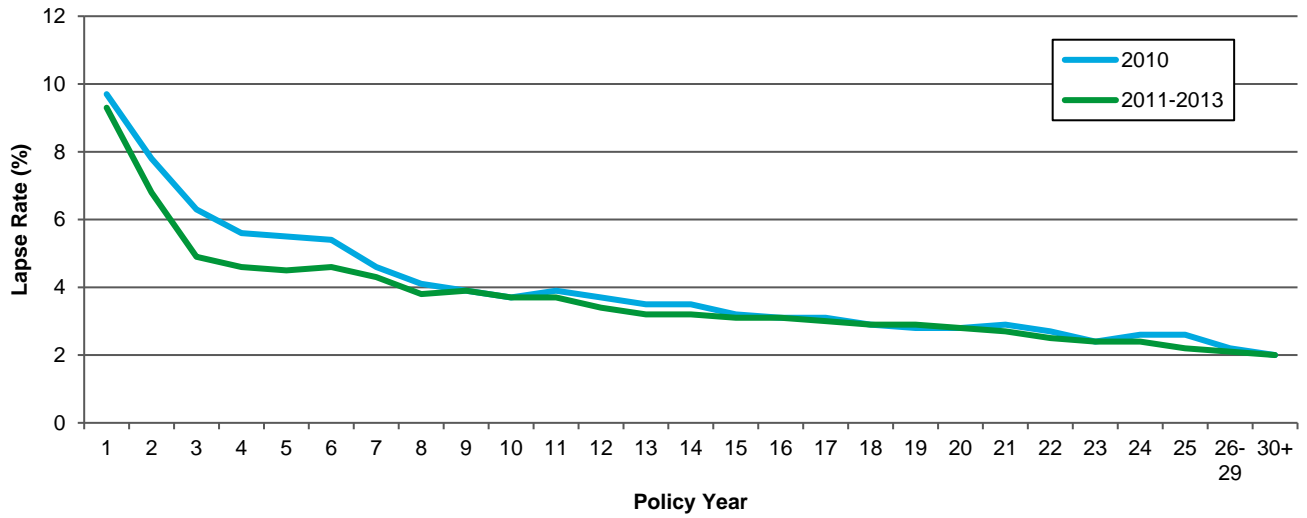


**Figure 27 — Whole Life Insurance Policy Lapse Rates by Study Year for Issue Age 30-39**

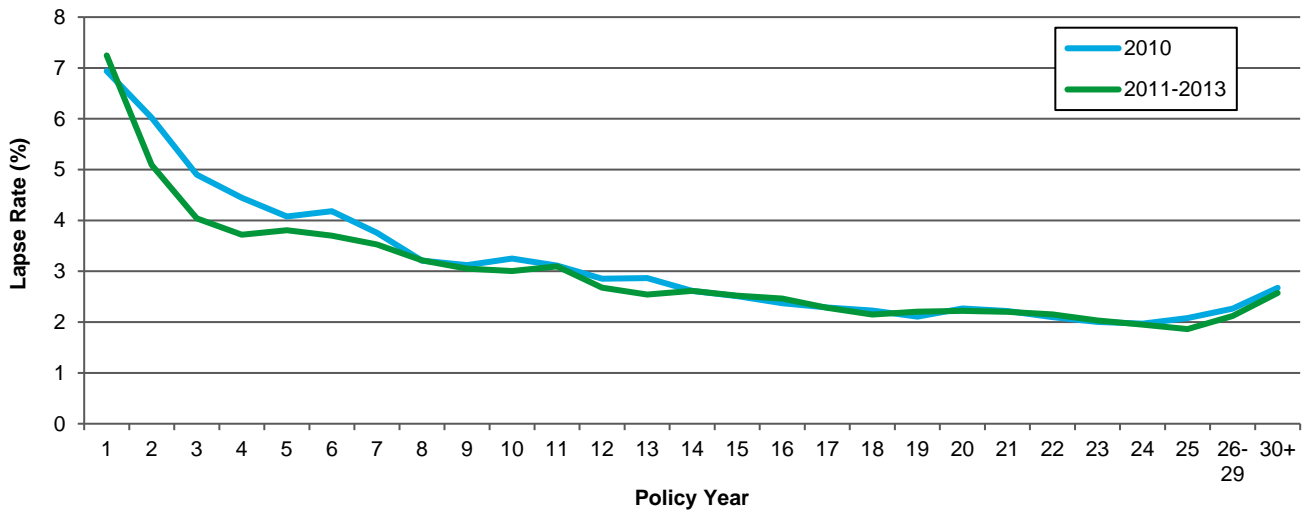




**Figure 28 — Whole Life Insurance Policy Lapse Rates by Study Year for Issue Age 40-49**



**Figure 29 — Whole Life Insurance Policy Lapse Rates by Study Year for Issue Age 50 and Over**



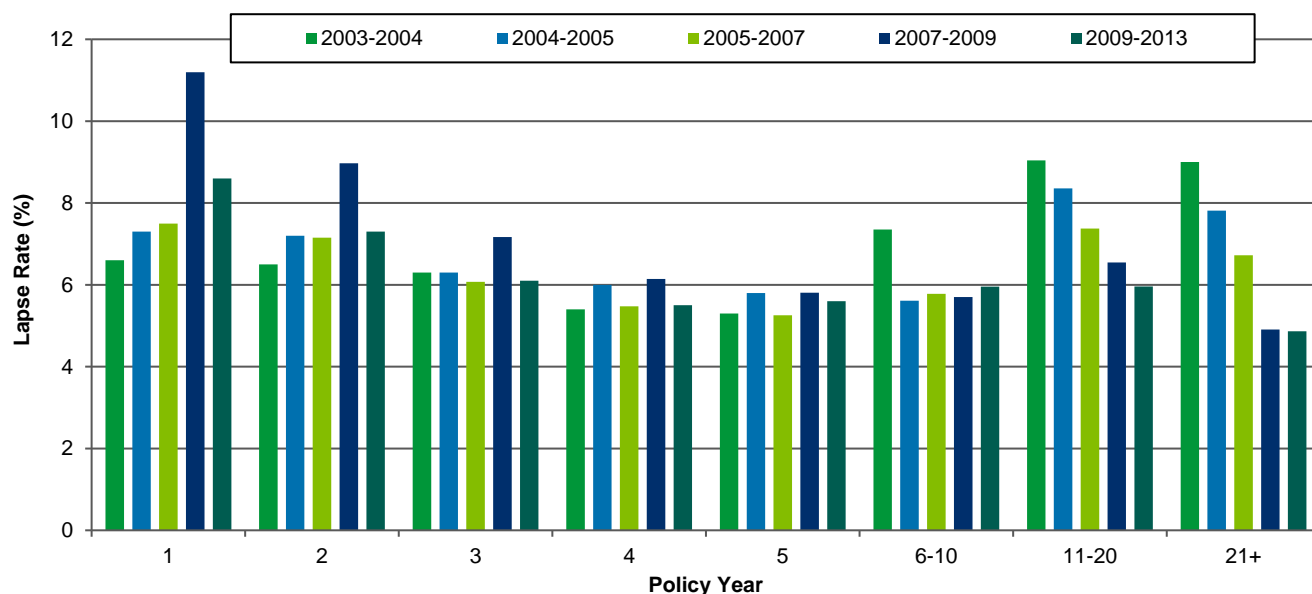
# Term Life

Term life insurance data shown in this section was based on data from 15 contributors. Please be aware that the mix of business in this study is different than prior studies due to differences in company participation. Generally lapse rates for term life insurance have declined, especially in the early policy years. The overall annual policy lapse rate in the current study was 6.2 percent annually, down considerably from 6.9 percent in the 2007-2009 study and also down from 6.4 percent in the 2005-2007 study.

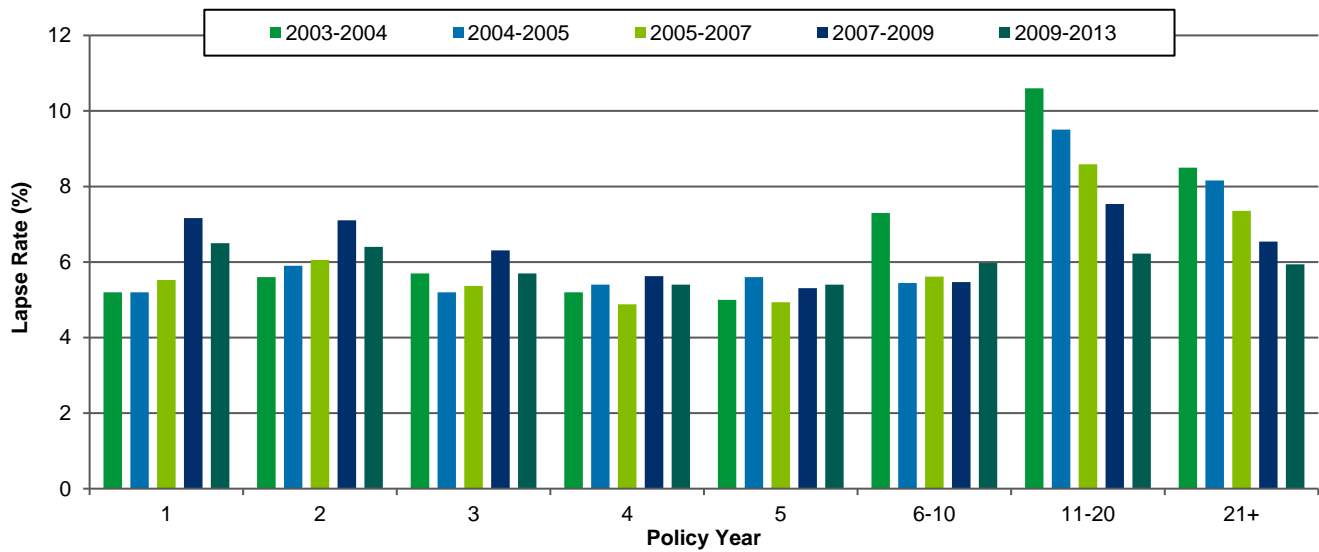
However, while not apparent from the figures below, for certain policy years (10 and 15) lapse rates have increased due to the impact of shock lapse rates for guaranteed level premium term plans. Similar patterns emerge for lapses on a face amount basis (Figure 31).

For companies represented in both the current and prior study, lapse rates decreased in almost every policy year, except policy year one, where lapse rates remained the same, and in certain shock lapse years, where lapse rates increased.

**Figure 30 — Trends in Term Insurance Policy Lapse Rates**



**Figure 31 — Trends in Term Insurance Face Amount Lapse Rates**



**Premium Guarantee Period**

Table 13 details the exposure distribution split by plan for the 14 term life insurance carriers that provided data by plan type. New to the VM-51 data format were level plan types split by guaranteed level period and anticipated level period. Data split by guaranteed versus anticipated level period was limited, so those plan types were ignored in this analysis. Those plans may be included in future studies if results are impactful. Also new to this study is the inclusion of a breakdown for 30-year level premium term.

Due to the mix of companies represented in this study, the average first-year face amount and average total face amount exposed increased considerably from the prior study. Also, face amount lapse rates by policy year will not be shown for YRT plans due to a high concentration of exposure for one or two companies.

**Table 13 — Term Insurance Exposure by Plan**

Plan	Average First-Year Face Amount Exposed	Average Total Face Amount Exposed	Percent of Policy Exposure
YRT	\$660,000	\$317,000	16%
10-Year LPT	\$762,000	\$628,000	17%
15-Year LPT	\$663,000	\$501,000	9%
20-Year LPT	\$679,000	\$564,000	51%
30-Year LPT	\$550,000	\$572,000	7%
<b>Total</b>	<b>\$685,000</b>	<b>\$530,000</b>	<b>100%</b>

First-year lapse rates for term plans decreased. Table 14 provides first-year lapse rates by term plan in the current study. Face amount lapse rates also decreased in the first year, except for 15-year level term, which remained level. After the first year, lapse rates in this current study are closer to the prior study. This results in the five-year persistency of these term plans changing to a lesser extent than the first-year lapse rates. Table 15 provides five-year persistency by term plans in the current study.

**Table 14 —  
Term Insurance First-Year Lapse Rates by Plan**

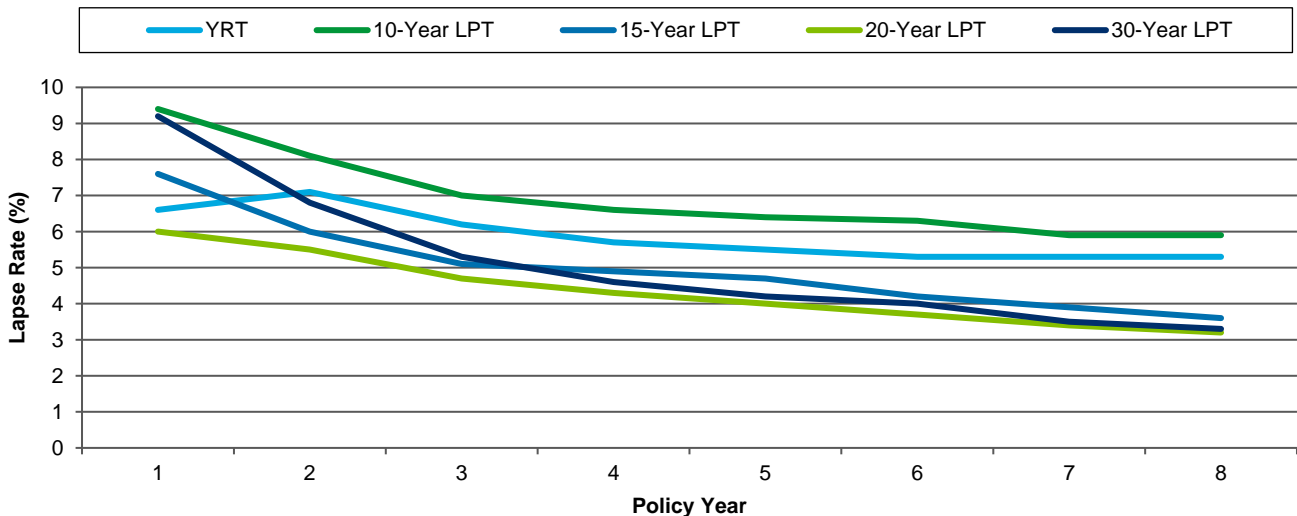
Plan	First-Year Policy Lapse Rate	First-Year Face Amount Lapse Rate
YRT	6.6%	n/a
10-Year LPT	9.4%	7.3%
15-Year LPT	7.6%	5.6%
20-Year LPT	6.0%	4.6%
30-Year LPT	9.2%	6.9%

**Table 15 —  
Term Insurance Five-Year Persistency by Plan**

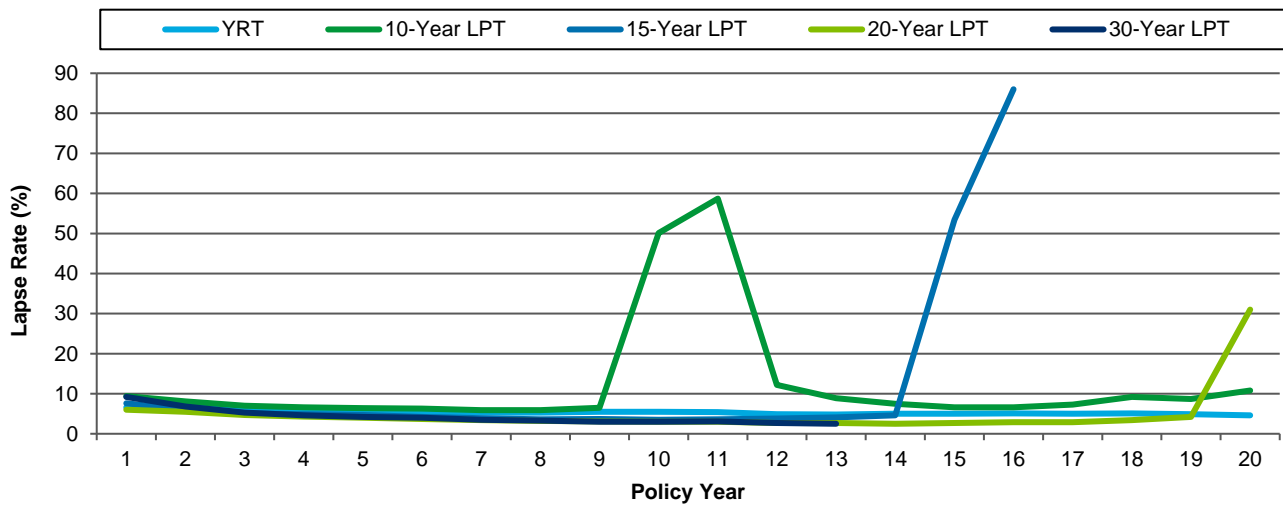
Plan	Policy Basis	Face Amount Basis
YRT	73%	n/a
10-Year LPT	68%	67%
15-Year LPT	75%	77%
20-Year LPT	78%	80%
30-Year LPT	73%	77%

As with past studies, term plans with longer premium guarantee periods (15- and 20-year) have the lowest lapse rates in early policy years (Figure 32). 30-year level term is an exception with lapse rates similar to 10-year level term. After the first year, lapse rates generally decrease by policy year, with the exception of the years around the end of the level premium guarantee period where shock lapses occur, as depicted in Figure 33.

**Figure 32 — Term Insurance Policy Lapse Rates by Level Premium Period — Policy Year 1 to 8**

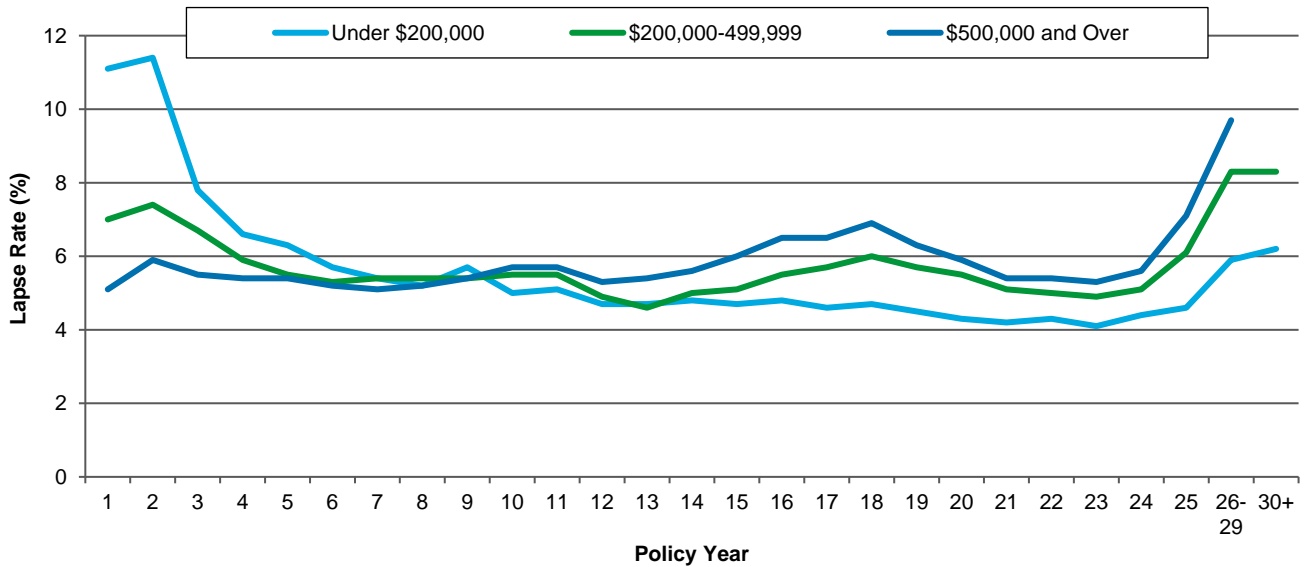


**Figure 33 — Term Insurance Policy Lapse Rates by Level Premium Period**



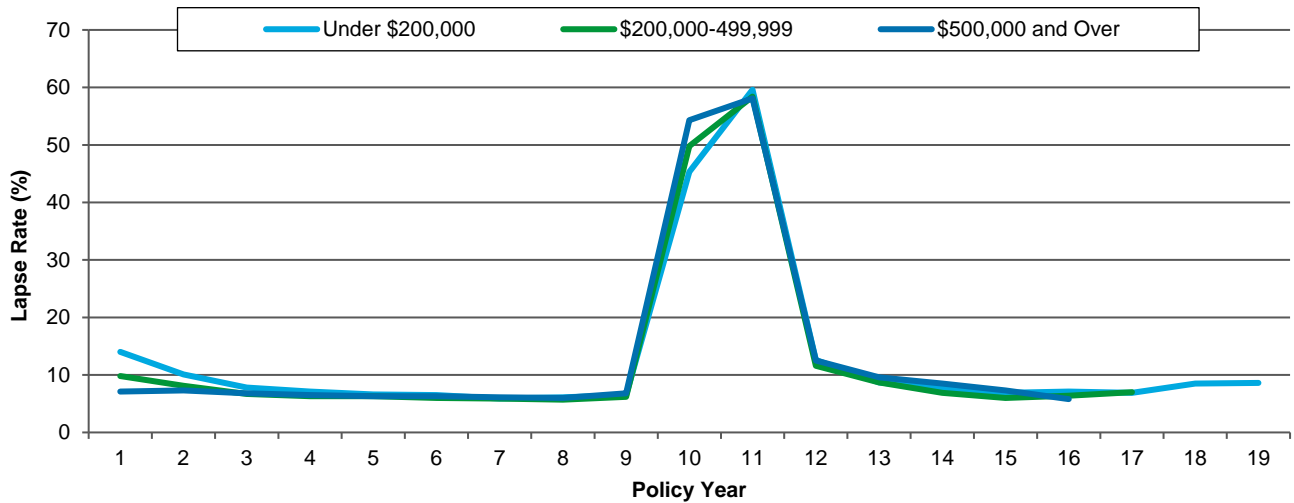
Looking at term life insurance by policy size, policies with face amounts under \$200,000 are more likely to lapse in the first few policy years than policies with higher face amounts. Experience by size varies more for YRT plans (Figure 34) than level premium plans (Figures 35 – 38).

**Figure 34 — YRT Insurance Policy Lapse Rates by Policy Size**



Similar to whole life trends, smaller-sized policies have a high first-year lapse rate. Early policy lapse rates are followed by lower and steadily declining lapse rates in later years. However, one peculiarity for term life insurance is that larger policies have increasing lapse rates in later policy years, a pattern typical in universal and variable universal life experience. This is most conspicuous in the YRT plans (Figure 34) and somewhat visible in the 15-year and 20-year level premium term plans prior to the shock lapse period (Figures 36, 37).

**Figure 35 — 10-Year Level Premium Term Policy Lapse Rates by Policy Size**

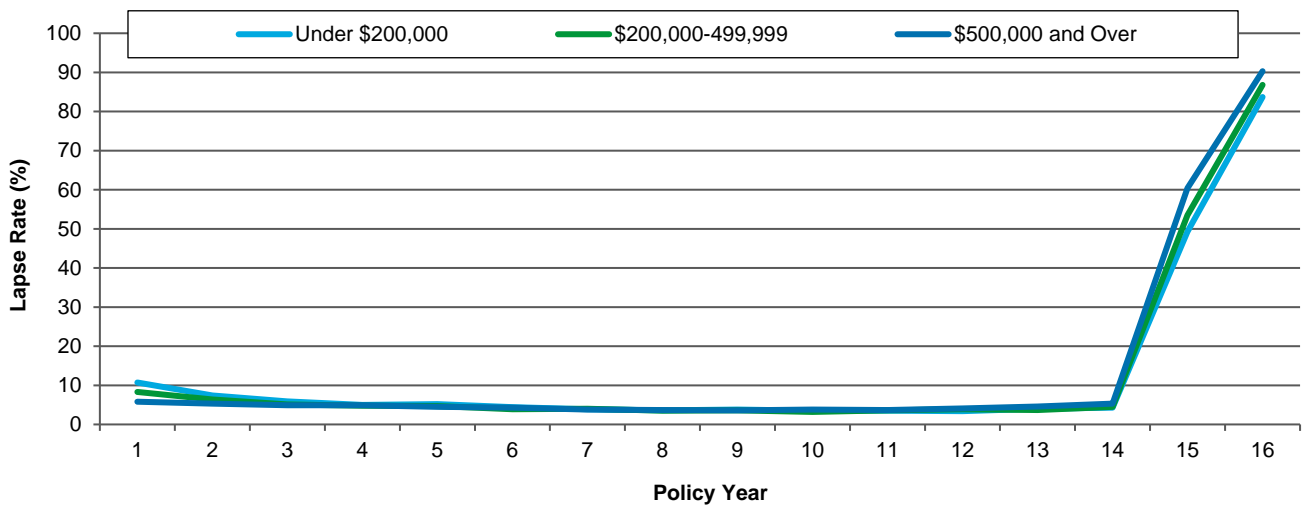


Shock lapse rates for 10-year level premium term plans increased considerably and averaged 59 percent on a policy basis and 57 percent on a face amount basis in policy year 11. Variations in shock lapse rates by policy size are most noticeable in policy year 10 (Figure 35).

Variations in shock lapse rates by policy size are beginning to appear for 15-year level premium term plans as more policies hit the end of the guarantee period (Figure 36). Average shock lapse rates topped off at 53 percent in policy year 15 and 86 percent in policy year 16 on a policy basis.

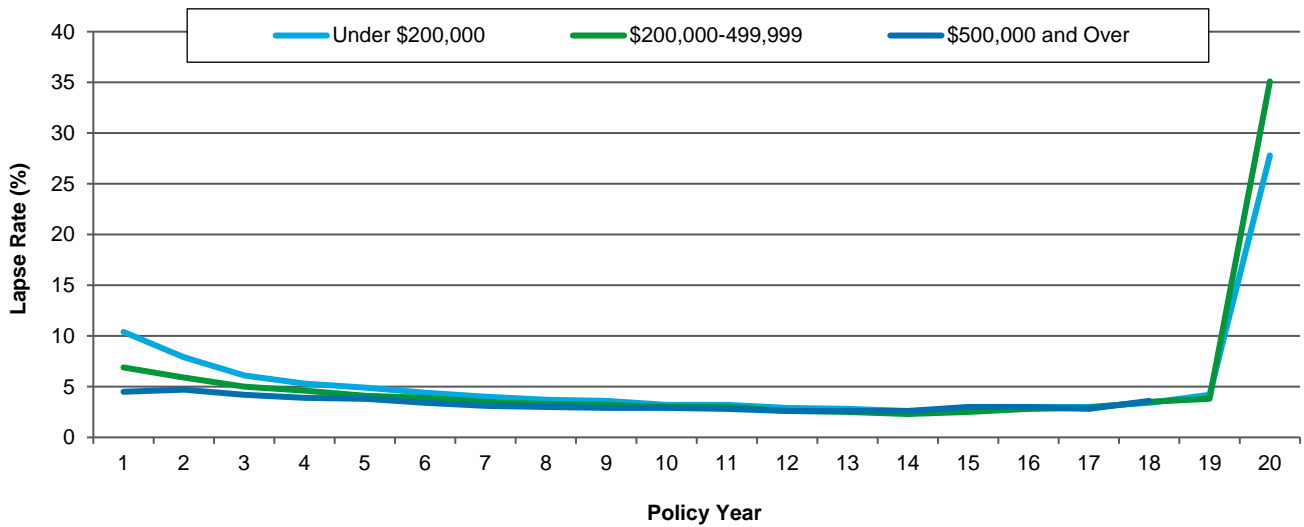
***It is important to note that the level premium term plans included in this study were designed and priced with the post-guarantee period premium levels of 10 or more years ago. Future shock lapse rates will have a high degree of dependence on the magnitude of the premium jump at the end of the guarantee premium period.***

**Figure 36 — 15-Year Level Premium Term Policy Lapse Rates by Policy Size**



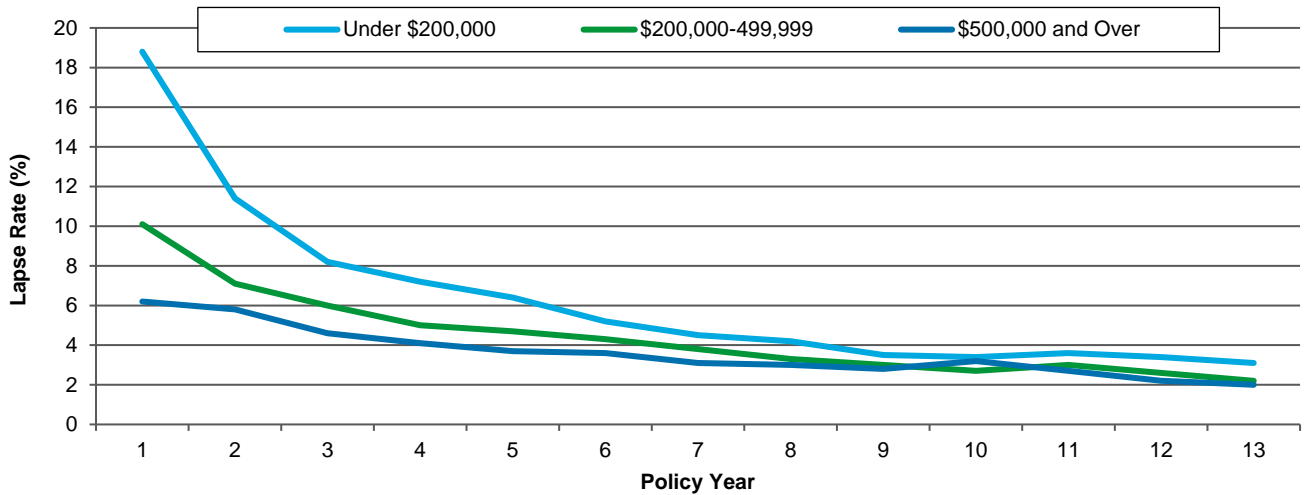
For 20-year level premium term plans, shock lapse patterns appear to be following a similar pattern as the other level premium term plans, with higher shock lapse rates at higher amounts (Figure 37). Lapse rates on a policy basis are very similar to the lapse rates on a face amount basis.

**Figure 37 — 20-Year Level Premium Term Policy Lapse Rates by Policy Size**



While there is still limited data for later policy years on 30-year level term plans, experience by size appears to be converging similar to the other level term plans.

**Figure 38 — 30-Year Level Premium Term Policy Lapse Rates by Policy Size**



### Gender

Overall term exposure by gender continues to be skewed towards males. YRT and 30-year level term plans have the closest gender split, at 56 percent and 55 percent respectively. 10-year level term has the largest percent male at 68 percent. Results by face amount are skewed even more male.

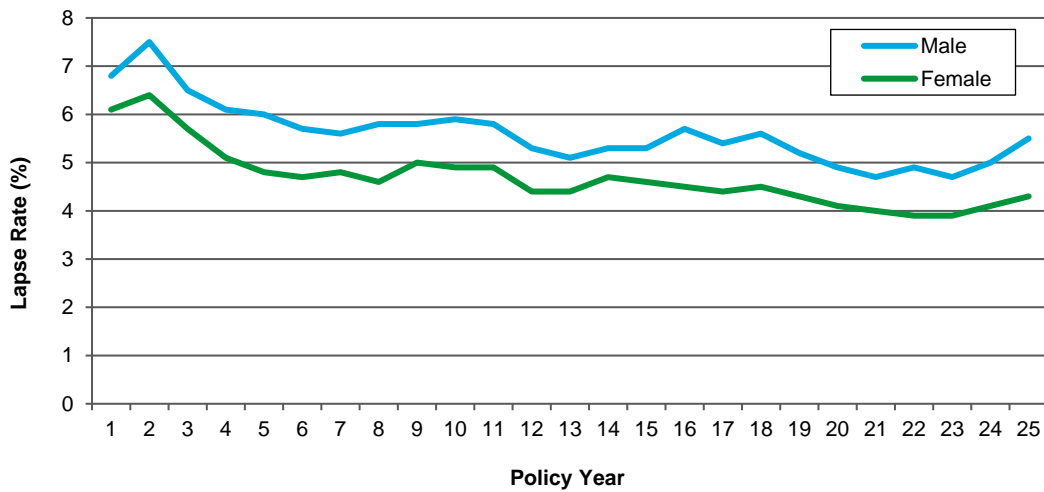
**Table 16 — Term Insurance Distribution of Exposure by Gender**

Plan	Percent of Policy Exposure		Percent of Face Amount Exposure	
	Males	Females	Males	Females
YRT	56%	44%	68%	32%
10-Year LPT	68%	32%	79%	21%
15-Year LPT	63%	37%	75%	25%
20-Year LPT	60%	40%	70%	30%
30-Year LPT	55%	45%	64%	36%

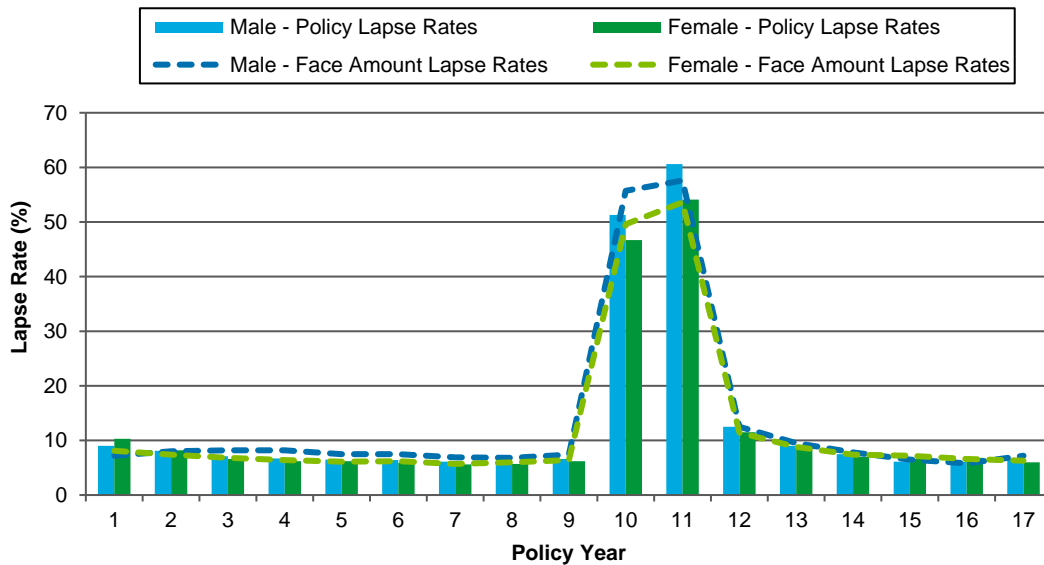


Policy and face amount lapse rates by gender are shown in Figures 39 to 43 for YRT, 10-year, 15-year, 20-year, and 30-year level premium term plans. Overall trends show higher lapse rates for males than females; however, there are select policy years where the opposite is true. Lapse rates for plans with shorter level premium guarantees (YRT) show higher lapse rates for males across all policy years. Level premium plans show slightly higher lapse rates for females in early policy years. This trend changes after three to six years, and lapse rates are similar for males and females until the durations of the shock rates. Shock lapse rates are notably higher for males than for females for 10- and 15- year level term. While the shock lapse experience has yet to be fully experienced for 20-year level premium term plans, the pattern is emerging differently with slightly higher female shock lapse rates.

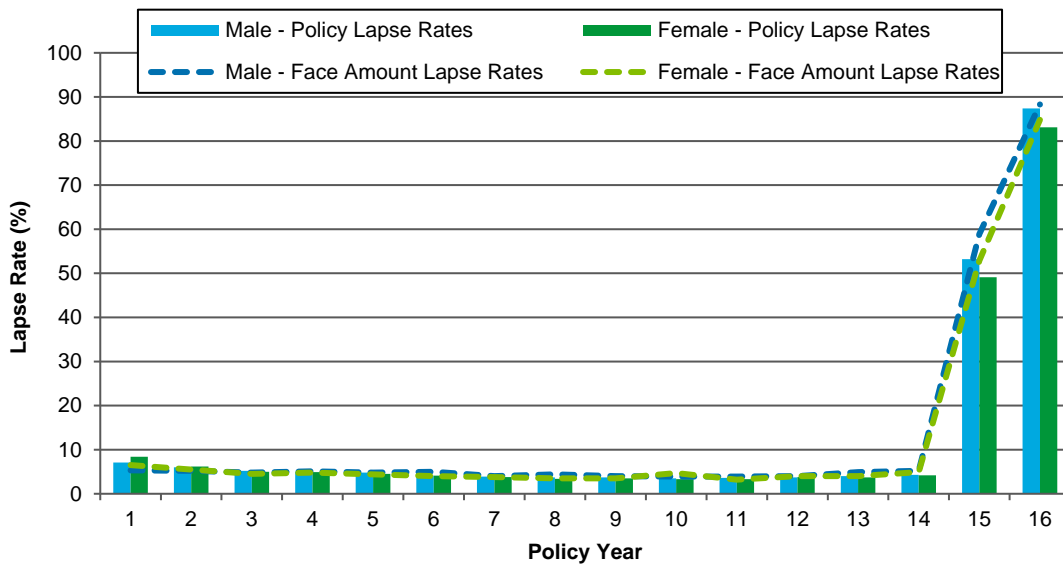
**Figure 39 — YRT Insurance Policy Lapse Rates by Gender**



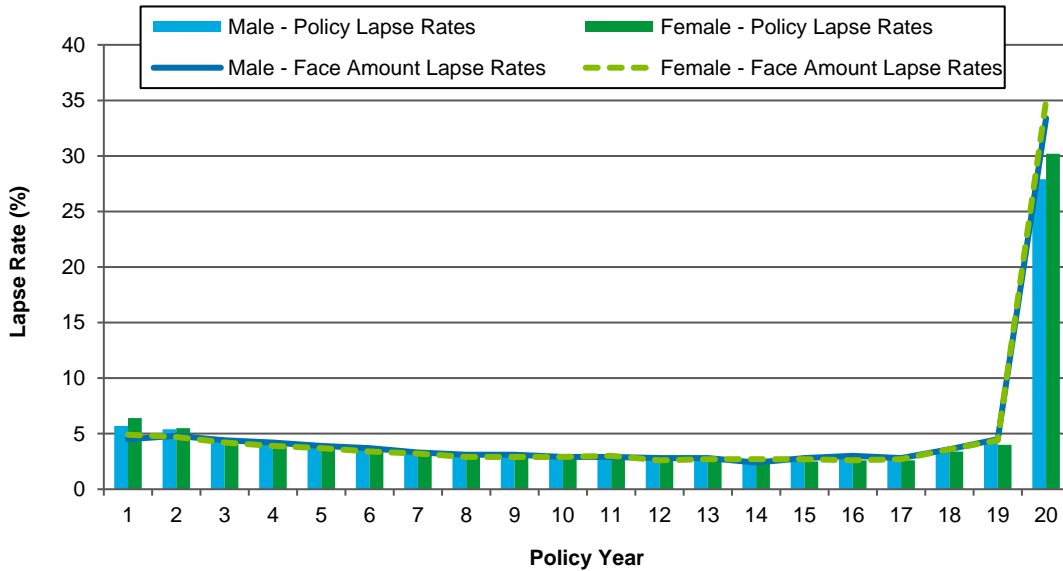
**Figure 40 — 10-Year Level Premium Term Insurance Lapse Rates by Gender**



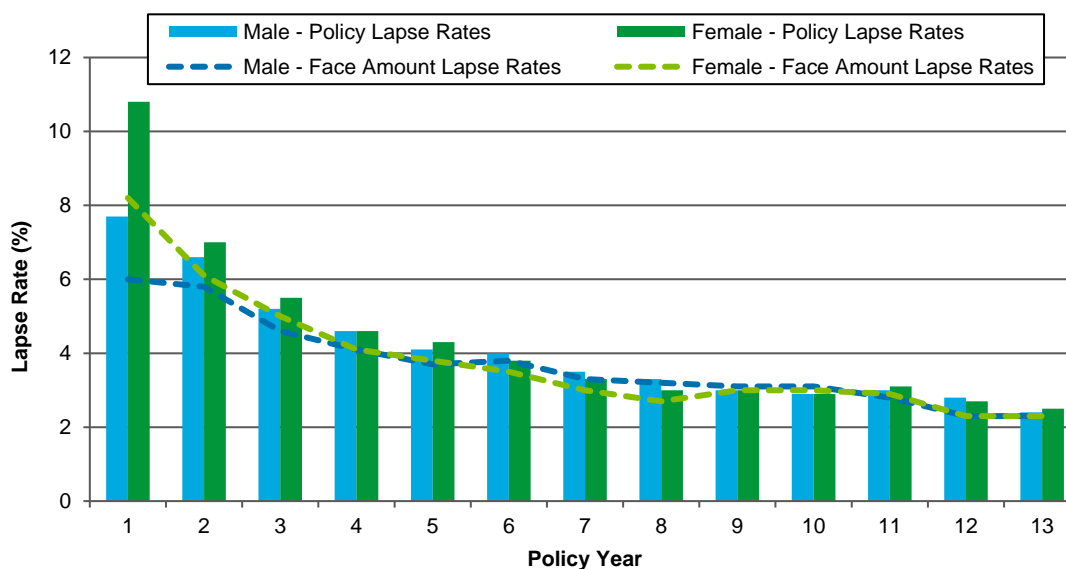
**Figure 41 — 15-Year Level Premium Term Insurance Lapse Rates by Gender**



**Figure 42 — 20-Year Level Premium Term Insurance Lapse Rates by Gender**



**Figure 43 — 30-Year Level Premium Term Insurance Lapse Rates by Gender**



### Issue Age

The distribution of policies by issue age cohorts remains weighted more towards issue ages in the 30s and 40s (Table 17). Average face amounts increased, most likely due to the change in the companies participating.

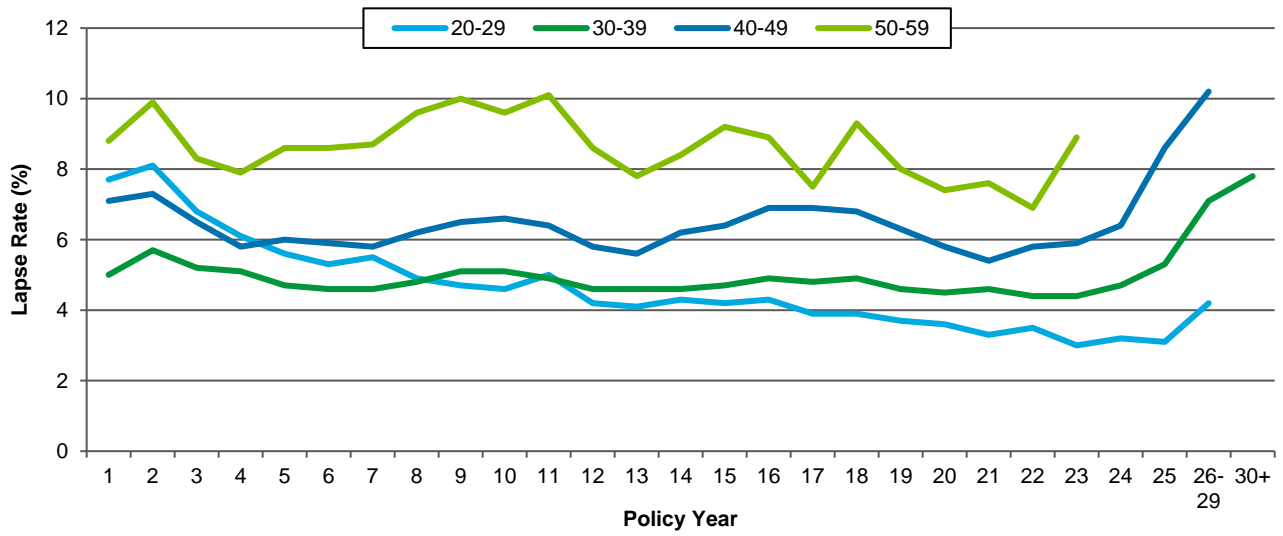
**Table 17 — Term Insurance Exposure by Issue Age Cohort**

Issue Age	Average Face Amount Exposed				Percent of Policy Exposure			
	YRT	10-Year LPT	20-Year LPT	30-Year LPT	YRT	10-Year LPT	20-Year LPT	30-Year LPT
Less than 20	\$34,000	\$142,000	\$172,000	\$206,000	4%	1%	—	—
20-29	\$233,000	\$419,000	\$404,000	\$421,000	24%	9%	10%	16%
30-39	\$349,000	\$591,000	\$599,000	\$616,000	50%	25%	43%	58%
40-49	\$389,000	\$684,000	\$600,000	\$575,000	18%	32%	34%	24%
50-59	\$408,000	\$662,000	\$484,000	\$545,000	4%	25%	12%	2%
60+	\$430,000	\$675,000	\$473,000	n/a	—	8%	1%	0

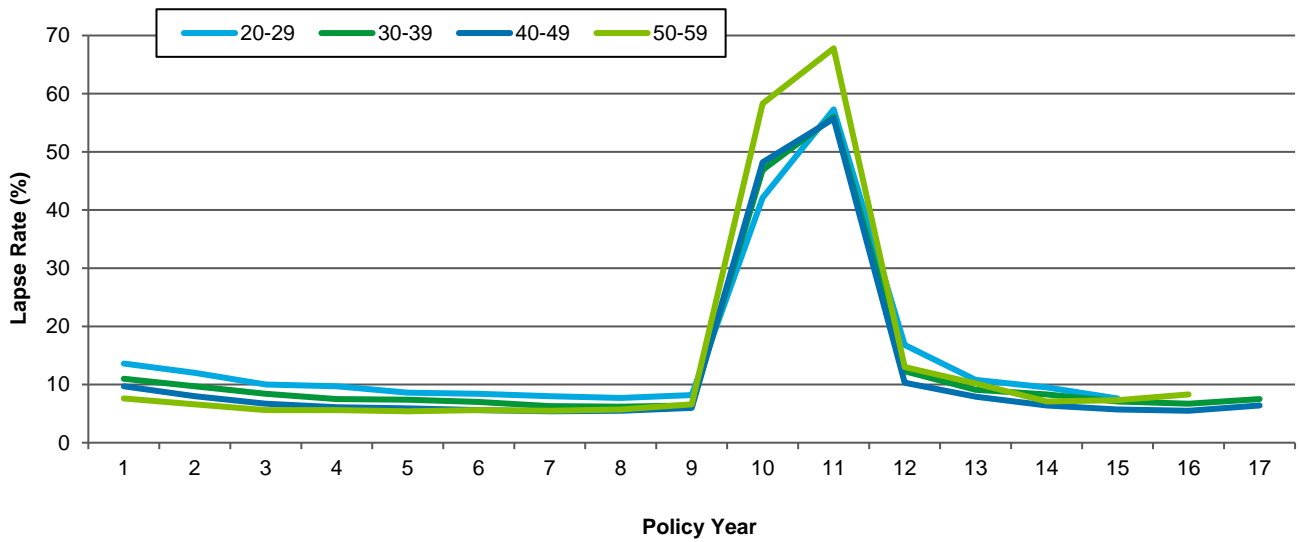
— Less than 1%

Policy lapse rates by issue age cohort are shown in Figures 44 to 52 for YRT, 10-year, 15-year, 20-year, and 30-year level premium term plans. Overall trends for level premium guarantee plans continue to show higher lapse rates in early policy years for younger-issue-age cohorts, while issue ages in the 30s and 40s have very similar lapse patterns. For YRT plans, older-issue-age cohorts have higher lapse rates through most policy years, likely due to the increasing cost of insurance at older ages. On the level premium plans, shock lapses tend to be higher for older issue ages.

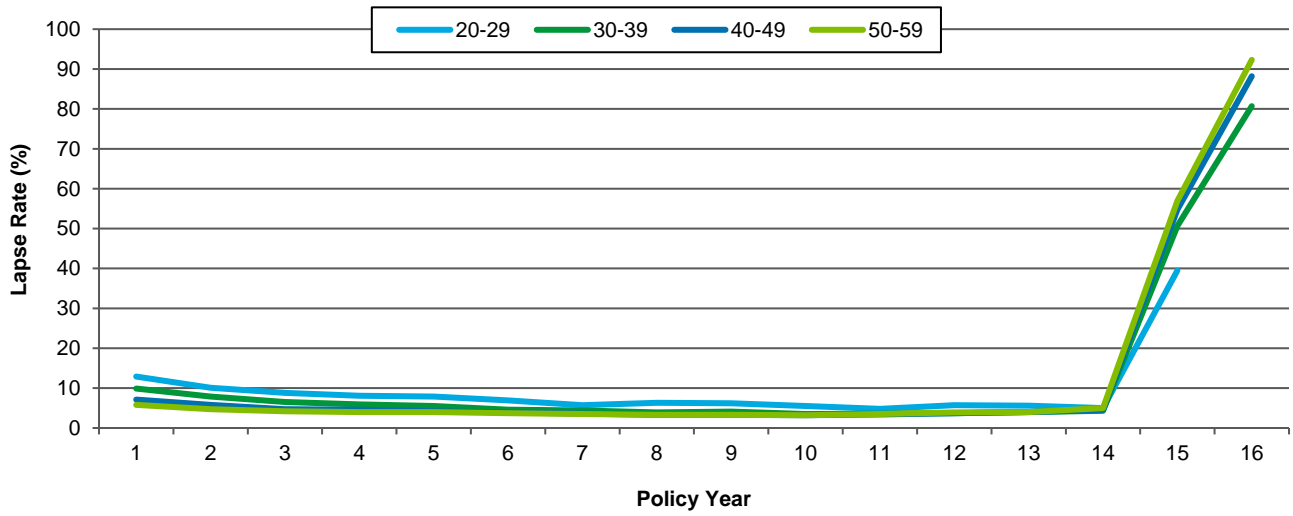
**Figure 44 — YRT Insurance Policy Lapse Rates by Issue Age Cohort**



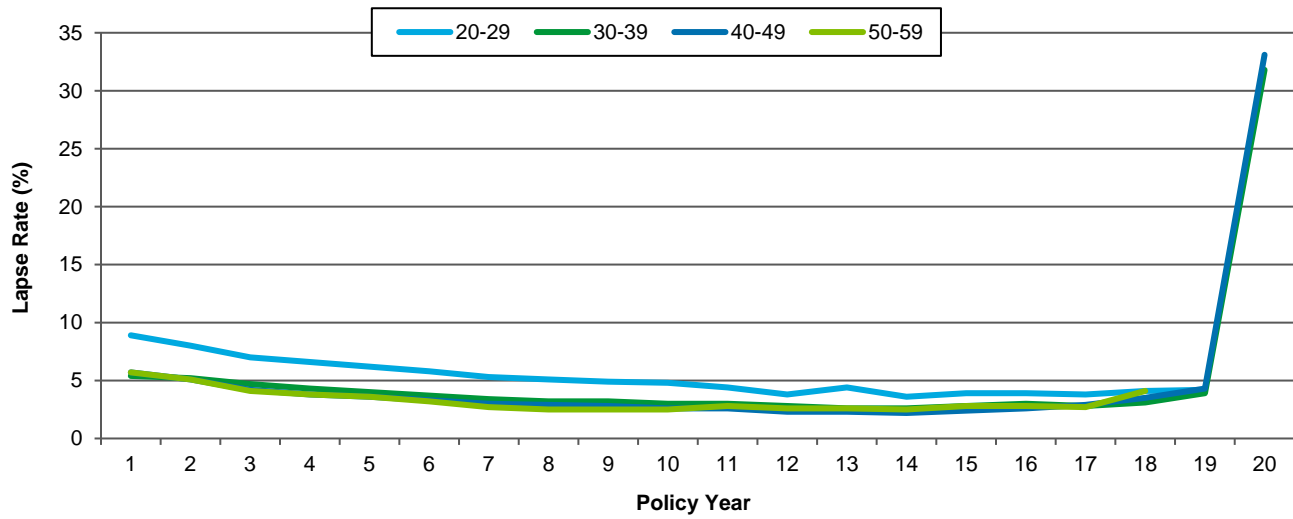
**Figure 45 — 10-Year Level Premium Term Insurance Policy Lapse Rates by Issue Age Cohort**



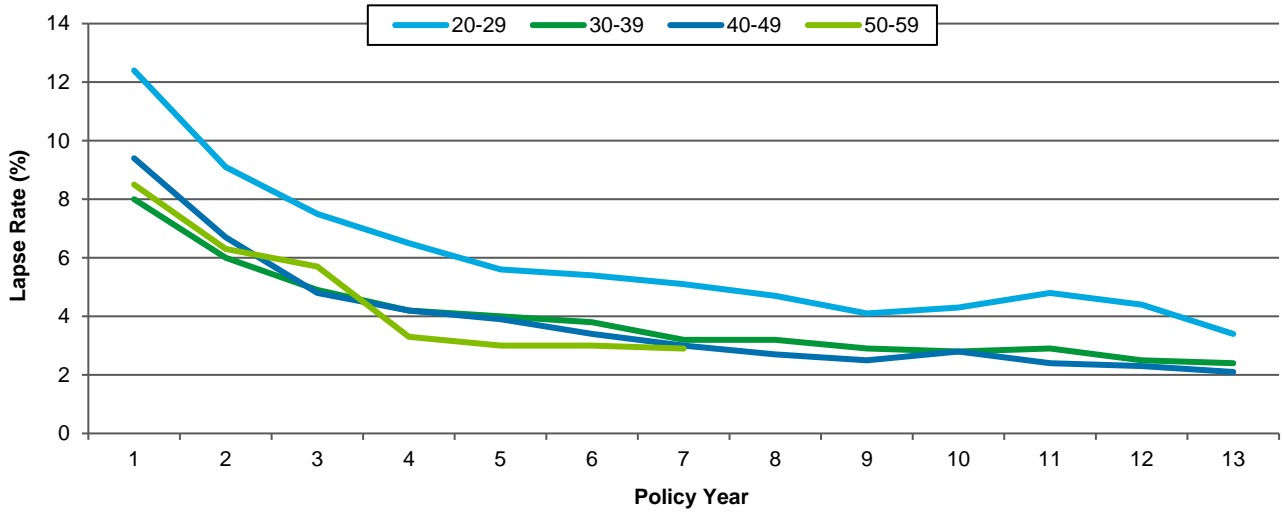
**Figure 46 — 15-Year Level Premium Term Insurance Policy Lapse Rates by Issue Age Cohort**



**Figure 47 — 20-Year Level Premium Term Insurance Policy Lapse Rates by Issue Age Cohort**



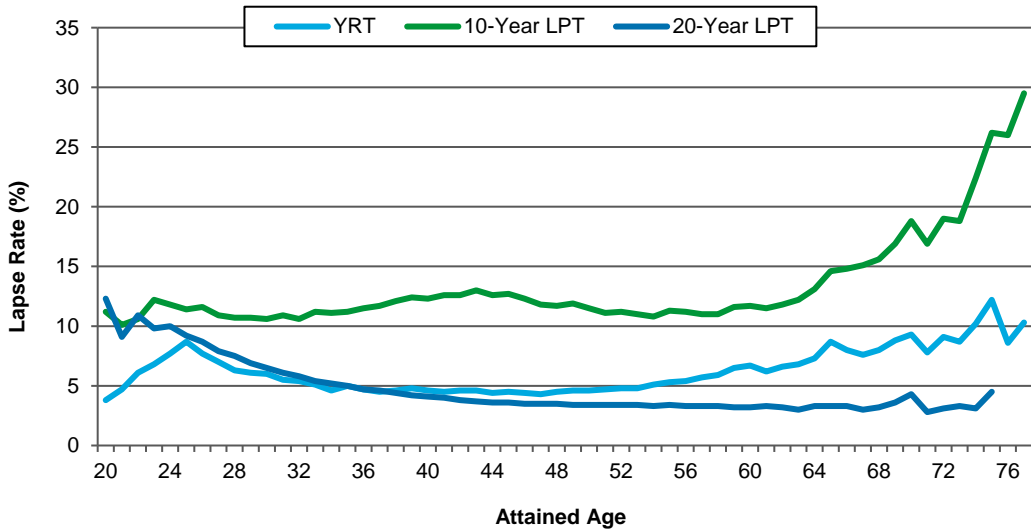
**Figure 48 — 30-Year Level Premium Term Insurance Policy Lapse Rates by Issue Age Cohort**



**Attained Age**

Figure 49 shows lapse rates at different attained ages by various term plans. Twenty-year level premium term plans exhibit lower rates of lapsation than other term products starting at attained age 35. YRT and 10-year level term show increases in lapse rates around retirement ages, similar to whole life experience (Figure 10).

**Figure 49 — Term Insurance Policy Lapse Rates by Attained Age**



## Premium Payment Mode

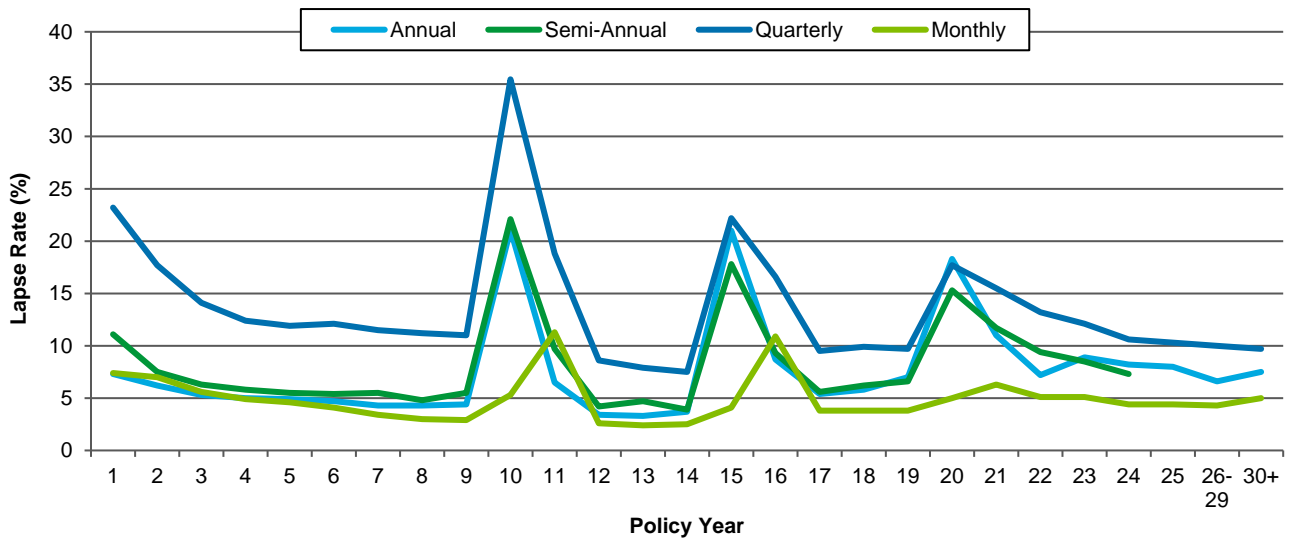
Four companies provided data by premium payment mode. Monthly premium payment mode continues to dominate while annual mode tends to be the second most popular, except for YRT (Table 18).

**Table 18 — Term Insurance Percent of Policy Exposure by Premium Payment Mode**

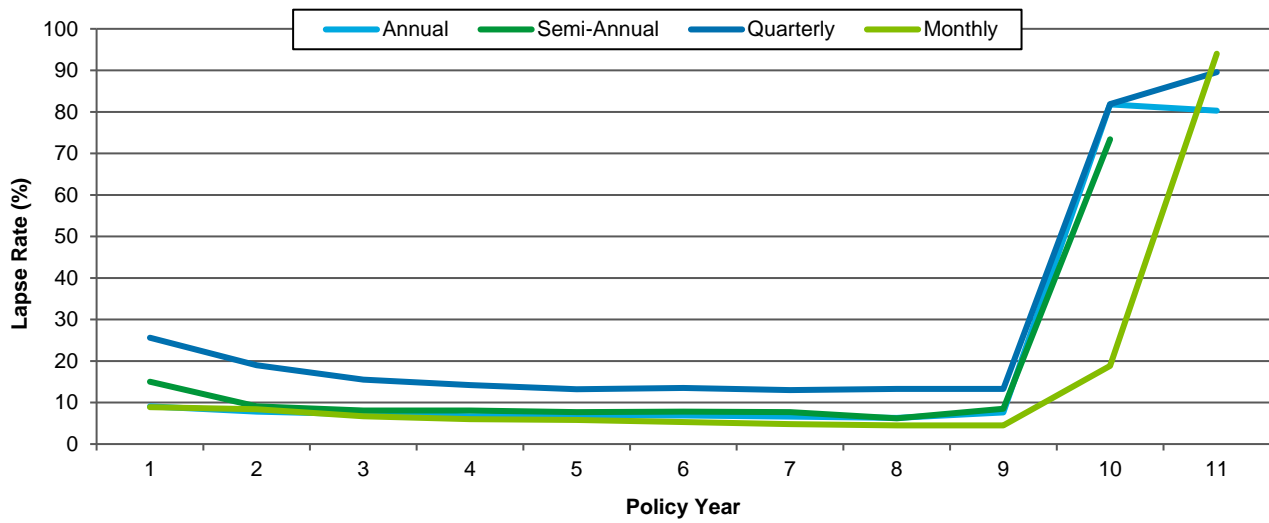
Premium Payment Mode	YRT	10-Year LPT	20-Year LPT	30-Year LPT
Annual	22%	24%	25%	20%
Semi-Annual	5%	4%	4%	3%
Quarterly	24%	16%	13%	13%
Monthly	49%	56%	58%	64%

Similar to permanent insurance experience, quarterly-pay policies exhibit the highest lapse rates, while monthly-pay policies tend to exhibit the lowest lapse rates (Figure 50). This trend is also seen at the plan level (Figures 50 to 54). Interestingly, 10-year level term shock lapse rates on monthly-pay policies tend to lag one policy year possibly due to the automatic payment nature of these plans, as insureds may not recognize the premium increase as soon as the other premium payment modes (Figure 51). The pattern around the shock lapse period for the longer level plans cannot be shown due to limited exposure by premium mode.

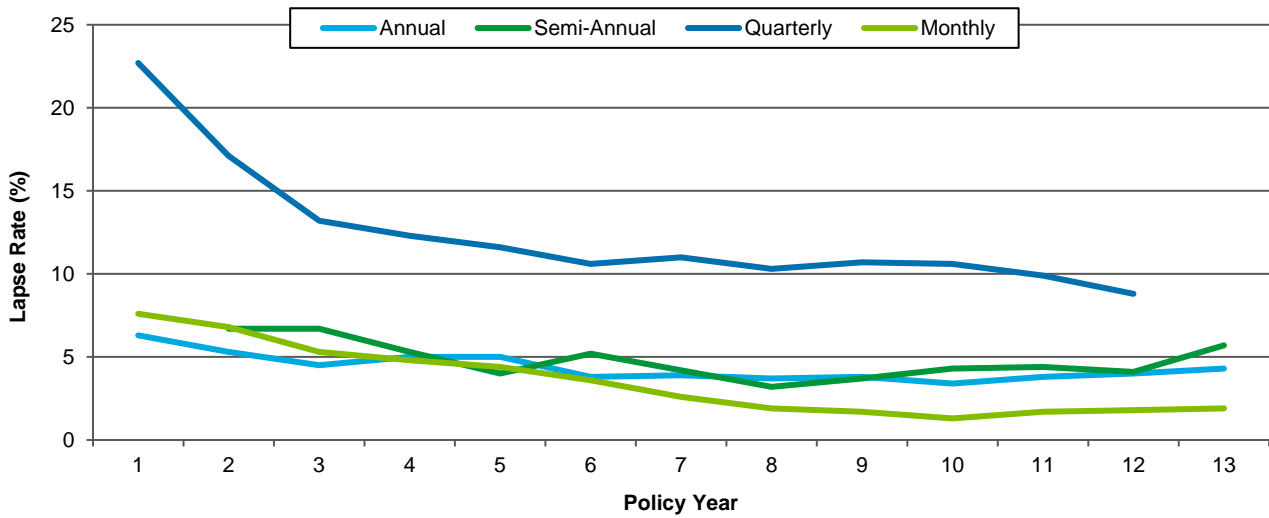
**Figure 50 — Term Insurance Policy Lapse Rates by Premium Payment Mode**



**Figure 51 — 10-Year Level Premium Term Insurance Policy Lapse Rates by Premium Payment Mode**

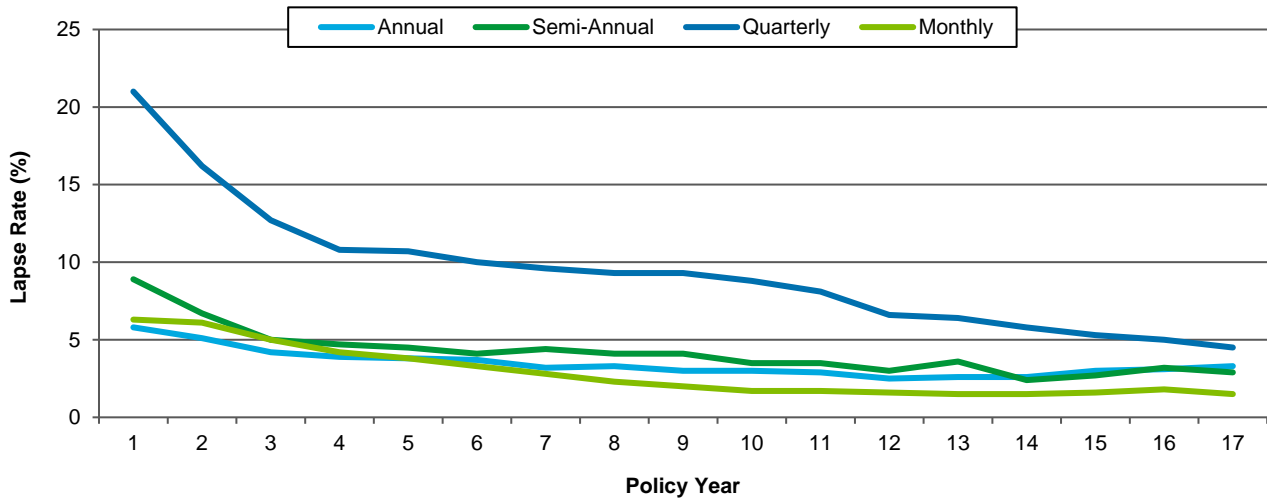


**Figure 52 — 15-Year Level Premium Term Insurance Policy Lapse Rates by Premium Payment Mode**





**Figure 53 — 20-Year Level Premium Term Insurance Policy Lapse Rates by Premium Payment Mode**



**Risk Class**

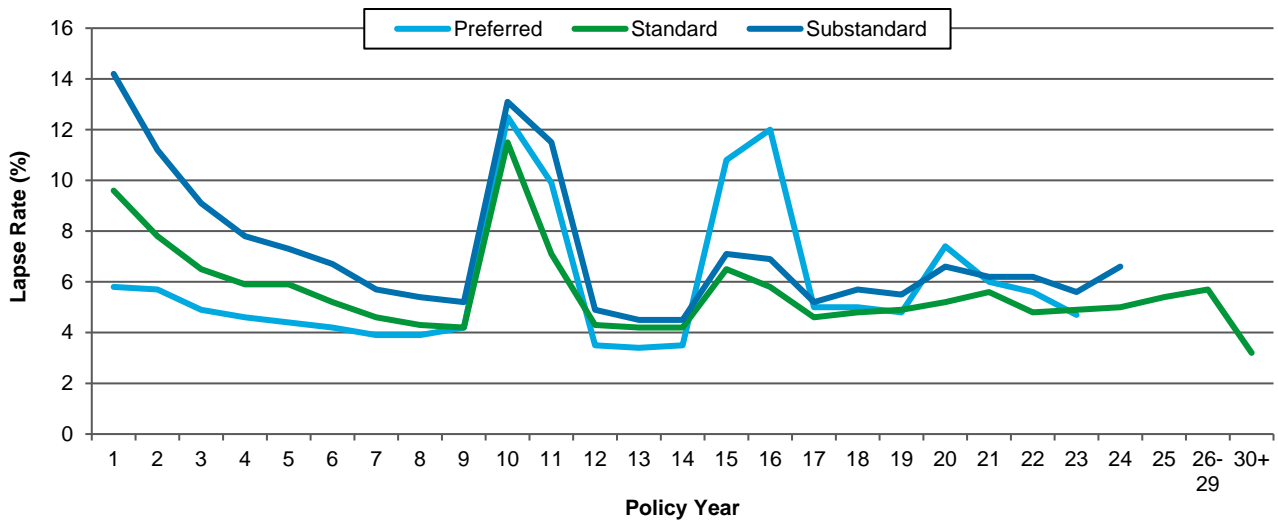
Over 50 percent of policy exposure for term plans is on the preferred risk class. The average face amount exposed for preferred-risk-class policies continued to be significantly higher than the average face amount exposed for standard- and substandard-class policies (Table 19).

**Table 19 — Term Insurance Policy Exposure by Risk Class**

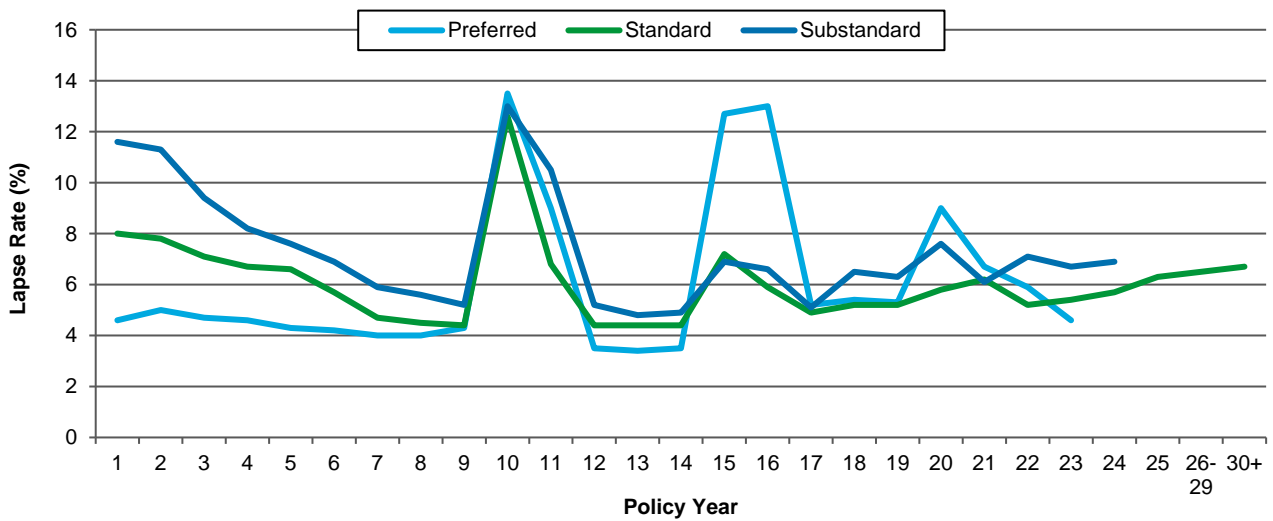
Risk Class	Average Face Amount Exposed	Percent of Policy Exposure
Preferred	\$586,000	56%
Standard	\$345,000	38%
Substandard	\$421,000	6%

Term policies classified as falling within standard and substandard risk classes at issue continue to have higher lapse rates than the preferred risk class during the early policy years (Figures 54 and 55). However, preferred-class lapse rates during the shock lapse periods tend to be higher than those of the other risk classes. This is especially prevalent by face amount, as preferred policies tend to have considerably larger face amounts.

**Figure 54 — Term Insurance Policy Lapse Rates by Risk Class**



**Figure 55 — Term Insurance Face Amount Lapse Rates by Risk Class**



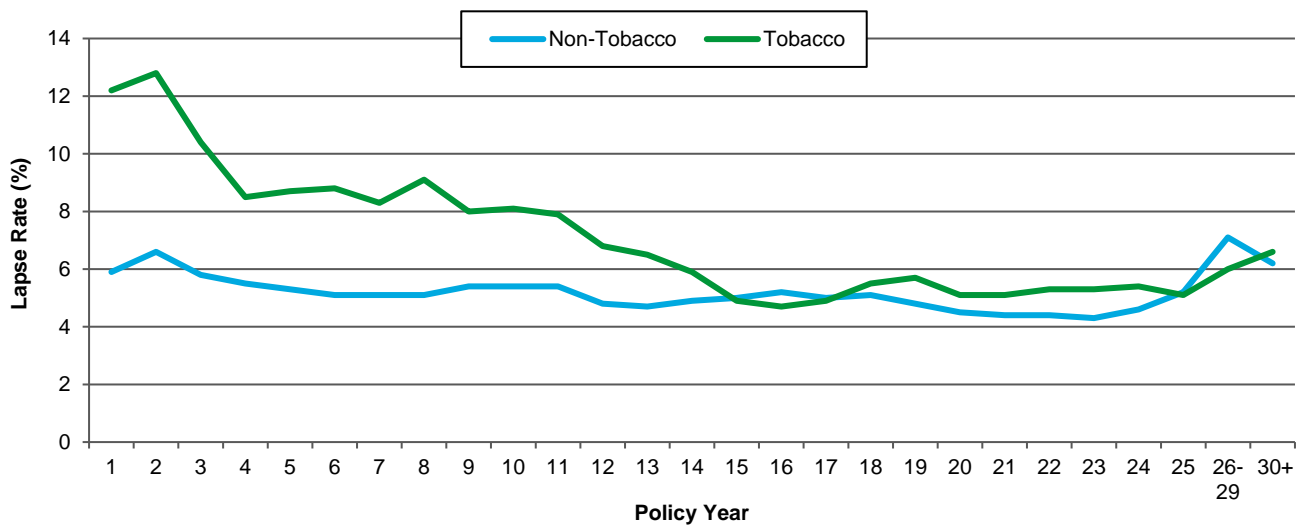
## Tobacco Status

Tobacco policies lapse more often than non-tobacco policies in most policy years for YRT plans (Figure 56). Consistent with YRT, tobacco policies lapse more often during the level premium period. However, during certain shock lapse policy years, non-tobacco lapse rates exceed tobacco lapse rates (Figures 57 and 58). Face amount lapse rates start lower than policy lapse rates but become similar to, and then exceed, policy lapse rates at later policy years.

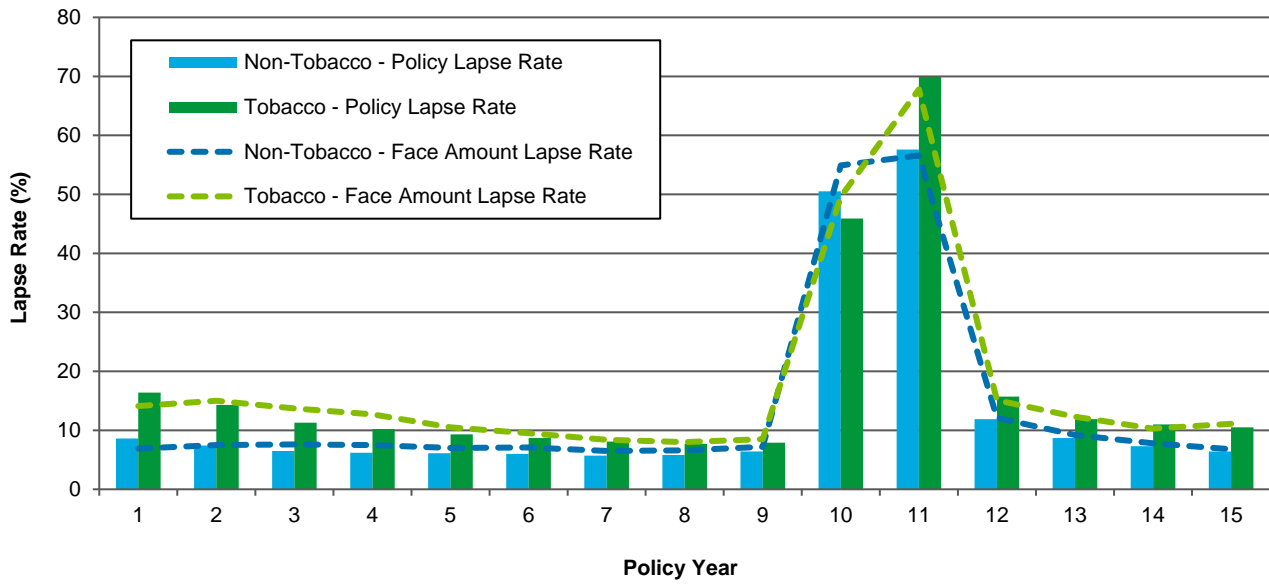
**Table 20 — Term Insurance Policy Exposure by Tobacco Use**

Tobacco Use	Average Face Amount Exposed					Percent of Policy Exposure				
	YRT	10-Year LPT	15-Year LPT	20-Year LPT	30-Year LPT	YRT	10-Year LPT	15-Year LPT	20-Year LPT	30-Year LPT
No	\$347,000	\$658,000	\$516,000	\$576,000	\$579,000	90%	90%	94%	95%	98%
Yes	\$171,000	\$358,000	\$284,000	\$327,000	\$290,000	10%	10%	6%	5%	2%

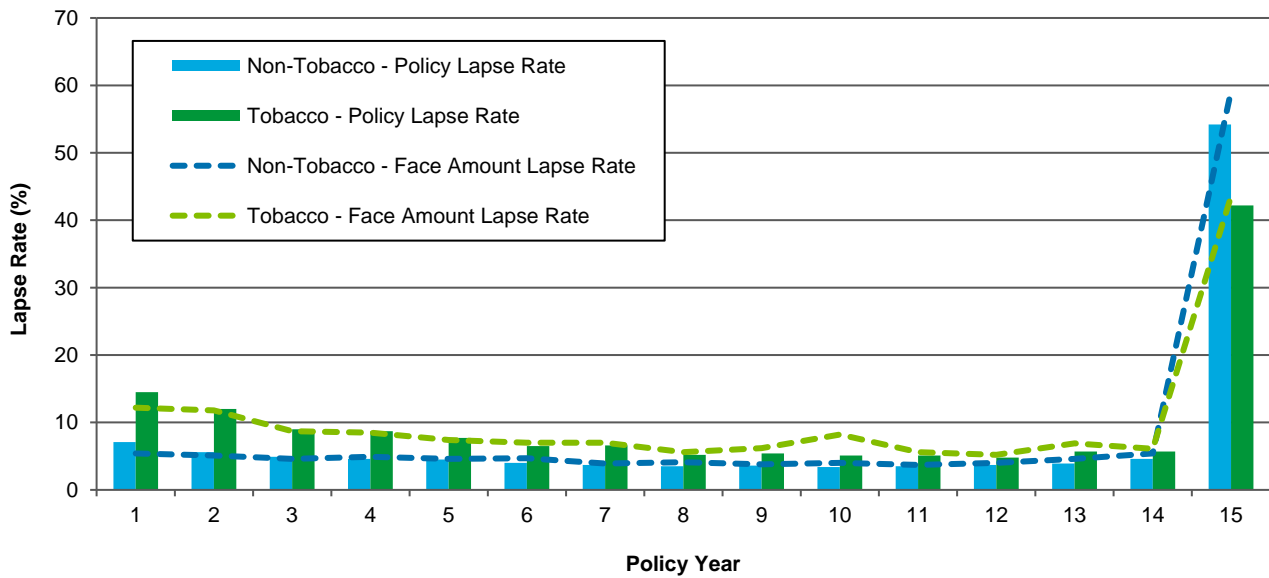
**Figure 56 — YRT Insurance Policy Lapse Rates by Tobacco Status**



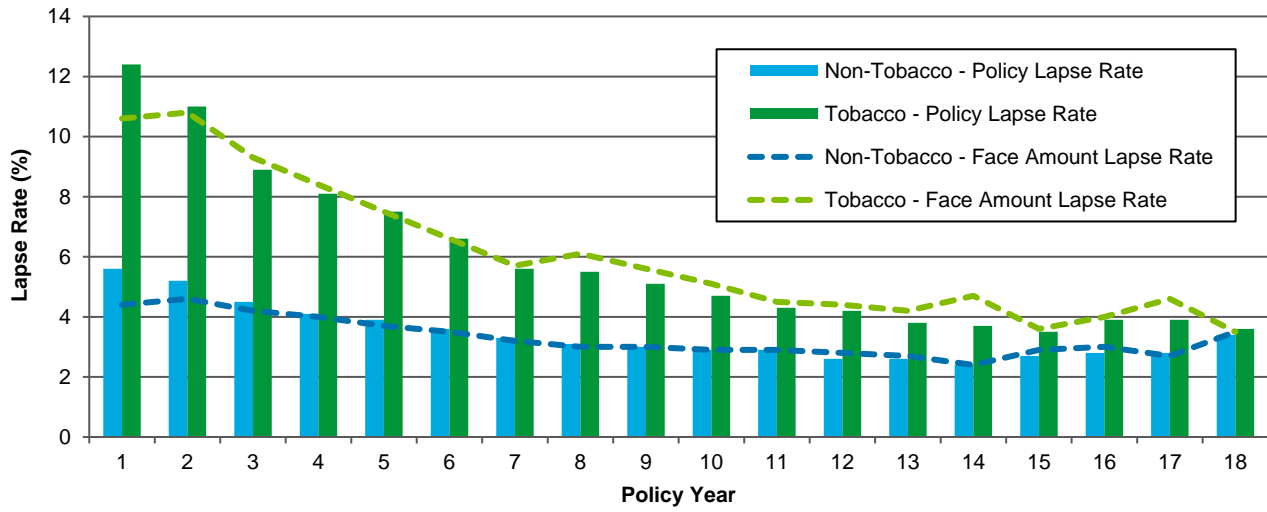
**Figure 57 — 10-Year Level Premium Term Insurance Lapse Rates by Smoking Status**



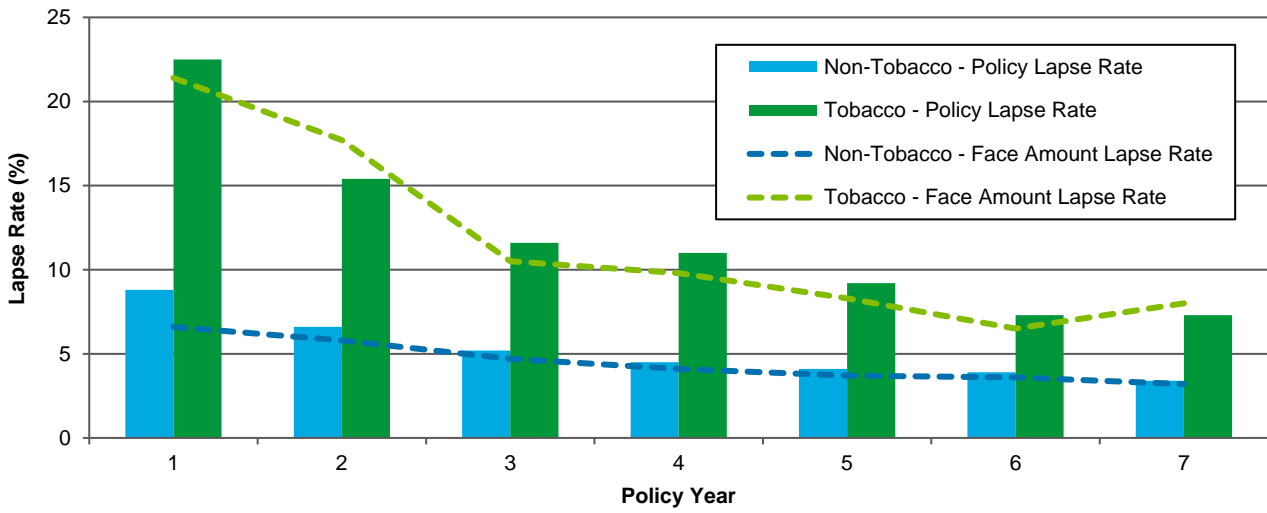
**Figure 58 — 15-Year Level Premium Term Insurance Lapse Rates by Smoking Status**



**Figure 59 — 20-Year Level Premium Term Insurance Lapse Rates by Smoking Status**



**Figure 60 — 30-Year Level Premium Term Insurance Lapse Rates by Smoking Status**

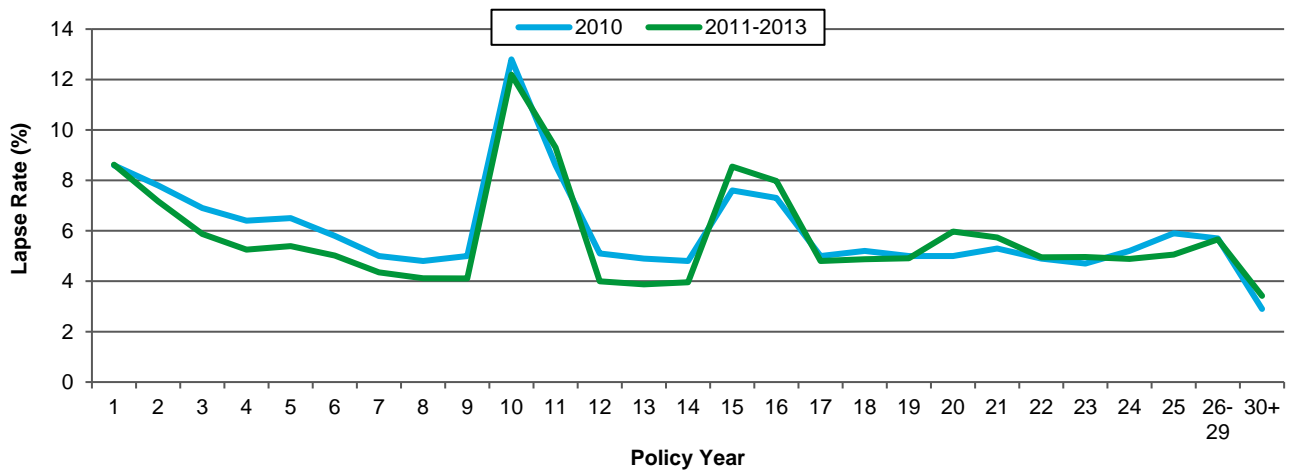


### Observation/Study Year

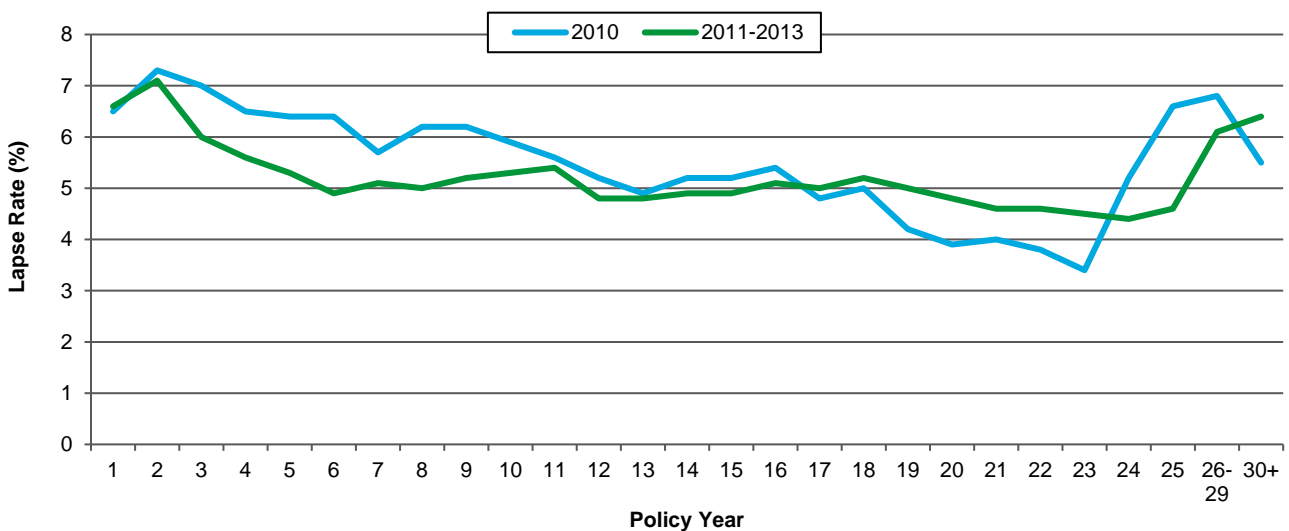
Similar to whole life, experience on term plans also varied by study year with higher early duration lapse rates for study year 2010 relative to the other study years (Figure 61). This result is seen across all term plan types. Where data was available, it appears study year did not impact shock lapse rates as much (Figure 64).

Also note, the increase in lapse rates near the end of the level term period for 10-year (Figure 63) and 15-year (Figure 65) level term is more noticeable in these figures than the prior figures due to the scaling of the figures. This increase is present in both study year cohorts.

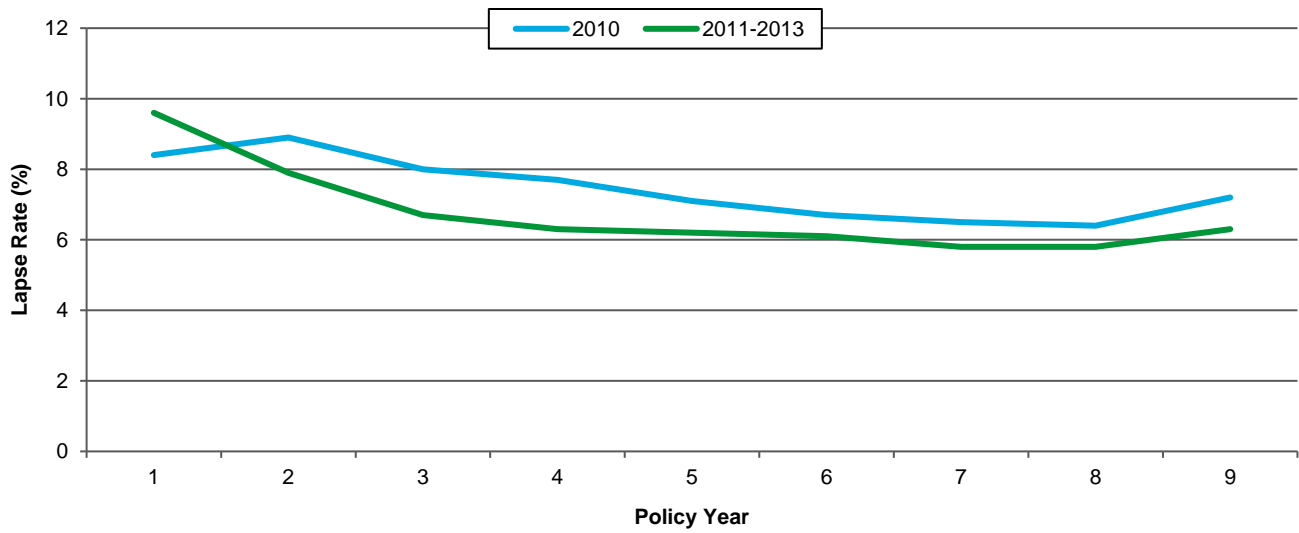
**Figure 61 — Term Insurance Policy Lapse Rates by Study Year**



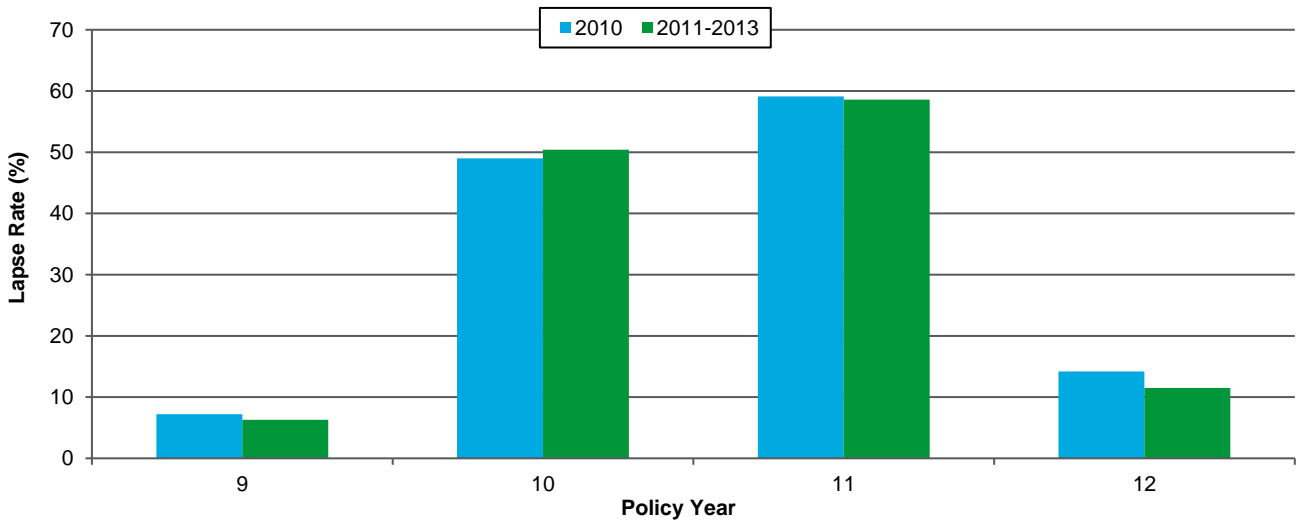
**Figure 62 — YRT Insurance Policy Lapse Rates by Study Year**



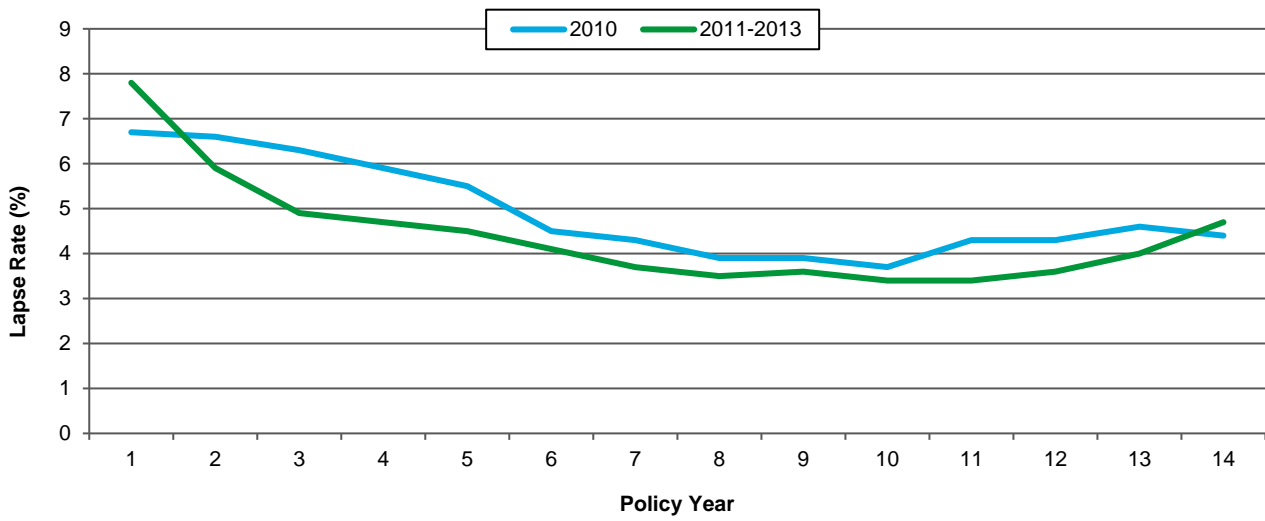
**Figure 63 — 10-Year Level Premium Term Insurance Policy Lapse Rates by Study Year, Policy Year 1-9**



**Figure 64 — 10-Year Level Premium Term Insurance Policy Lapse Rates by Study Year, Policy Year 9-12**



**Figure 65 — 15-Year Level Premium Term Insurance Policy Lapse Rates by Study Year, Policy Year 1-14**



**Figure 66 — 20-Year Level Premium Term Insurance Policy Lapse Rates by Study Year**

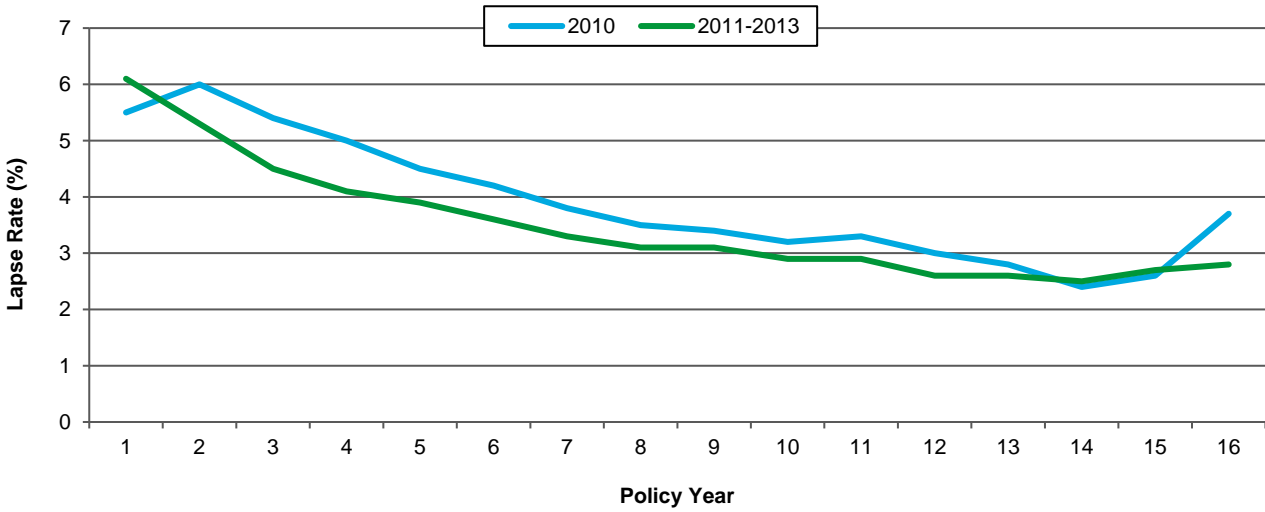
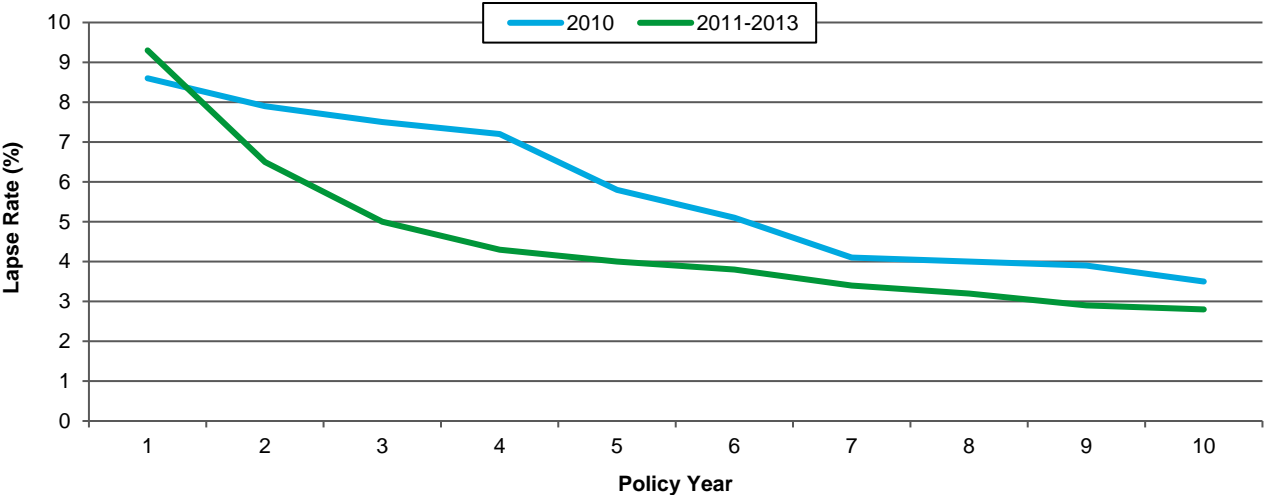




Figure 67 — 30-Year Level Premium Term Insurance Policy Lapse Rates by Study Year

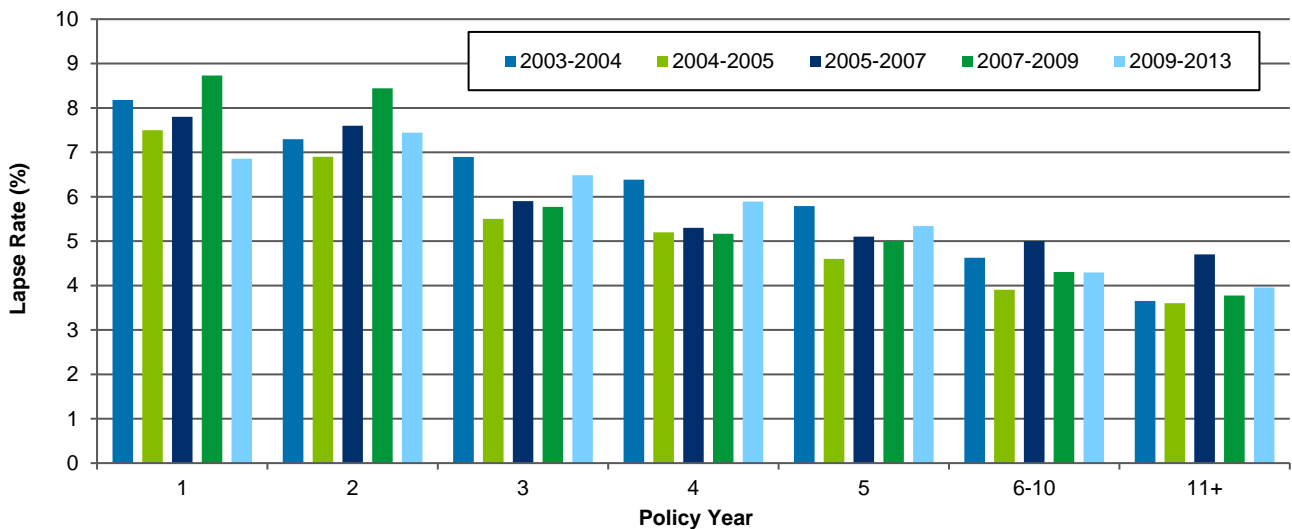


# Universal Life

Universal life insurance experience shown in this section is based on data from 13 contributors. The VM-51 data allows for better identification of policies with a secondary guarantee, and as such more data is available for these types of plans. Since the lapse rate experience for policies with a secondary guarantee is materially different from the lapse experience for policies without a secondary guarantee, the two types of UL plans were split for this study. While the prior studies combined the two types, only a small portion was UL with a secondary guarantee. This section explores the traditional type of UL, without a secondary guarantee. These types of plans most likely include both fixed and equity indexed UL.

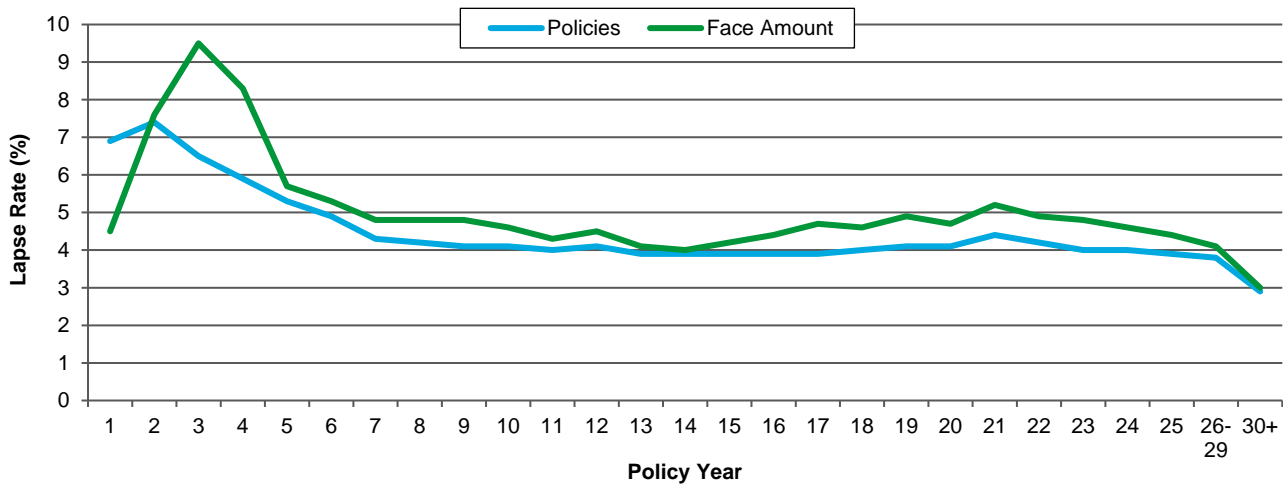
Trends in universal life lapse rates are slightly lower overall than the prior study. The overall 2009-2013 experience period lapse rates decreased slightly to 4.3 percent from 4.5 percent on a policy basis but increased to 5.3 percent on a face amount basis from 4.5 percent.

**Figure 68 — Trends in Universal Life Insurance Policy Lapse Rates**



Lapse rates by count are lower than lapse rates by amount for all policy years except year one (Figure 69). This is different than the prior study, where policy lapse rates started lower in early years but increased above face amount lapse rates by policy year eight. This change is most likely due to the change in participating companies.

**Figure 69 — Universal Life Insurance Lapse Rates**



The distribution of policies and average face amount exposed by policy size band has increased slightly over the prior study, but not as noticeably as whole life or term. Table 21 summarizes the distribution of policies and average face amount exposed in the current study. The distribution of policies has shifted larger overall, now with a similar exposure in both the \$50,000-\$99,999 and \$100,000-\$199,999 sizes.

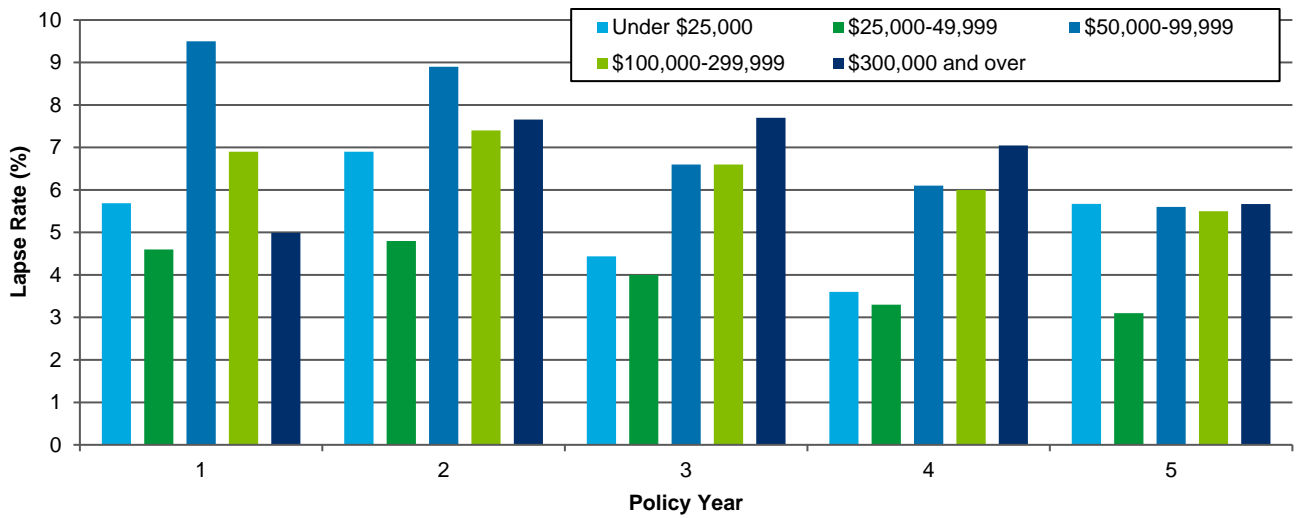
**Table 21 — Universal Life Insurance Exposure by Policy Size**

Policy Size	Average Face Amount Exposed	Percent of Policy Exposure
\$5,000-24,999	\$15,000	7%
\$25,000-49,999	\$32,000	17%
\$50,000-99,999	\$58,000	34%
\$100,000-199,999	\$141,000	35%
\$200,000-499,999	\$350,000	3%
\$500,000 and Over	\$1,287,000	4%
<b>Total</b>	<b>\$142,000</b>	<b>100%</b>

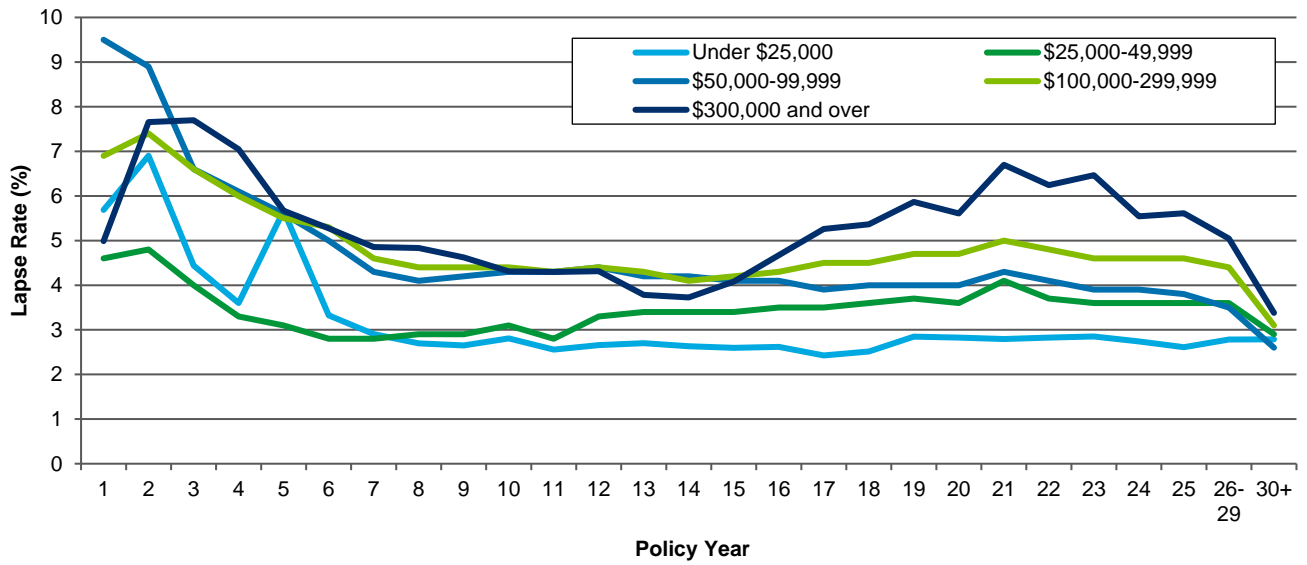
For the current study, UL policies with face amounts between \$50,000 and \$99,999 exhibit the highest lapse rates in early policy years. This was similar to the results of prior experience period, but different from term or whole life experience in this study, where the lowest face amount groups have the highest lapse rate.

Relationships of lapse rates by policy size band are not as apparent in this study as in prior studies. More noticeable in this study than in prior studies, however, is the increasing lapse rate pattern starting around policy year 15 (Figure 71). This increasing trend is very apparent for the \$300,000 and over band, but also noticeable in other sizes as well. An investigation of lapse rates within the largest size band where this trend is most noticeable revealed the increasing pattern is more prevalent in males than in females, and also more prevalent in policies issued from conversion.

**Figure 70 — Universal Life Insurance Policy Lapse Rates by Policy Size — Policy Year 1 to 5**



**Figure 71 — Universal Life Insurance Policy Lapse Rates by Policy Size**

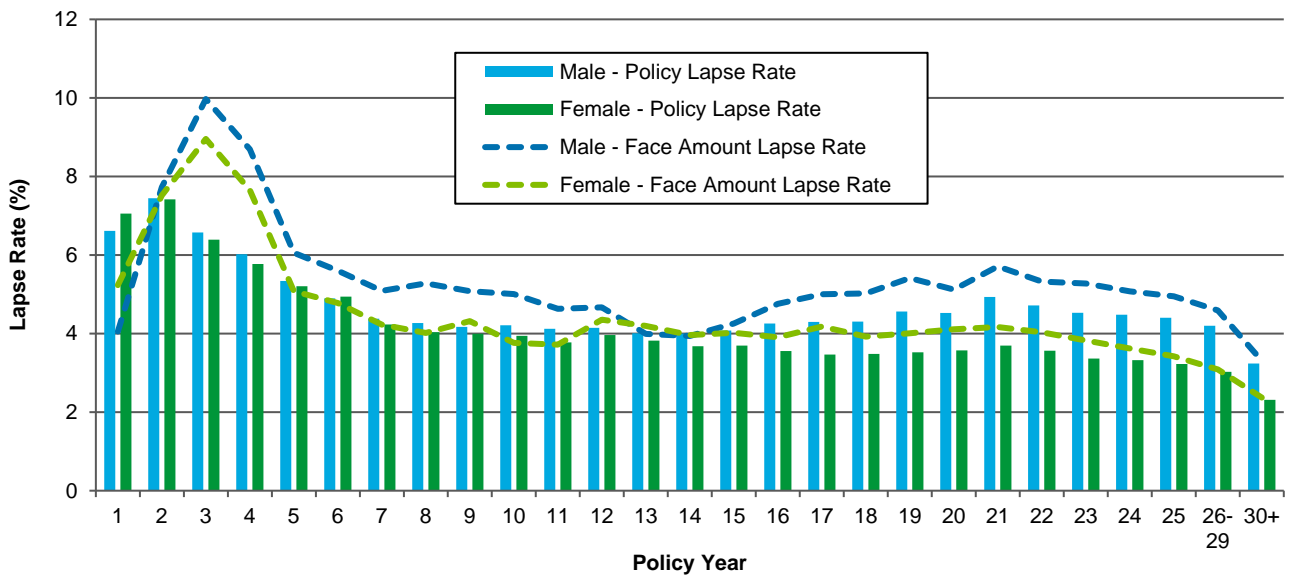


## Gender

For the current study, the distribution of UL policies is very similar to the prior study at 55 percent male and 45 percent female. The 2007-2009 study was 56 percent male and 44 percent female. The average face amount for males was \$165,000, up from \$158,000 in the prior study. However the average face amount for females decreased to \$118,000 from \$134,000, and as a result the disparity in average size between males and females increased.

Similar to whole life and longer period level guarantee premium term experience, female universal life policyholders have higher rates of lapsation in policy year one (Figure 72). After policy year one, male universal life policyholders have higher or similar rates of lapsation. The same trend was visible for face amount lapse rates.

**Figure 72 — Universal Life Insurance Lapse Rates by Gender**



## Issue Age

The distribution and average face amount of UL policies by issue age cohort is shown in Table 22. Universal life policies on average tend to skew slightly older than whole life. The average face amount exposed for issue ages 70 and older is considerably higher than the other issue ages, most likely due to the impact of large face amount investor-owned life insurance policies.

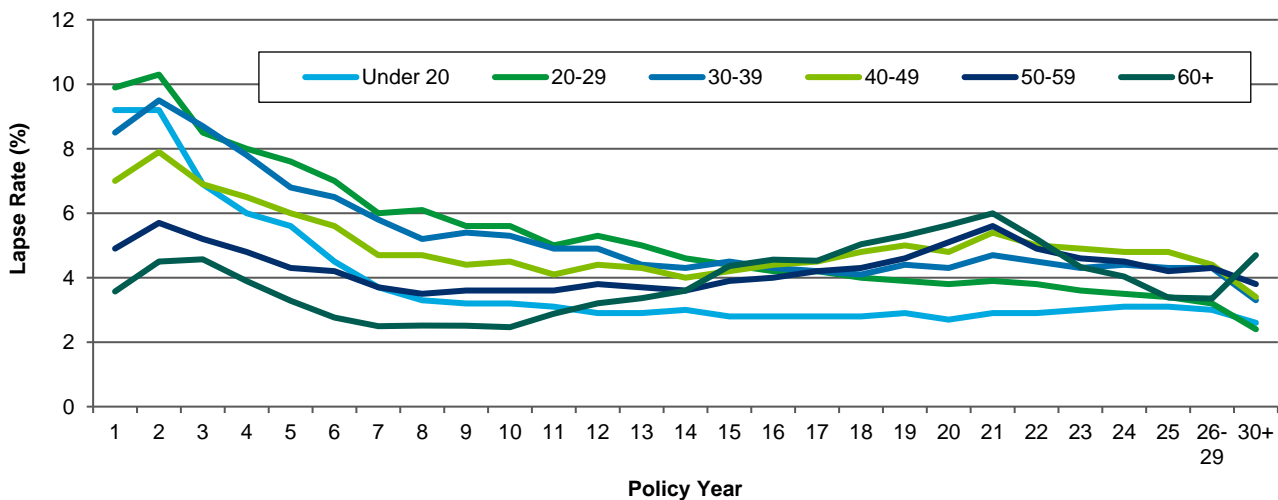
**Table 22 — Universal Life Insurance Exposure by Issue Age**

Issue Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$52,000	22%
20-29	\$117,000	15%
30-39	\$148,000	24%
40-49	\$163,000	19%
50-59	\$173,000	12%
60-69	\$191,000	6%
70 and Over	\$844,000	2%
<b>Total</b>	<b>\$142,000</b>	<b>100%</b>

Much like the experience of whole life products, universal life insurance lapse rates generally decrease with increasing age at issue during the early policy years (Figure 74). However, by policy year 15, or sooner for the oldest issue age band, the trend begins to change with lapse rates for older issue age policies increasing, possibly due to insufficient funding or need for cash value.

The exception to this continues to be when policyholders are under age 30 at issue. These policies exhibit high lapse rates for policy years one and two, but their lapse rates quickly decline. By policy year 12, policies with issue ages under 20 have the lowest lapse rates of all cohorts.

**Figure 73 — Universal Life Insurance Policy Lapse Rates by Issue Age Cohort**



## Attained Age

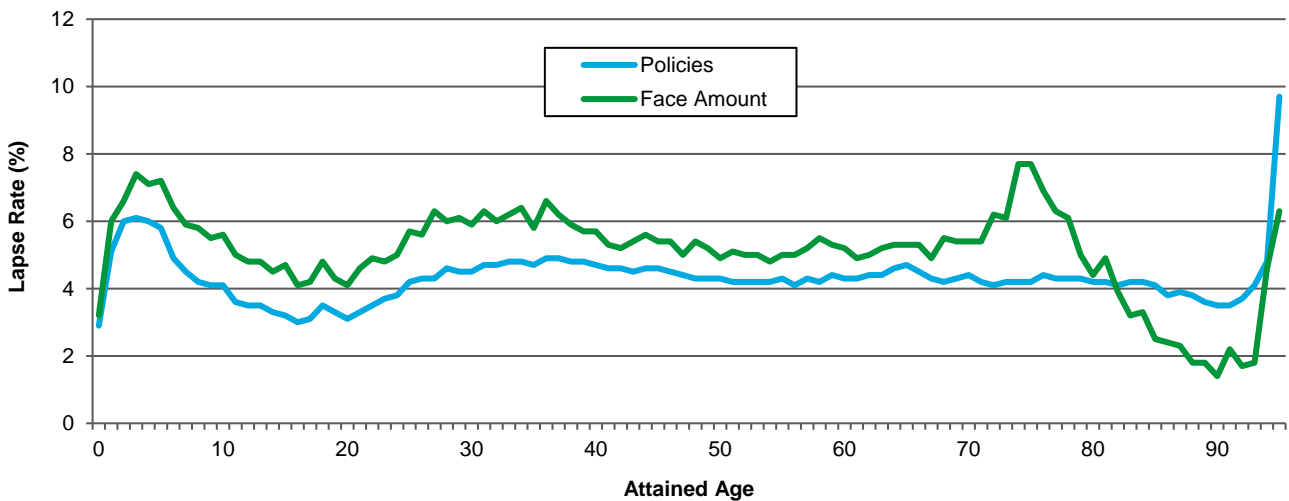
The distribution of policies by attained age cohort and average face amount exposed for universal life products are shown in Table 23. The distribution of attained ages tended to shift to older cohorts, compared to the prior study.

**Table 23 — Universal Life Insurance Exposure by Attained Age Cohort**

Attained Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$49,000	7%
20-29	\$64,000	9%
30-39	\$132,000	10%
40-49	\$170,000	16%
50-59	\$156,000	24%
60-69	\$138,000	20%
70 and Over	\$196,000	14%
<b>Total</b>	<b>\$142,000</b>	<b>100%</b>

While policy lapse rates are generally less than face amount lapse rates for all attained ages except ages 83 and older, the pattern of lapse rates is relatively similar. Lapse rates on a policy basis hover between 4.0 and 4.5 percent between attained ages 40 and 85, while lapse rates on a face amount basis hover between 5.0 and 5.5 percent until they start to increase around the retirement ages. The attained age 83 crossover between policy and face amount lapse rates occurs about 20 years later than that in the prior study.

**Figure 74 — Universal Life Insurance Lapse Rates by Attained Age**



## Risk Class

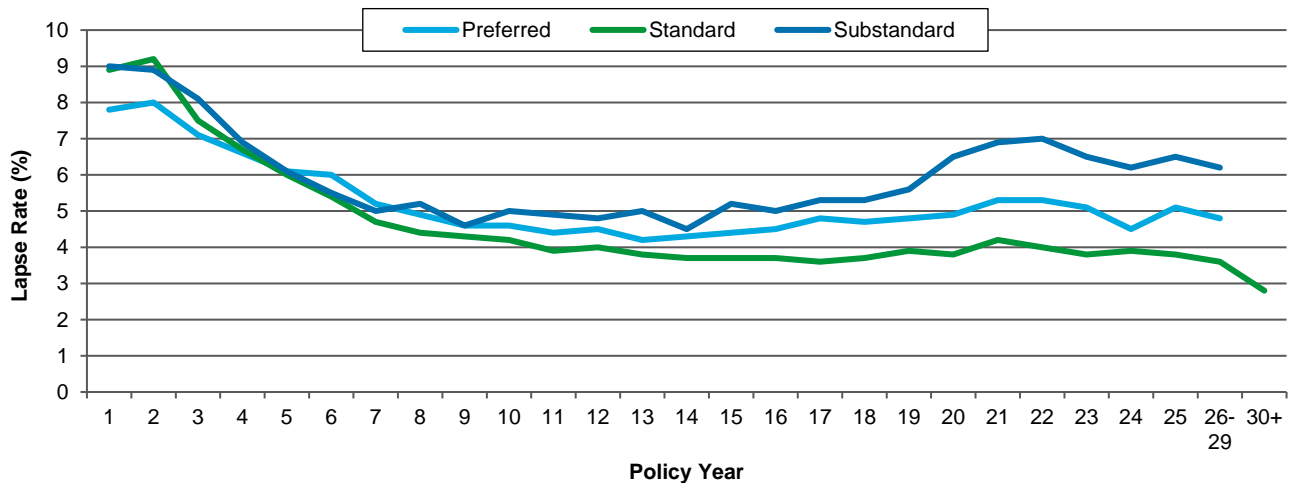
Twelve companies submitted risk class data. Where risk class is known, most UL policies are in the standard risk class (Table 24). This is similar to prior studies as well as results for whole life. Average face amount exposed decreased for both preferred- and standard-risk class policies, and increased slightly for substandard-risk class policies compared to the prior study. Preferred-risk policies continue to have the largest average face amount, about two-and-a-half times the size of standard policies.

**Table 24 — Universal Life Insurance Exposure by Issue Age Cohort**

Risk Class	Average Face Amount Exposed	Percent of Policy Exposure
Preferred	\$268,000	19%
Standard	\$103,000	78%
Substandard	\$211,000	3%
<b>Total</b>	<b>\$137,000</b>	<b>100%</b>

In addition to the distribution of policies by risk class, another trend remains the same from study to study. In the first four policy years, preferred-risk universal life policies exhibit lower lapse rates than standard- and substandard-risk policies (Figure 75). After policy year four lapse rates for standard class decrease at a faster rate than preferred class. Preferred-risk lapse rates begin to increase starting around duration 14, while lapse rates on standard-risk class continue to decrease or remain relatively level. Substandard-risk class lapse rates tend to be the highest in most policy years.

**Figure 75 — Universal Life Insurance Policy Lapse Rates by Risk Class**

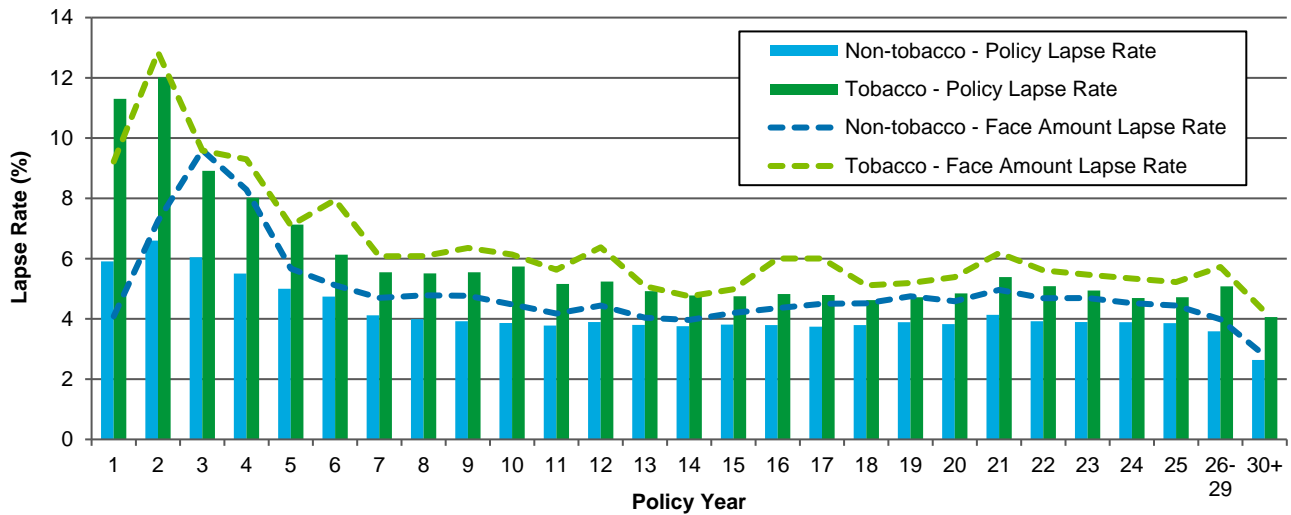




## Tobacco Status

The universal life policy exposure base was 89 percent non-tobacco. Consistent with prior studies, as well as other products, tobacco policies exhibit higher rates of lapse than non-tobacco in all policy years, with the greatest difference seen in early policy years (Figure 76).

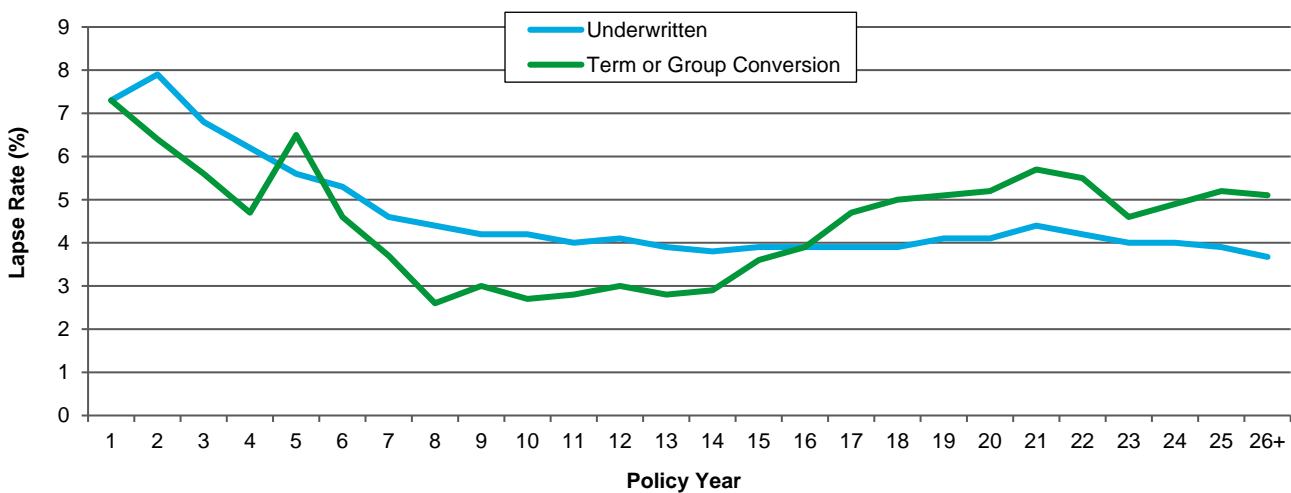
Figure 76 — Universal Life Insurance Lapse Rates by Tobacco Use



## Underwriting Method

Similar to whole life, policies issued through conversion have a lower lapse rate than underwritten policies in the earlier policy years (Figure 77). However, starting around policy year 15, lapse rates for converted policies begin to dramatically increase, and by policy year 17 converted policies have the highest lapse rate.

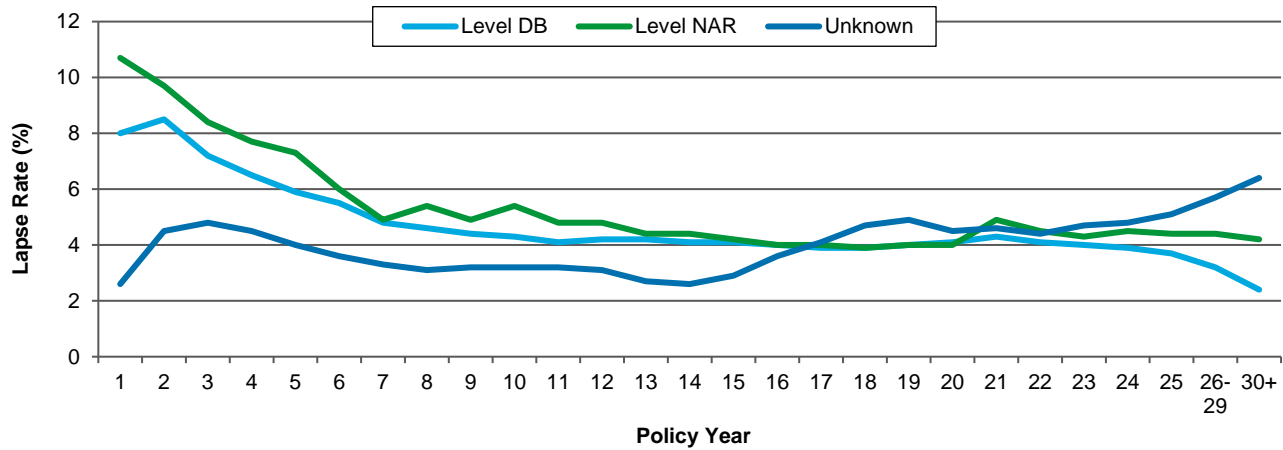
Figure 77 — Universal Life Insurance Policy Lapse Rates by Underwriting Method



## Death Benefit Option

The policy exposure underlying the universal life lapse results by death benefit option consists of 85 percent level death benefit and 15 percent level net amount at risk (NAR). Consistent with prior studies, policies with level NAR exhibit higher lapse rates in early policy years compared to policies with level death benefit, possibly due to the higher funding required to keep level NAR policies in force. However, starting around policy year 10, lapse rates on the two death benefit options begin to converge until the latest policy years, where they begin to diverge again (Figure 78).

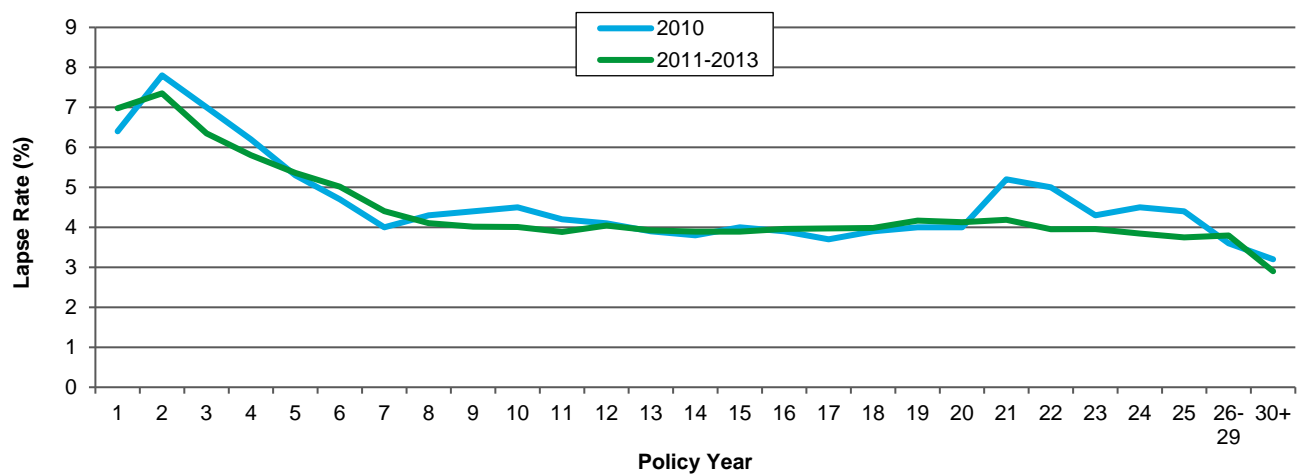
**Figure 78 — Universal Life Insurance Policy Lapse Rates by Death Benefit Option**



## Observation/Study Year

Unlike whole life and term, lapse rates for universal life did not seem to exhibit any significant trends by study year. This may possibly be due to the flexible premium nature of universal life insurance, which can allow for little to no premium payment in a given policy year if the policy is properly funded.

**Figure 79 — Universal Life Insurance Policy Lapse Rates by Study Year**

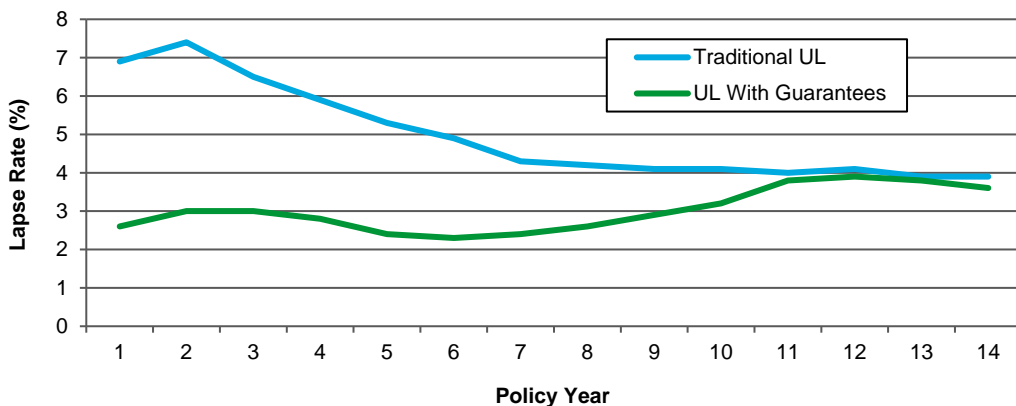


# Universal Life With Secondary Death Benefit Guarantees

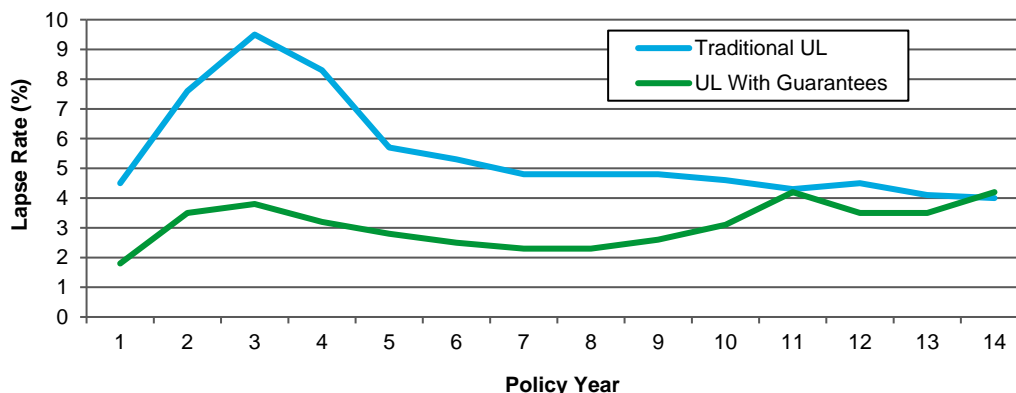
As mentioned at the beginning of the universal life section, the VM-51 data format allows for better identification of policies with a secondary death benefit guarantee and as such more data is available for these types of plans. Eleven contributors provided UL with secondary guarantee data. The data do not allow for identification of the length of the guarantee period however, so the results within this section are likely a mix of lifetime and non-lifetime guarantees. Figures 80 and 81 compare policy and face amount lapse rates for UL with and without secondary guarantees.

Not surprisingly, lapse rates on UL policies with secondary guarantees are considerably lower than those without guarantees in the early policy years. The pattern of lapse rates by policy year is quite different for the two types of UL, as lapse rates tend to decrease by policy year for traditional UL, while lapse rates start increasing around policy year seven for UL with guarantees. Lapse rates begin to converge after policy year ten.

**Figure 80 — Universal Life Insurance Products Policy Lapse Rates**



**Figure 81 — Universal Life Insurance Products Face Amount Lapse Rates**



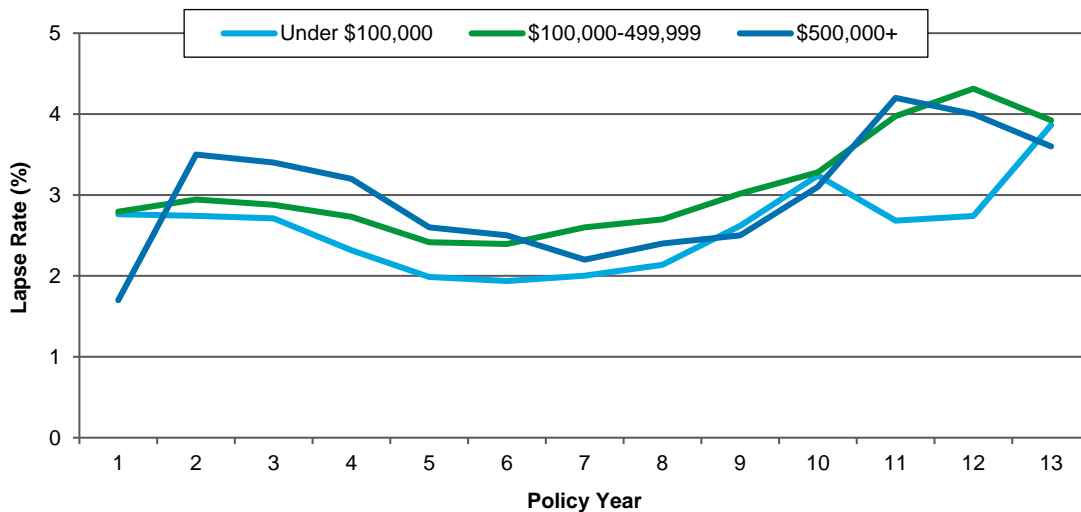
A comparison of policy size exposure and average face amount is shown in Table 25. The distribution of exposures by policy size skews considerably larger on UL with guarantees compared to traditional UL, resulting in an average face amount over three times larger. For UL with guarantees, a little over half of the 22 percent exposure in the largest size band are on policies with face amounts of \$1 million or more.

**Table 25 — Universal Life Insurance Policy Exposure by Product and Policy Size**

	UL With Guarantees		Traditional UL	
	Policy Exposure	Average Face Amount	Policy Exposure	Average Face Amount
Under \$100,000	15%	\$54,000	58%	\$45,000
\$100,000-499,999	63%	\$178,000	38%	\$156,000
\$500,000 and over	22%	\$1,567,000	4%	\$1,287,000
<b>Total</b>	<b>100%</b>	<b>\$461,000</b>	<b>100%</b>	<b>\$142,000</b>

Similar to traditional universal life, lapse rates on the largest size groups for UL with lifetime guarantees are the lowest only in the first policy year (Figure 82). Lapse rates for all policy sizes begin to show an increasing pattern by policy year seven.

**Figure 82 — Universal Life Insurance With Guarantees Policy Lapse Rates by Policy Size**

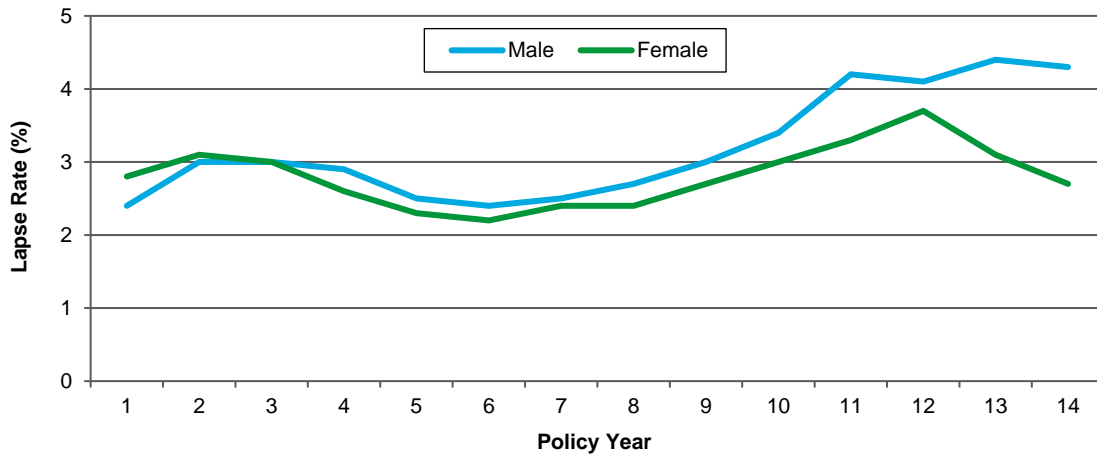


## Gender

On a gender basis, the distribution for UL with lifetime guarantees was very similar to that of traditional UL with 54 percent male and 46 percent female. The average face amount for male policyholders was \$499,000, and for female policyholders was \$416,000.

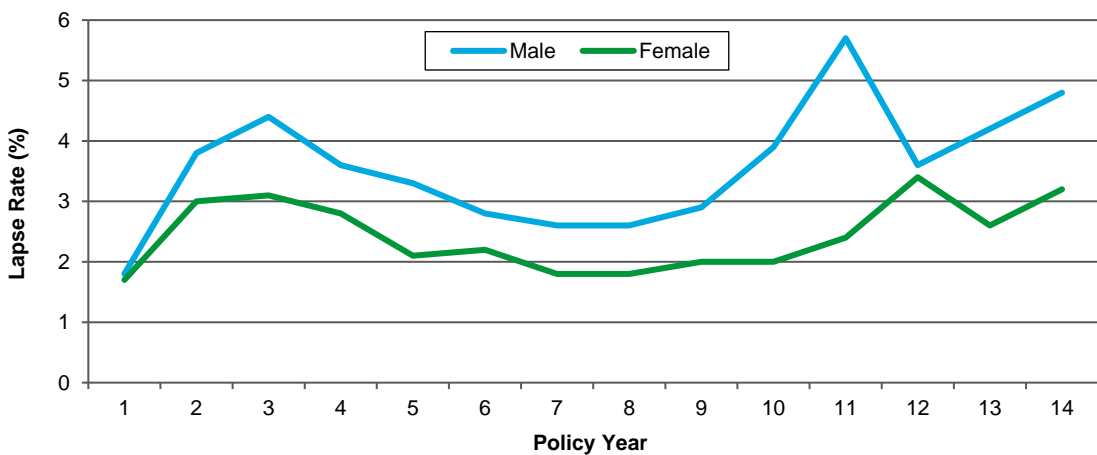
Similar to overall UL results, female policyholders have higher lapse rates in the early policy years, but by policy year four male lapse rates are higher than female lapse rates (Figure 83). Both genders exhibit increasing lapse rates on a policy basis starting around policy year seven.

**Figure 83 — Universal Life Insurance With Guarantees Policy Lapse Rates by Gender**



On a face amount basis, male policyholder lapse rates are higher than female lapse rates in all policy years. The increasing trend in later policy years is a bit more volatile by face amount but still prevalent nonetheless.

**Figure 84 — Universal Life Insurance With Guarantees Face Amount Lapse Rates by Gender**



## Issue Age

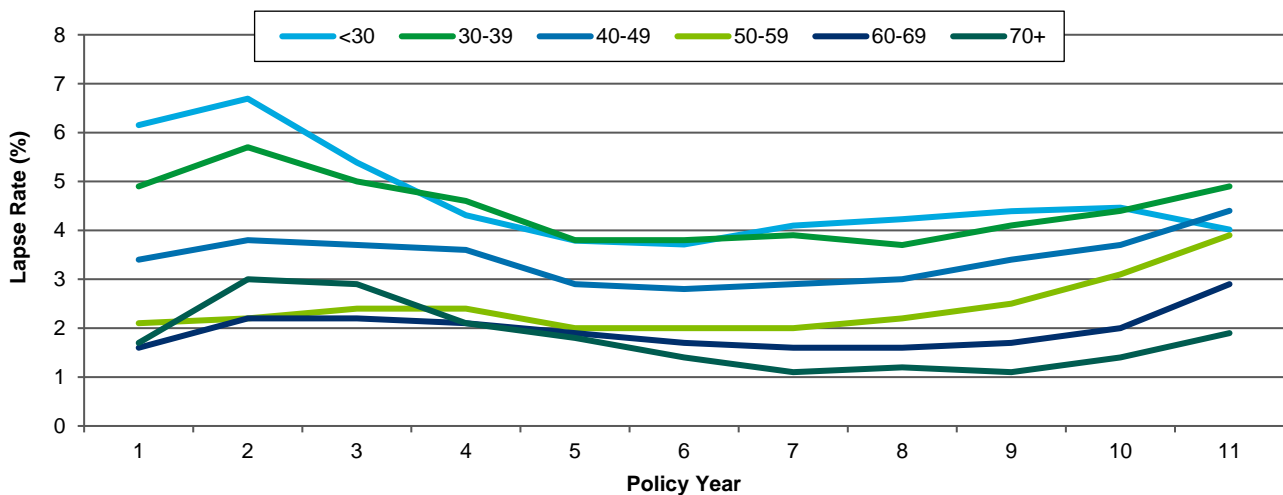
The distribution of exposure by issue age band is shown below in Table 26. In general, the distribution for UL with guarantees skews to older issue ages relative to that of traditional UL. Average face amounts are larger across all issue ages, except issue ages 70 and older.

**Table 26 — Universal Life Insurance With Guarantees Exposure by Issue Age Cohort**

Issue Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$116,000	3%
20-29	\$268,000	5%
30-39	\$400,000	10%
40-49	\$452,000	18%
50-59	\$428,000	29%
60-69	\$456,000	24%
70 and Over	\$800,000	11%
<b>Total</b>	<b>\$461,000</b>	<b>100%</b>

Consistent with traditional UL, higher issue ages exhibit lower policy lapse rates. However, unlike traditional UL, lapse rates by issue age do not cross at the later durations. Lapse rates across all issue ages exhibit an increasing trend by policy year seven. However, lapse rates remain lowest at the oldest issue ages.

**Figure 85 — Universal Life Insurance With Guarantees Policy Lapse Rates by Issue Age Cohort**



## Attained Age

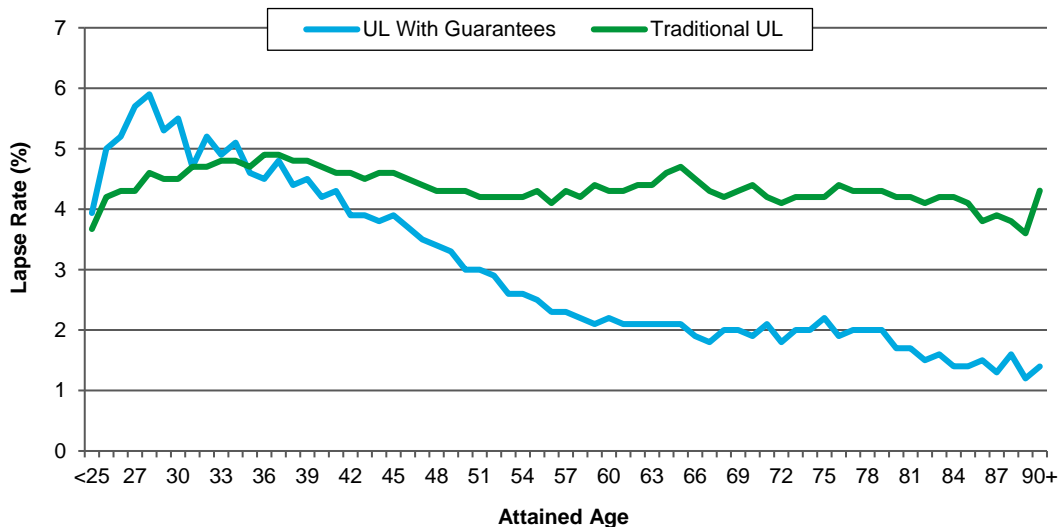
The distribution of policies by attained age cohort and average face amount exposed for UL with guarantees are shown in Table 27. The attained age distribution of UL with guarantees leaned more towards the older ages than the distribution for traditional UL shown in Table 23.

**Table 27 — Universal Life Insurance With Guarantees Exposure by Attained Age Cohort**

Attained Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$110,000	2%
20-29	\$228,000	3%
30-39	\$350,000	7%
40-49	\$449,000	14%
50-59	\$439,000	26%
60-69	\$420,000	29%
70 and Over	\$671,000	19%
<b>Total</b>	<b>\$461,000</b>	<b>100%</b>

Figure 86 compares attained age lapse rates for traditional UL and UL with guarantees. The pattern by attained age is generally decreasing by age for UL with guarantees and is much flatter for traditional UL. The death benefit guarantee is more likely to be in the money at older attained ages as costs of insurance increase, so the pattern of decreasing lapse rates by age is not unexpected.

**Figure 86 — Universal Life Insurance Products Policy Lapse Rates by Attained Age**



## Risk Class

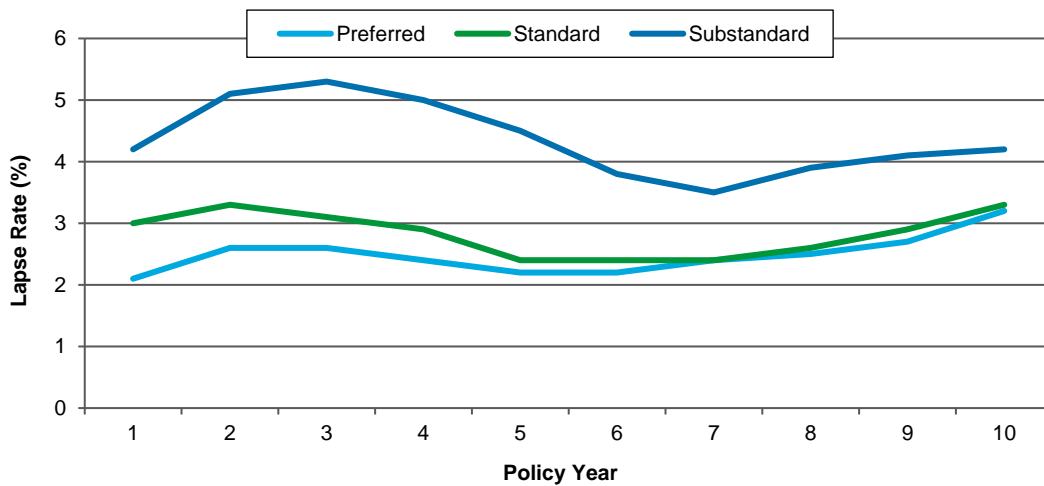
Unlike traditional UL, the majority of the policy exposure for UL with guarantees is in a preferred risk class. Average face amounts exposed are about two to two-and-a-half times larger than traditional UL across all risk classes.

**Table 28 — Universal Life Insurance With Guarantees Exposure by Risk Class**

Risk Class	Average Face Amount Exposed	Percent of Policy Exposure
Preferred	\$524,000	57%
Standard	\$362,000	38%
Substandard	\$503,000	5%
<b>Total</b>	<b>\$461,000</b>	<b>100%</b>

Lapse rates increase by increasing risk class, with lapse rates on preferred policies lower than lapse rates on standard and substandard risk classes. Preferred-class lapse rates converge with standard-class lapse rates starting around policy year seven and all three risk classes exhibit increasing lapse rates by policy year seven. As experience emerges, time will tell if lapse rates on the preferred class will increase above standard-class lapse rates like they do for traditional UL.

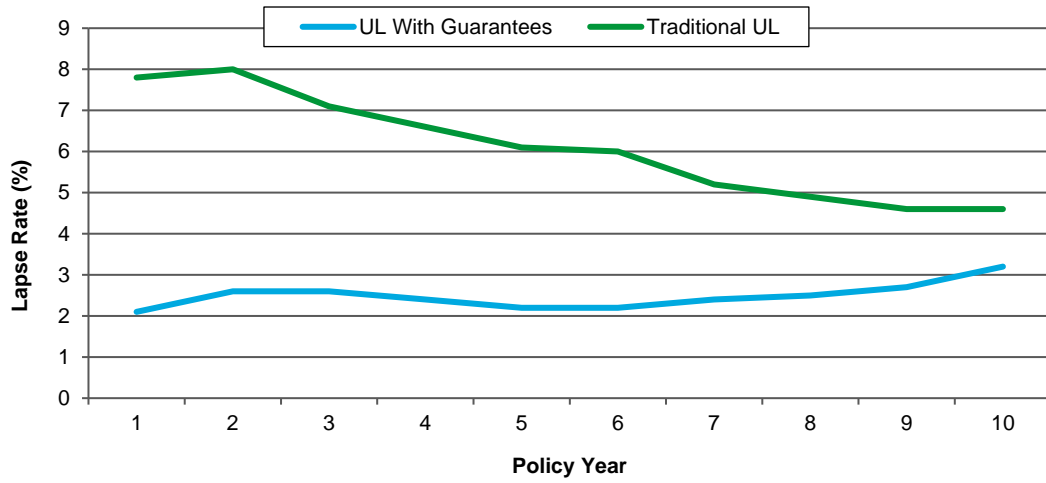
**Figure 87 — Universal Life Insurance With Guarantees Policy Lapse Rates by Risk Class**



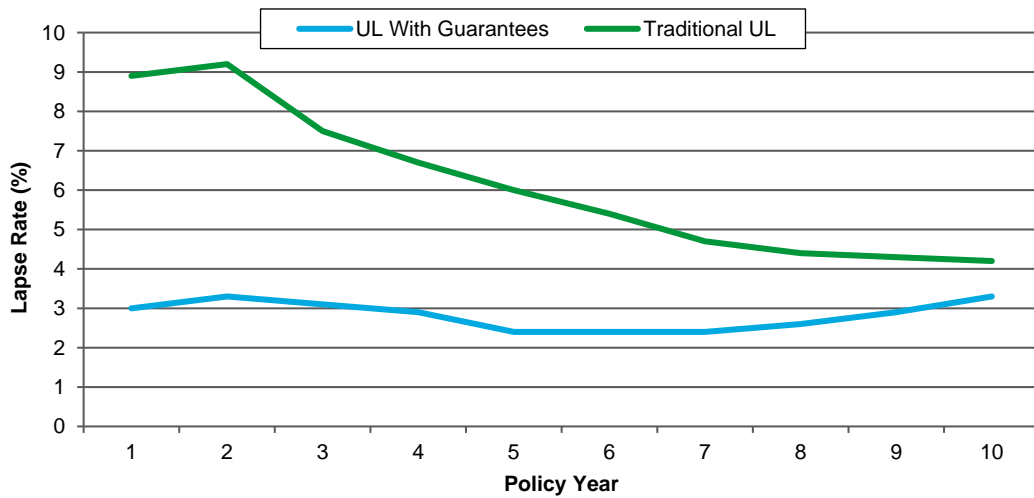


Within each risk class, through policy year 10 lapse rates for UL with guarantees are lower than traditional UL. However, lapse rates between the two types of UL start to converge within each risk class.

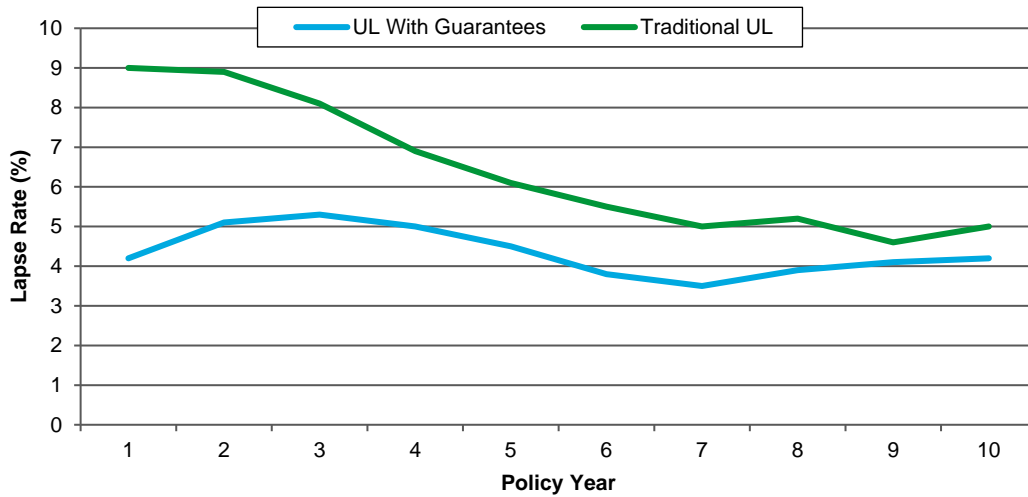
**Figure 88 — Universal Life Insurance Products Policy Lapse Rates for Preferred Class**



**Figure 89 — Universal Life Insurance Products Policy Lapse Rates for Standard Class**



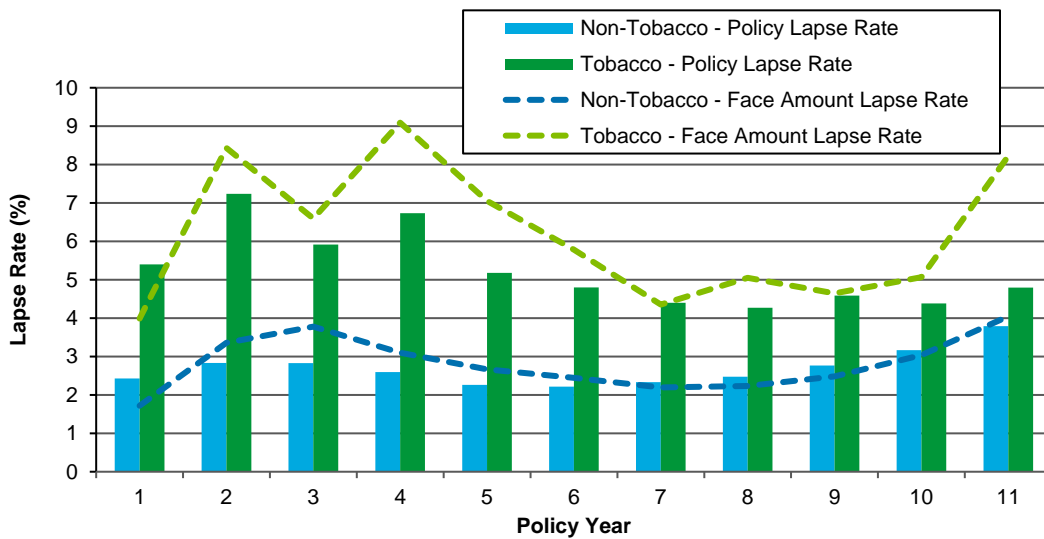
**Figure 90 — Universal Life Insurance Products Policy Lapse Rates for Substandard Class**



**Tobacco Status**

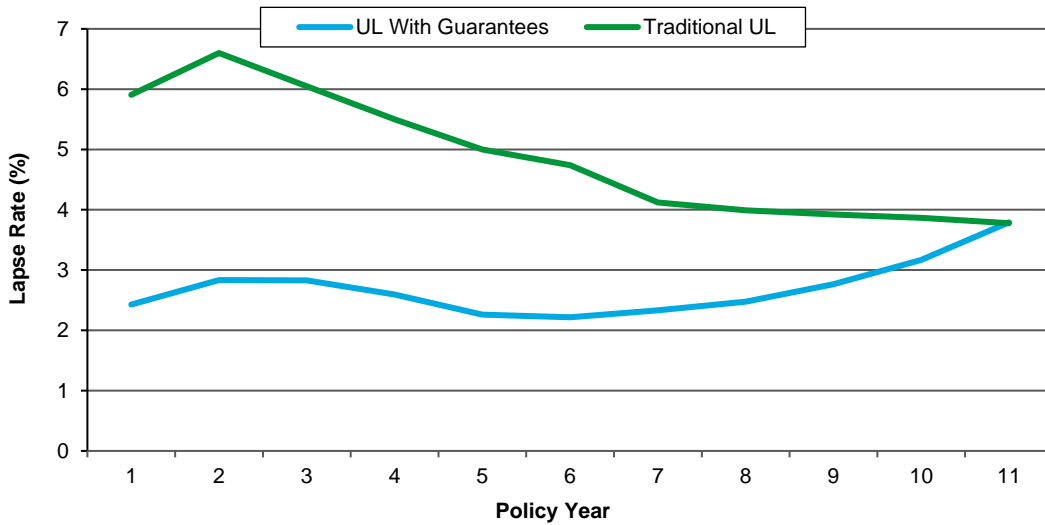
At 95 percent, the vast majority of policy exposure for UL with guarantees is on non-tobacco policyholders. Similar to traditional UL, on both a policy and face amount basis non-tobacco lapse rates are lower than tobacco lapse rates in all policy years. Interestingly, the pattern of increasing lapse rates starting around policy year seven is not as prevalent for tobacco as non-tobacco, so the difference between the two does wear off a bit.

**Figure 91 — Universal Life Insurance With Guarantees Lapse Rates by Tobacco Use**

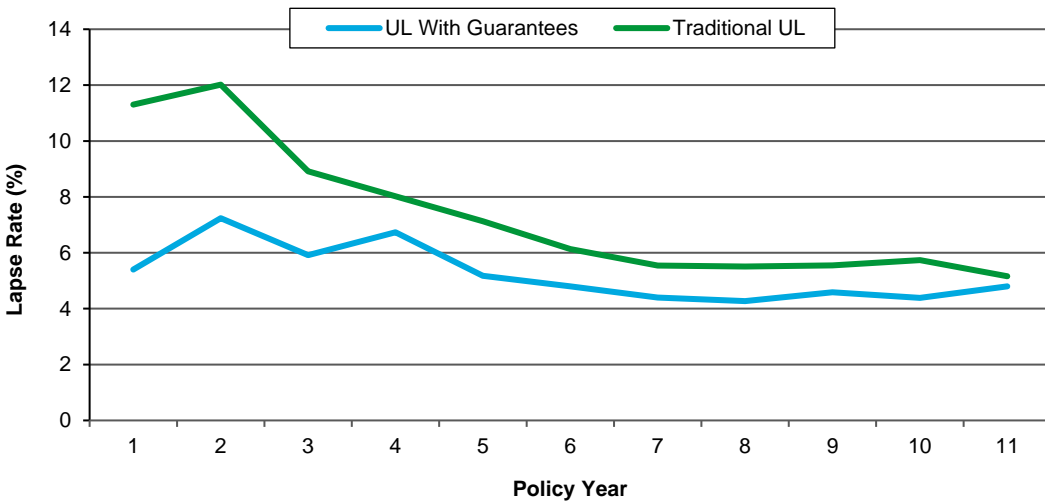


Comparing lapse rates for traditional UL and UL with guarantees, lapse rates are lower for UL with guarantees in both tobacco status classes. However, similar to risk class, within each tobacco status lapse rates between the two types of UL start to converge.

**Figure 92 — Universal Life Insurance Products Policy Lapse Rates for Non-Tobacco Users**



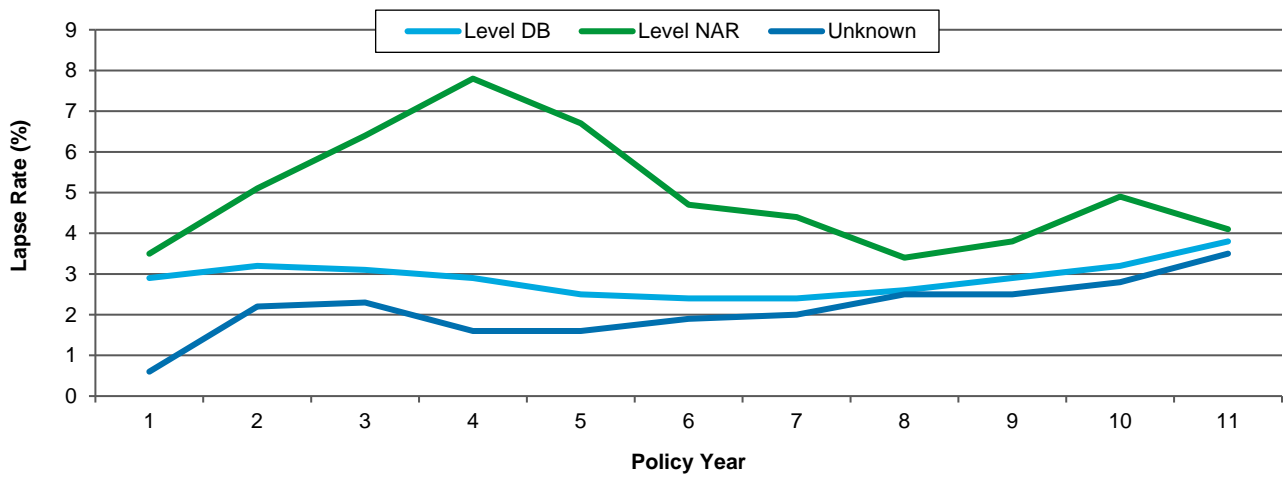
**Figure 93 — Universal Life Insurance Products Policy Lapse Rates for Tobacco Users**



## Death Benefit Option

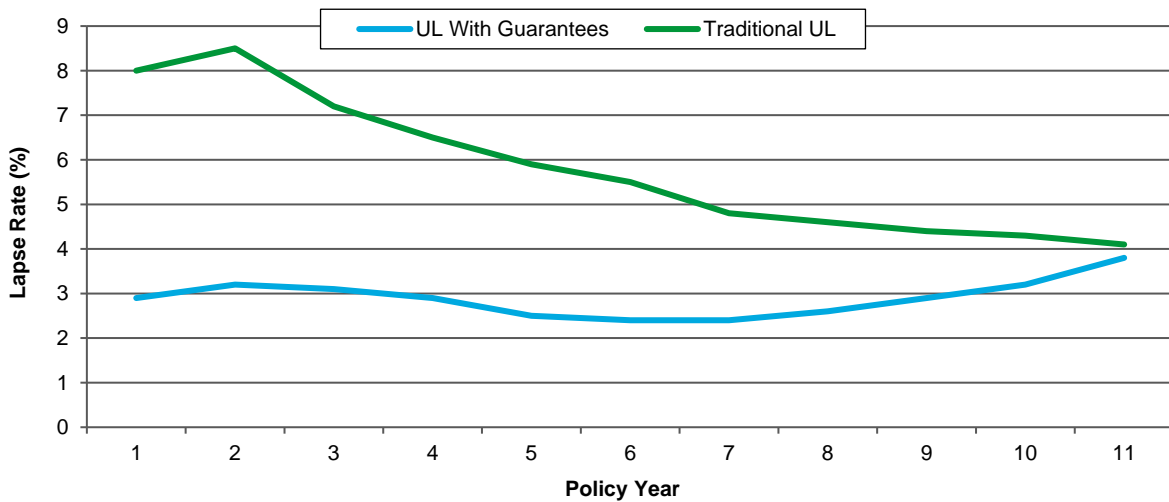
For those policies where the type of death benefit option is known, 98 percent of the policy exposure is on the level death benefit option. Similar to traditional UL, lapse rates for policies with a level net amount at risk (NAR) are higher than those with a level death benefit. Lapse rates on level NAR policies increase for the first four policy years, which is a non-traditional pattern for lapse rates. This may be volatility due to a low amount of lapses, as only 2 percent of the total exposure is on level NAR policies. Lapse rates do start to converge starting around policy year eight.

**Figure 94 — Universal Life Insurance With Guarantees Policy Lapse Rates by Death Benefit Option**

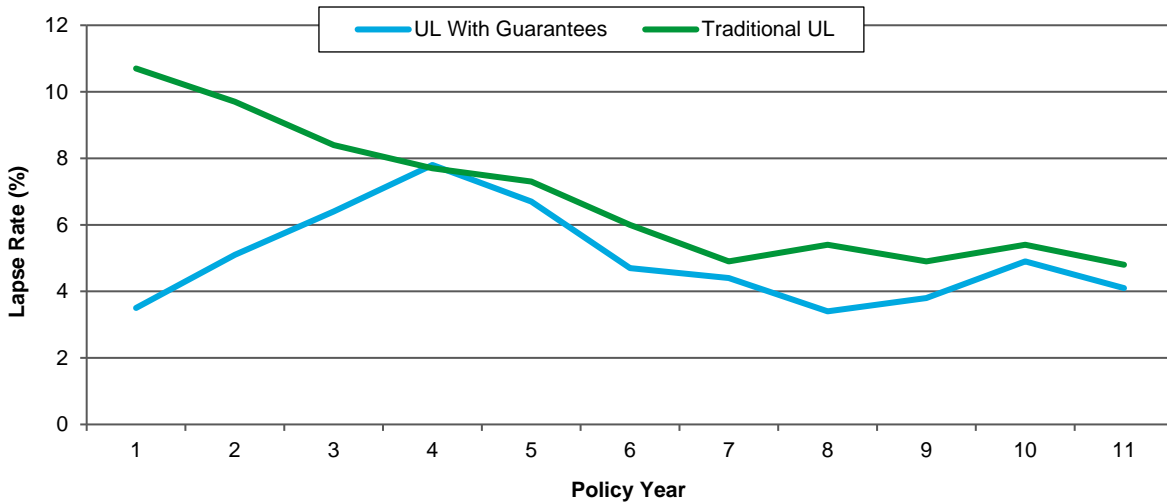


Similar to other breakdowns, within each death benefit option lapse rates are lower for UL with guarantees than traditional UL but start to converge in later policy years.

**Figure 95 — Universal Life Insurance Products Policy Lapse Rates With Level Death Benefit**



**Figure 96 — Universal Life Insurance Products Policy Lapse Rates With Level Net Amount at Risk**



**Observation/Study Year**

While experience did not materially vary by study year for traditional UL, for UL with guarantees lapse rates do appear to be higher in study year 2010 relative to the other study years. This pattern is seen on both a policy and face amount basis. The overall policy lapse rate in study year 2010 is 3.3 percent relative to 2.6 percent for study years 2011-2013. On a face amount basis, the overall lapse rate in study year 2010 is 3.7 percent relative to 2.7 percent for the other study years.

**Figure 97 — Universal Life Insurance With Guarantees Policy Lapse Rates by Study Year**

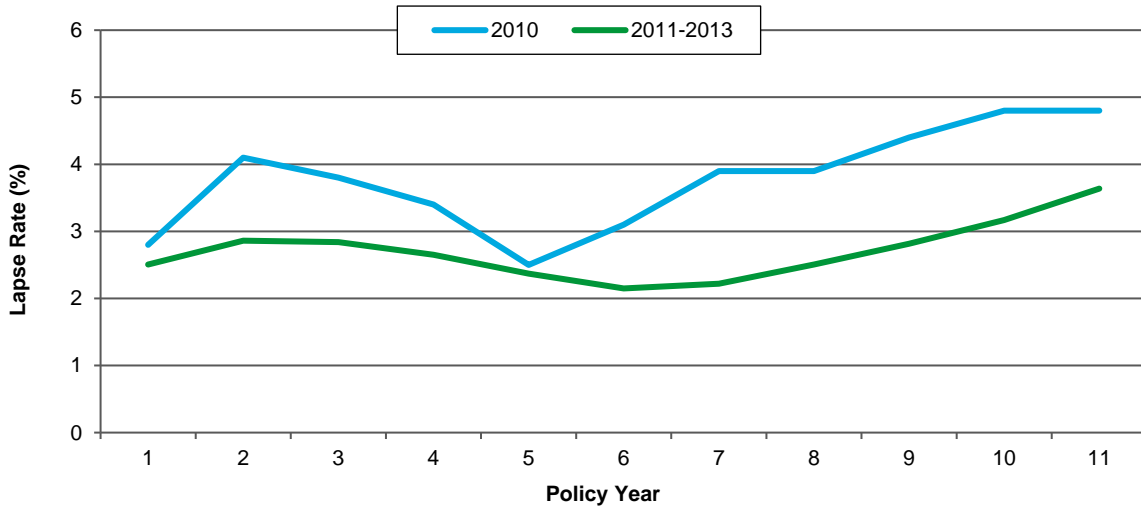
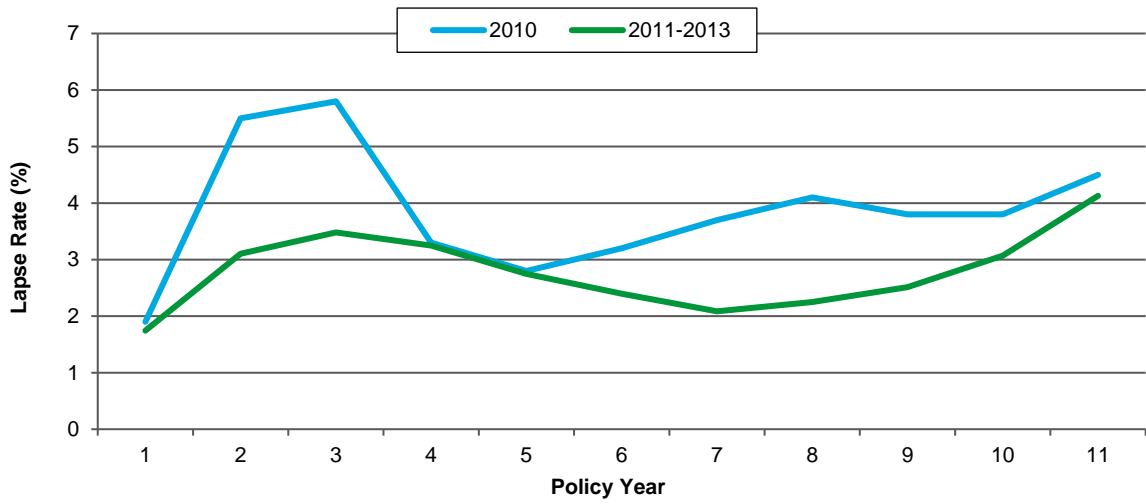


Figure 98 — Universal Life Insurance With Guarantees Face Amount Lapse Rates by Study Year



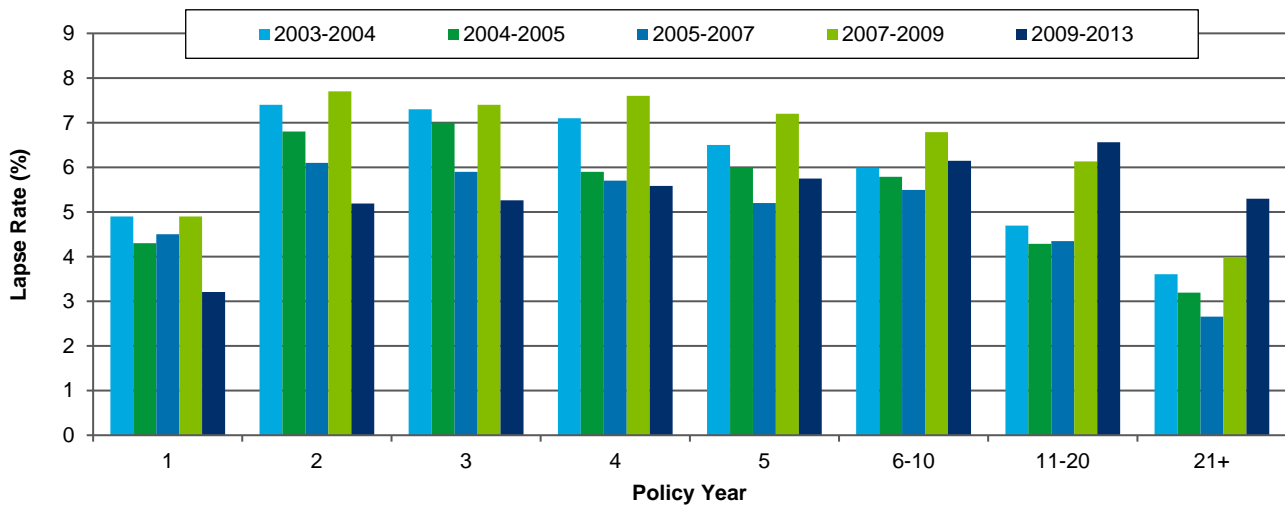
While these graphs are not shown in the report, differences by study year are observed in both genders and both tobacco statuses.

# Variable Universal Life

Twelve companies submitted data on variable universal life policies, while six companies submitted data on non-UL variable life. Except for this introductory section where specifically noted, experience is reported on variable universal life plans only, as lapse rate patterns do differ between the two.

The overall annual variable universal life lapse rate on a policy basis was 6.0 percent in the current study, down slightly from 6.2 percent in the prior study, but up from 4.8 percent in the 2005–2007 study. The poor economy, including the stock market drop in 2008, likely contributed to the increased lapses. On a face amount basis, the overall annual lapse rate was 7.0 percent, up very slightly from 6.9 percent in the prior study, and also up from 5.0 percent in the 2005-2007 study.

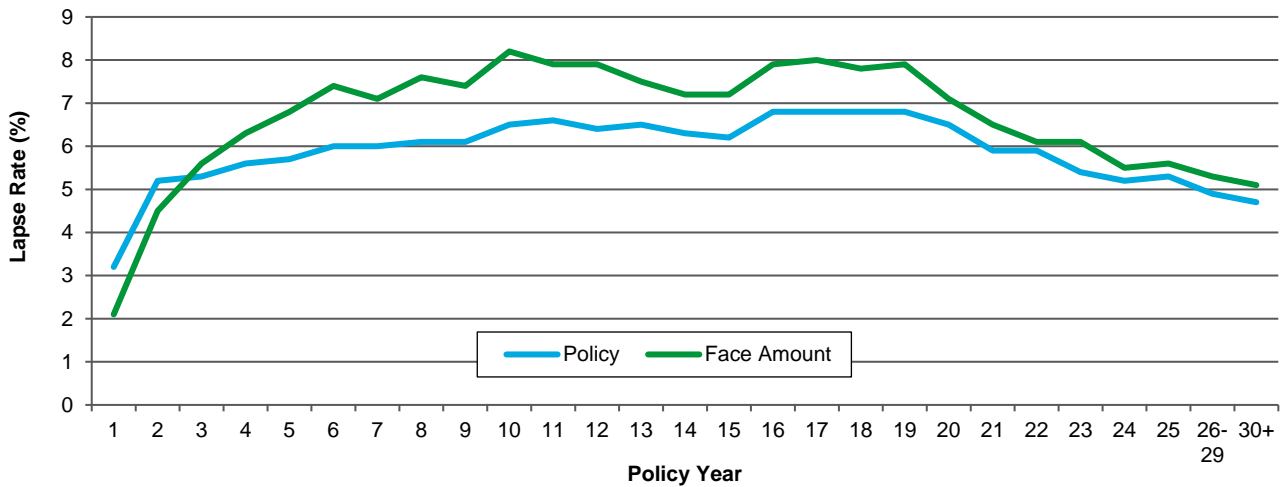
**Figure 99 — Trends in Variable UL Insurance Policy Lapse Rates**



Lapse rates by policy year for variable universal life plans generally exhibit a different trend compared to other permanent products. Consistent with prior studies, first-year policy lapse rates continue to be lower than lapse rates in the second and third year. In fact, for the current study the first-year policy lapse rate is the lowest rate for all policy years (Figure 100).

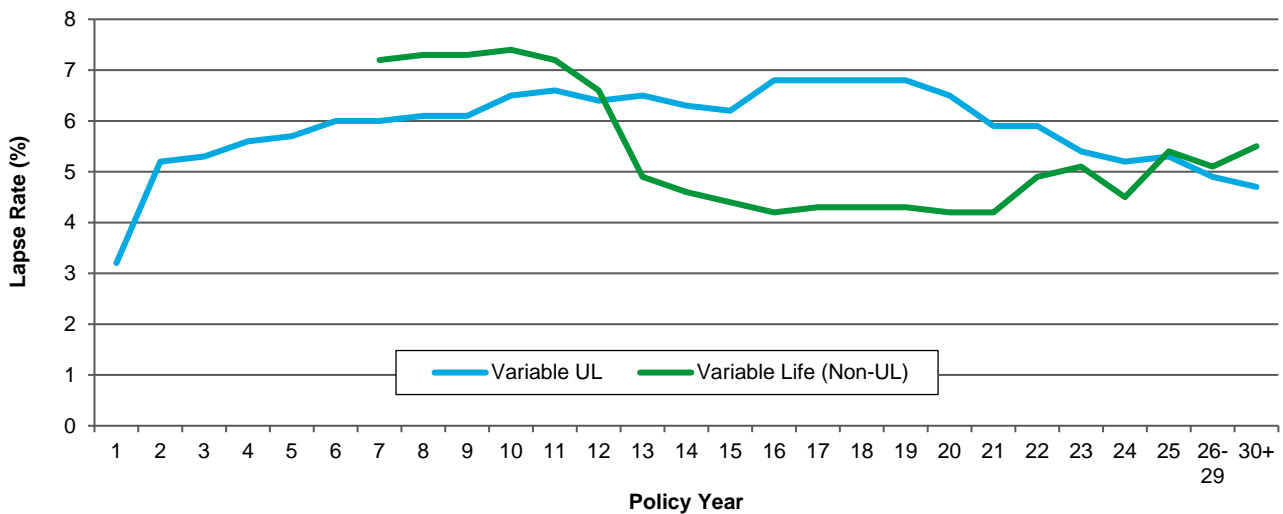
Another difference in variable universal life compared to lapse trends of other permanent products is the rising lapse rates in the first 10 or more policy years. During this period, lapse trends for other permanent products typically begin to decline. The almost upside-down “U” shape of VUL lapse rates is more dramatic in this study than in prior studies.

**Figure 100 — Variable UL Insurance Lapse Rates**



A very limited number of carriers still offered new issue non-UL variable life, and as such, only later policy-year experience is available to report. The pattern of lapse rates for non-UL variable life is different than variable UL, as shown in Figure 101. The lapse rate experience in the ultimate policy years is more similar however.

**Figure 101 — Variable Life and Variable UL Insurance Policy Lapse Rates**



The overall average face amount for variable universal life policies increased from the prior study to \$270,000 from an average of \$250,000 in the 2007-2009 study. The distribution of variable universal life policies and average face amount exposed by policy size band is shown in Table 29. The majority of UL and VUL policies are between face amounts of \$50,000 and \$299,999. However, VUL has much lower exposure in the \$50,000 and under cohort (11 percent) than UL (24 percent). The average face amounts by policy size band for VUL are relatively similar to those of UL.

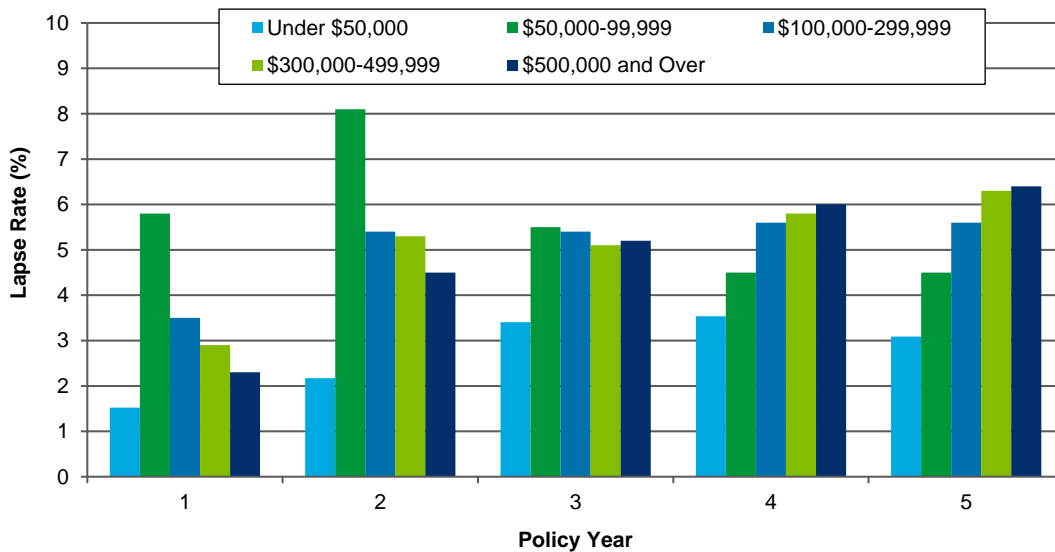


**Table 29 — Variable UL Insurance Exposure by Policy Size**

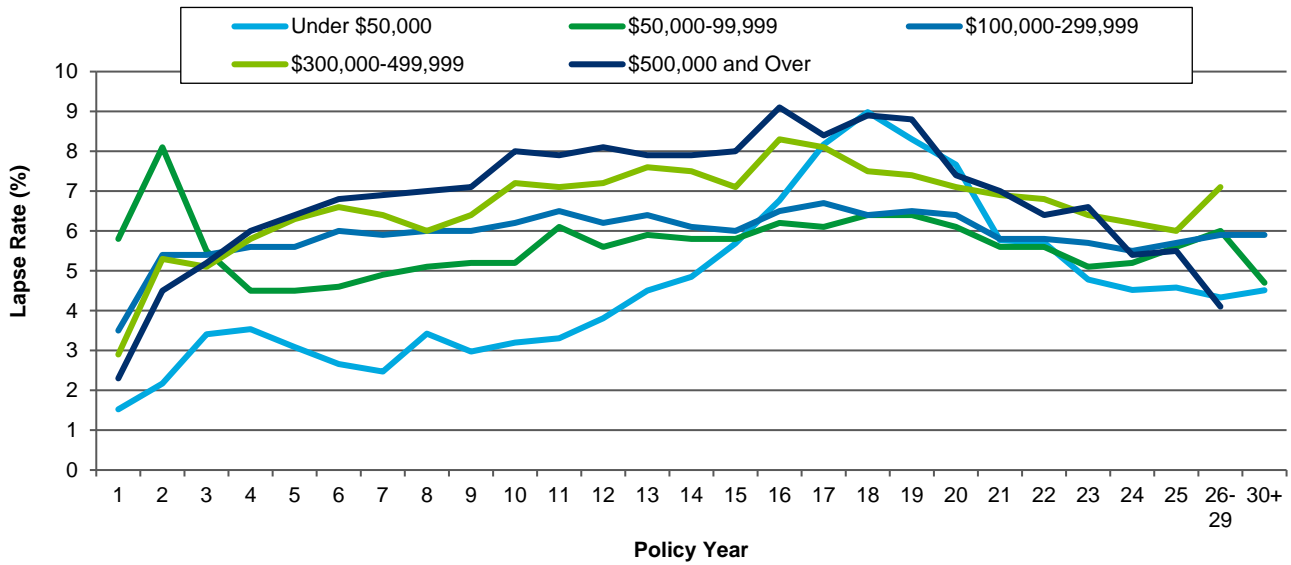
Policy Size	Average Face Amount Exposed	Percent of Policy Exposure
Under \$50,000	\$31,000	11%
\$50,000-99,999	\$59,000	19%
\$100,000-299,999	\$157,000	48%
\$300,000-499,999	\$356,000	7%
\$500,000 and Over	\$1,049,000	15%
<b>Total</b>	<b>\$270,000</b>	<b>100%</b>

Except for the under \$50,000 size band, variable universal life policies with smaller face amounts exhibit higher lapse rates in the very early policy years (Figure 102). In later years, policy lapse rates tend to increase as the size of the policy increases. The larger policies are likely more sensitive to the poor stock market performance during the timeframe of the current study (Figure 103). The upside-down “U” shape for variable UL lapse rates is most prevalent in the largest amounts.

**Figure 102 — Variable UL Insurance Policy Lapse Rates by Policy Size — Policy Years 1-5**



**Figure 103 — Variable UL Insurance Policy Lapse Rates by Policy Size**



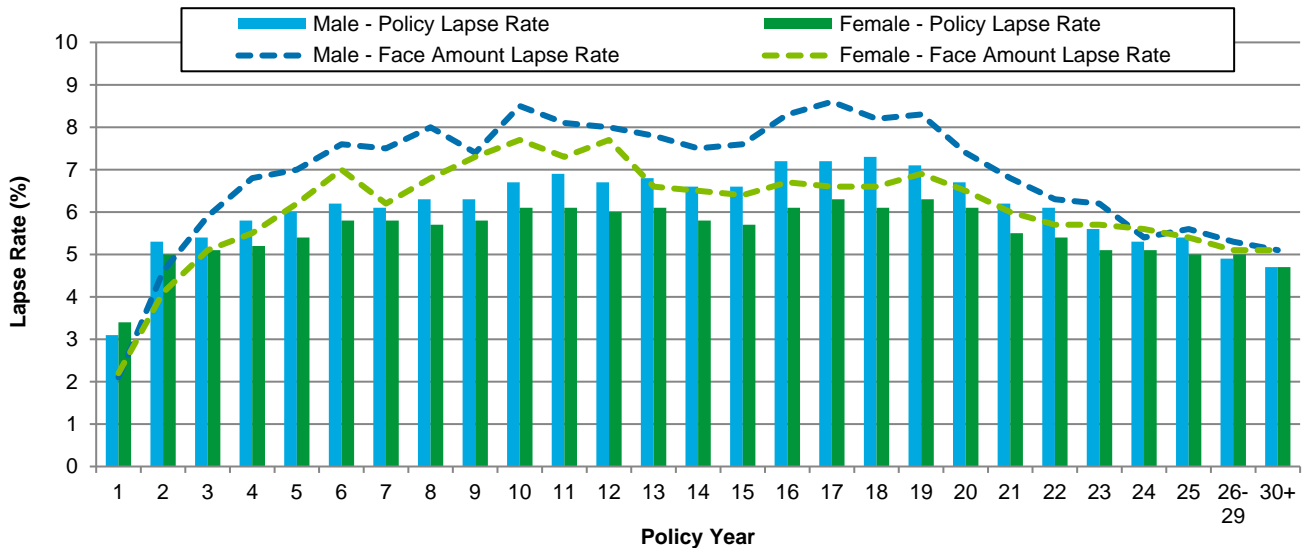
Distinct from the experience of other permanent products, variable universal life policies with face amounts under \$50,000 exhibit the lowest lapse rates until policy year 16. When comparing characteristics of policyholders of smaller face amount policies, variable universal life policyholders are likely in a higher income range than policyholders of other permanent products. The choice of a lower-face-amount policy is more likely due to the diversification of investments rather than an affordability issue.

## Gender

The distribution of variable universal life data by gender has stayed relatively consistent over the past four studies. The current data consists of 61 percent male and 39 percent female exposure by policy count. On a face amount basis, the data was split by 69 percent male and 31 percent female. The average face amounts for male and female policies in the current study are \$304,000 and \$215,000, respectively.

Regardless of the difference in average policy size, lapse rates for male variable universal life policyholders are higher than lapse rates for females in almost all policy years (Figure 104).

**Figure 104 — Variable UL Insurance Lapse Rates by Gender**



## Issue Age

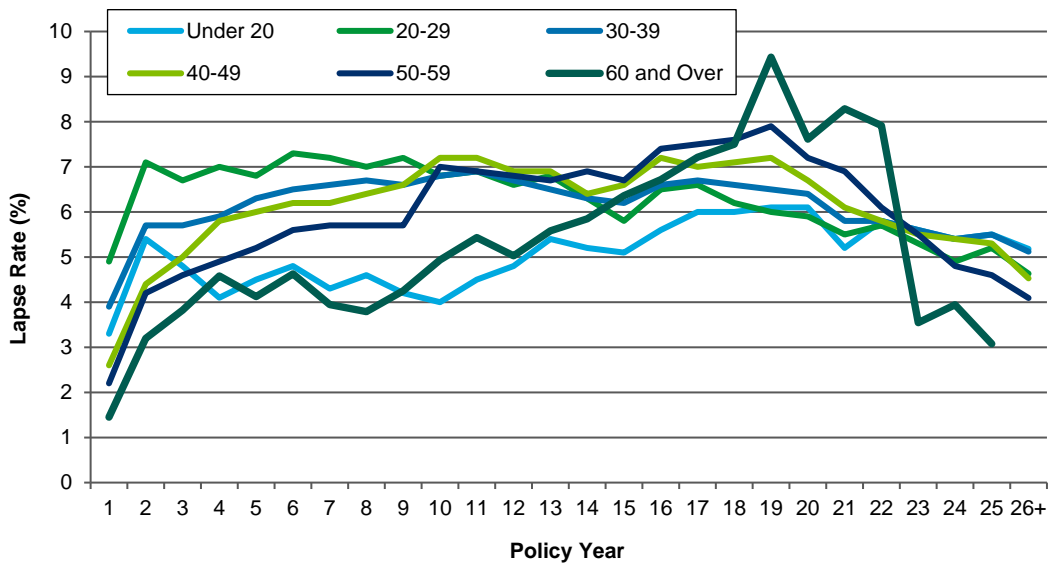
The distribution of variable universal life policies by issue age cohort continues to center around the working ages well before retirement (Table 30). The average face amount exposed increased for all issue age cohorts.

**Table 30 — Variable UL Insurance Exposure by Issue Age Cohort**

Issue Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$124,000	12%
20-29	\$207,000	15%
30-39	\$292,000	31%
40-49	\$314,000	26%
50-59	\$323,000	12%
60-69	\$332,000	3%
70 and Over	\$376,000	1%
<b>Total</b>	<b>\$270,000</b>	<b>100%</b>

Similar to the experience of whole life and universal life products, older issue age lapse rates for variable universal life policies are generally less than younger issue age lapse rates in the early policy years (Figure 105).

**Figure 105 — Variable UL Insurance Policy Lapse Rates by Issue Age Cohort**



### Attained Age

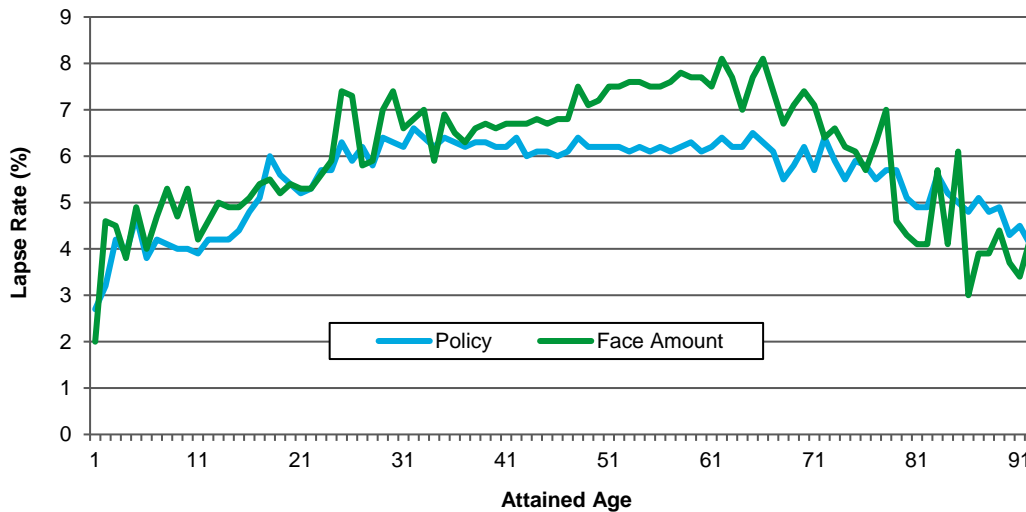
The distribution of policies by attained age cohort is similar to the last study with some movement towards older attained ages (Table 31).

**Table 31 — Variable UL Insurance Exposure by Attained Age Cohort**

Attained Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$141,000	5%
20-29	\$186,000	5%
30-39	\$312,000	10%
40-49	\$321,000	22%
50-59	\$278,000	29%
60-69	\$247,000	20%
70 and Over	\$235,000	9%
<b>Total</b>	<b>\$270,000</b>	<b>100%</b>

Again, lapse rates by attained age follow an upside-down “U” shape, increasing at the youngest issue ages, leveling off until retirement ages, and then decreasing after attained age 70 (Figure 106). There are spikes in lapse rates at attained ages 65-66, likely due to retirement as some policyholders access their cash value in retirement through full surrender. This is more prevalent in lapse rates by face amount.

**Figure 106 — Variable UL Insurance Lapse Rates by Attained Age**



### Risk Class

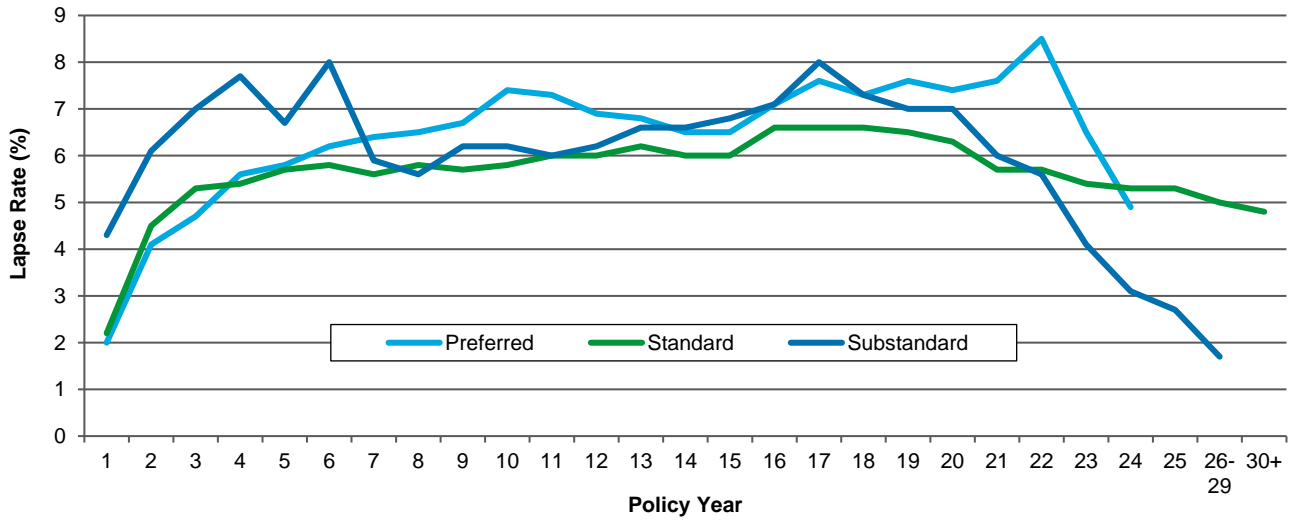
The distribution of policies by risk class continues to be mostly standard-risk-class policies, with increases in average face amount exposed for all risk classes except Preferred (Table 32). While the majority of exposure is in the standard risk class, variable UL does have a higher exposure to preferred risk classes than traditional UL (30 percent versus 19 percent).

**Table 32 — Variable UL Insurance Exposure by Risk Class**

Risk Class	Average Face Amount Exposed	Percent of Policy Exposure
Preferred	\$381,000	30%
Standard	\$217,000	67%
Substandard	\$246,000	3%
<b>Total</b>	<b>\$270,000</b>	<b>100%</b>

Similar to trends seen in universal life, policies with a substandard risk class exhibit higher lapse rates than standard- and preferred-risk policies in the first six policy years (Figure 107). After, lapse rates for preferred risk policies are even higher than those of substandard risks, as healthier policyholders are more likely to shop for other coverage when the surrender charge period expires. In later policy years, preferred and substandard lapse rates converge.

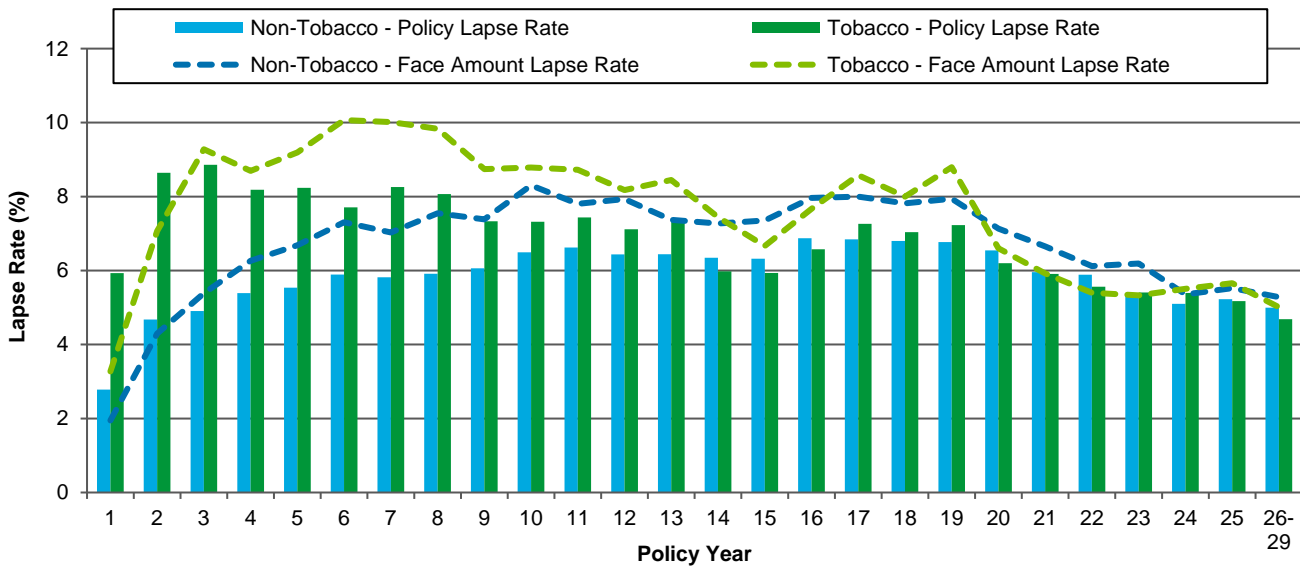
**Figure 107 — Variable UL Insurance Policy Lapse Rates by Risk Class**



**Tobacco Status**

The variable universal life policy exposure by tobacco status has stayed constant over the past studies. This is mainly because variable universal life is a much newer product compared to whole life and universal life, and the tobacco status of most policies is known. The policy exposure for non-tobacco was 88 percent of the total. Consistent with prior studies, as well as other products, tobacco policies exhibit higher rates of lapse than non-tobacco policies in early- and mid-policy years (Figure 108), however the two converge in later policy years. This is notably different than other product lines where tobacco lapse rates are higher in all policy years.

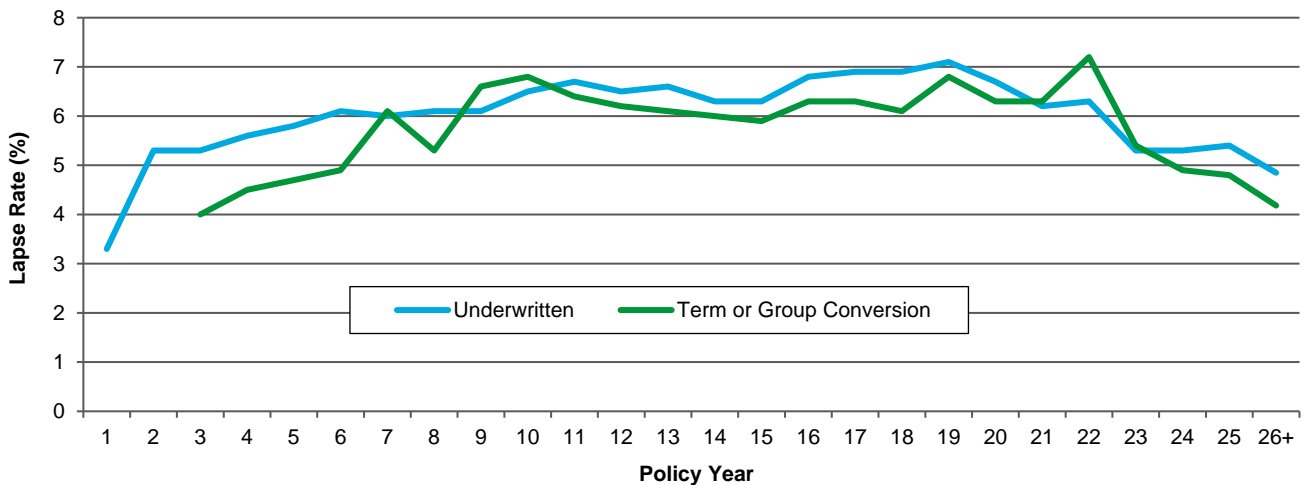
**Figure 108 — Variable UL Insurance Lapse Rates by Tobacco Use**



## Underwriting Method

Similar to traditional UL, lapse rates on policies issued through conversion are lower than lapse rates on underwritten policies. However, conversion lapse rates generally remain lower in most policy years instead of increasing above lapse rates on underwritten policies.

**Figure 109 — Variable UL Insurance Policy Lapse Rates by Underwriting Method**

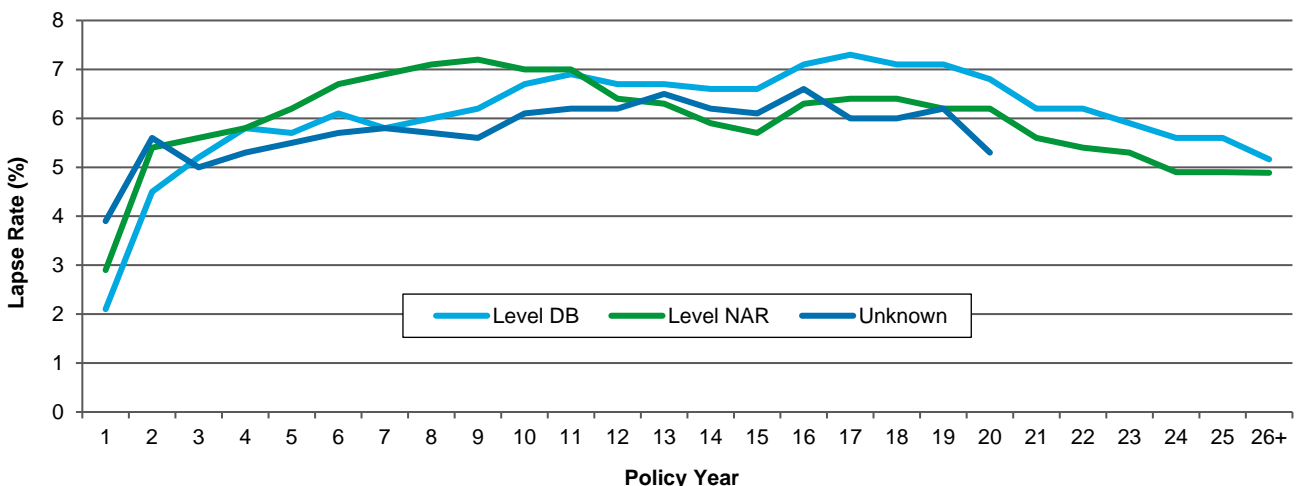


## Death Benefit Option

Where the variable UL death benefit option type is known, 71 percent of policy exposure is on the level death benefit (DB) option. Including unknown death benefit option, the percent of policy exposure for level DB option drops to 51 percent, with 21 percent level NAR, and 28 percent unknown.

Level death benefit lapse rates are generally lower in early policy years, but increase above level NAR lapse rates around policy year 12.

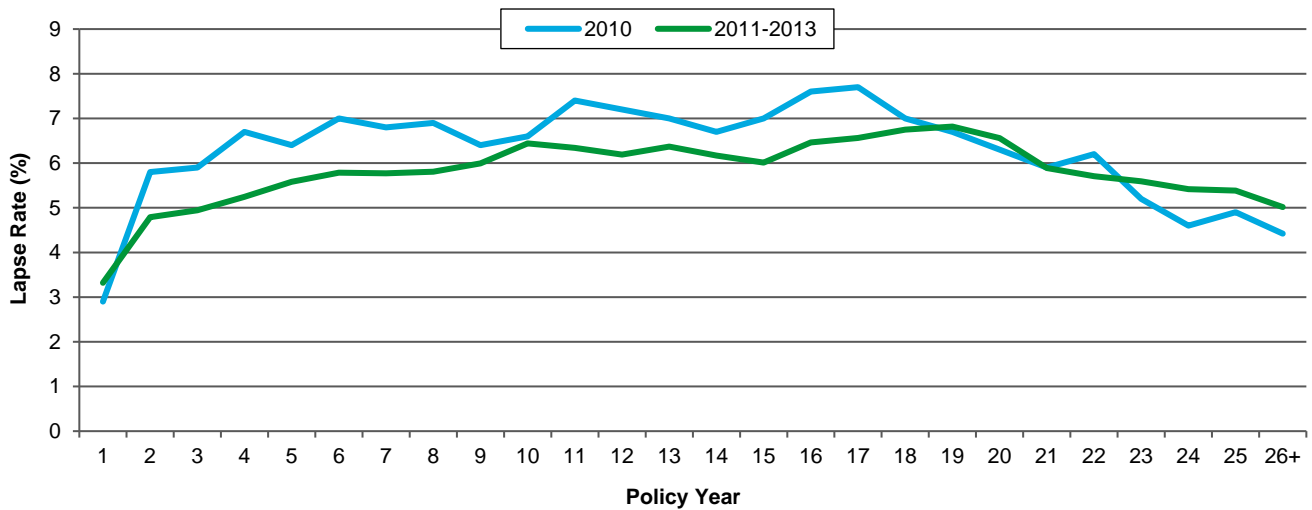
**Figure 110 — Variable UL Insurance Policy Lapse Rates by Death Benefit Option**



### Observation/Study Year

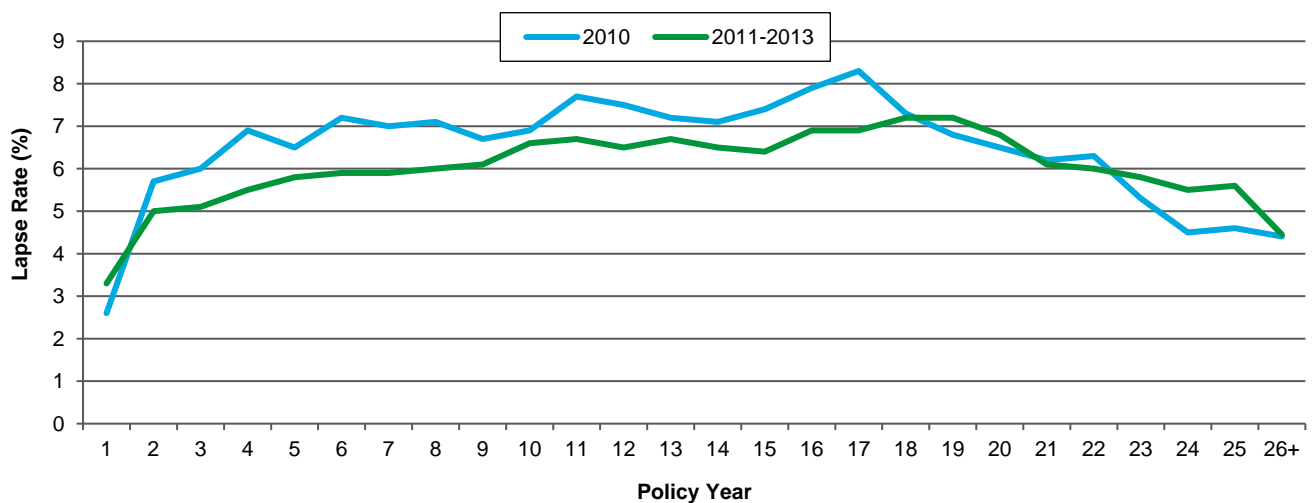
Study year does appear to have a material impact on lapse rates for variable UL policies. Study year 2010 lapse rates are noticeably higher than the other study years from policy year two through 17. This is different than traditional fixed UL, where lapse rates were generally not affected by study year, perhaps because account values within variable UL plans were immediately impacted by the economy through stock market decreases.

**Figure 111 — Variable UL Insurance Policy Lapse Rates by Observation/Study Year**



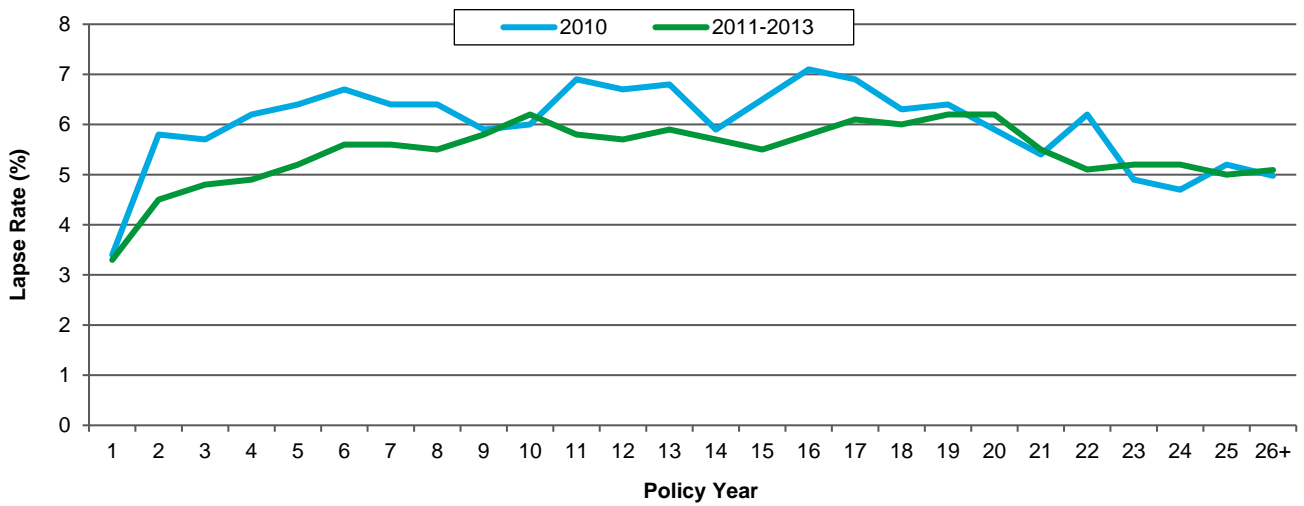
Early policy year lapse rates in study year 2010 were higher for both males and females, more so on a policy basis than a face amount basis, implying lower-than-average face amount policies were more prone to lapse than higher-face-amount policies.

**Figure 112 — Variable UL Insurance Policy Lapse Rates by Study Year for Males**





**Figure 113 — Variable UL Insurance Policy Lapse Rates by Study Year for Females**



Non-tobacco policies, contributing 88 percent of average policy exposure, had higher lapse rates in study year 2010 than study years 2011-2013. On the other hand, lapse rates for tobacco policies did not seem materially higher in 2010 than in the other study years. For non-tobacco, the overall policy lapse rate was 6.4 percent in 2010 and 5.9 percent in 2011-2013, while for tobacco policies the overall lapse rate was 6.4 percent in both 2010 and 2011-2013.

**Figure 114 — Variable UL Insurance Policy Lapse Rates by Study Year for Non-Tobacco**

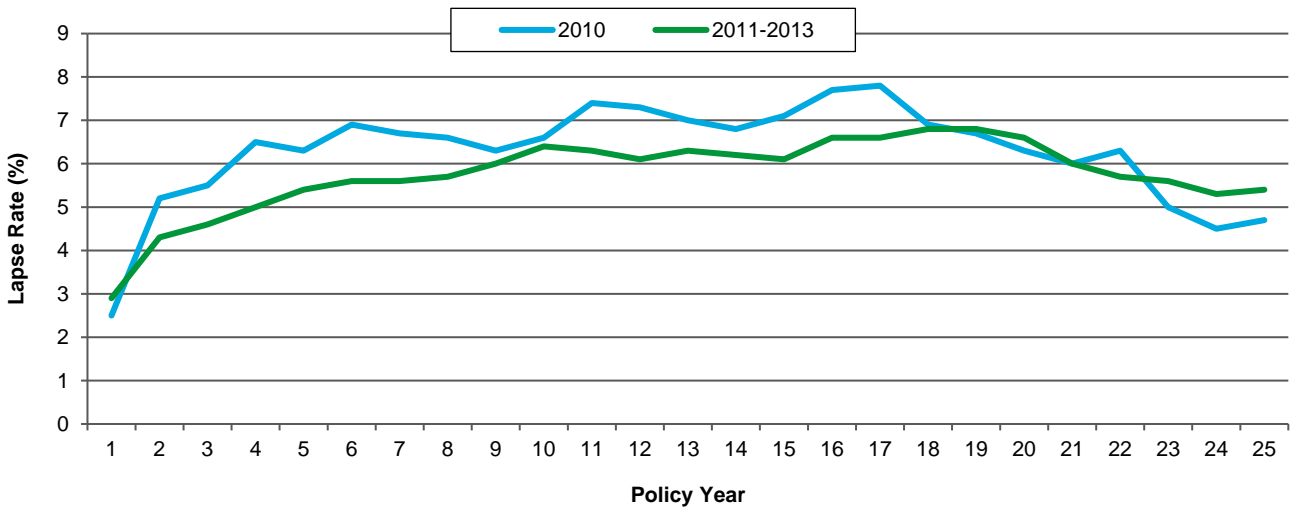
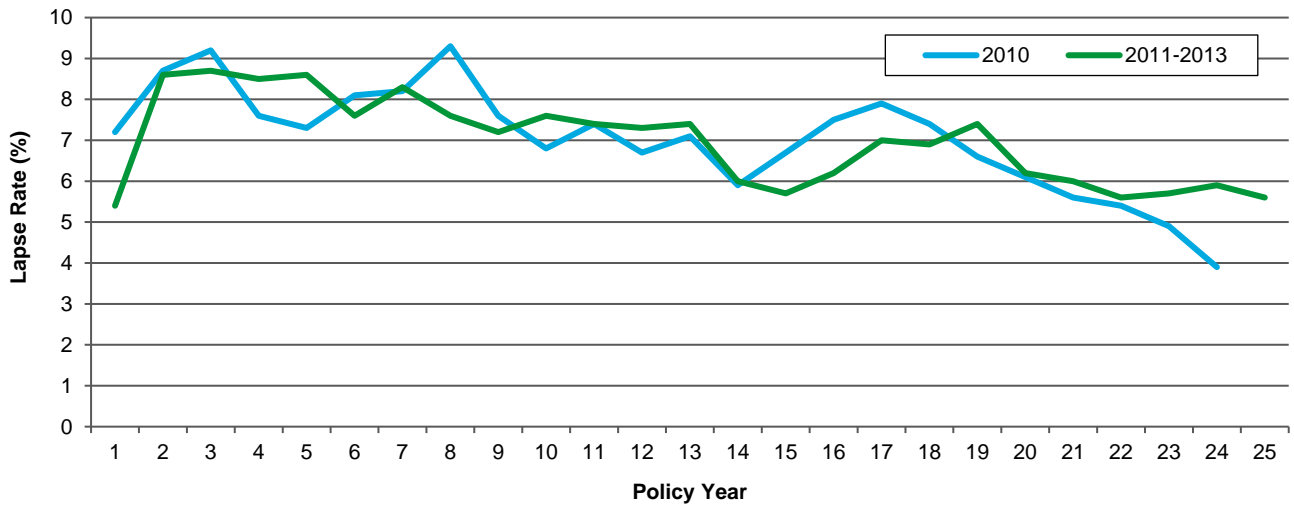


Figure 115 — Variable UL Insurance Policy Lapse Rates by Study Year for Tobacco

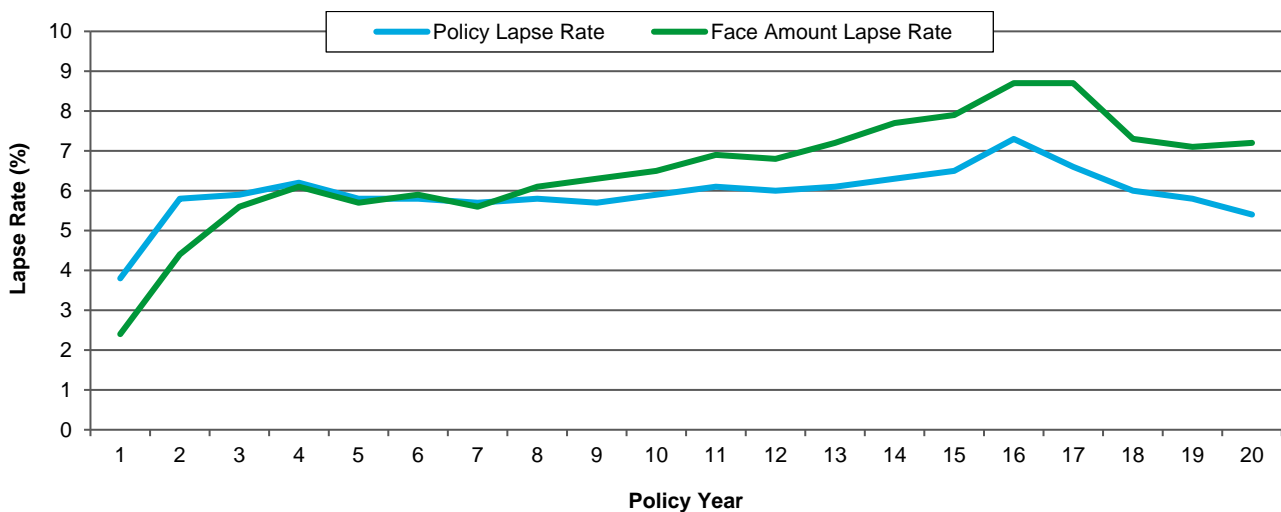


# Variable Universal Life With Secondary Death Benefit Guarantees

Seven contributors provided variable UL with secondary death benefit guarantee data. The data do not allow for identification of the length of the guarantee period however, so the results within this section are likely a mix of lifetime and non-lifetime guarantees.

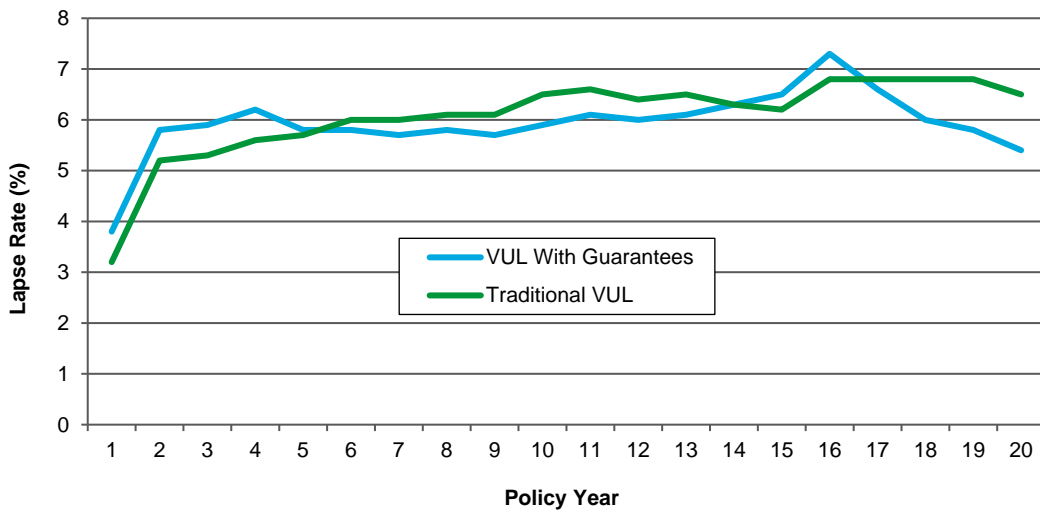
Lapse rates on a policy basis start higher than lapse rates on a face amount basis. However, face amount lapse rates have a more dramatic increasing trend than policy lapse rates, and by policy year eight face amount lapse rates are higher, and remain higher, than policy lapse rates.

**Figure 116 — Variable UL Insurance With Guarantees Lapse Rates**

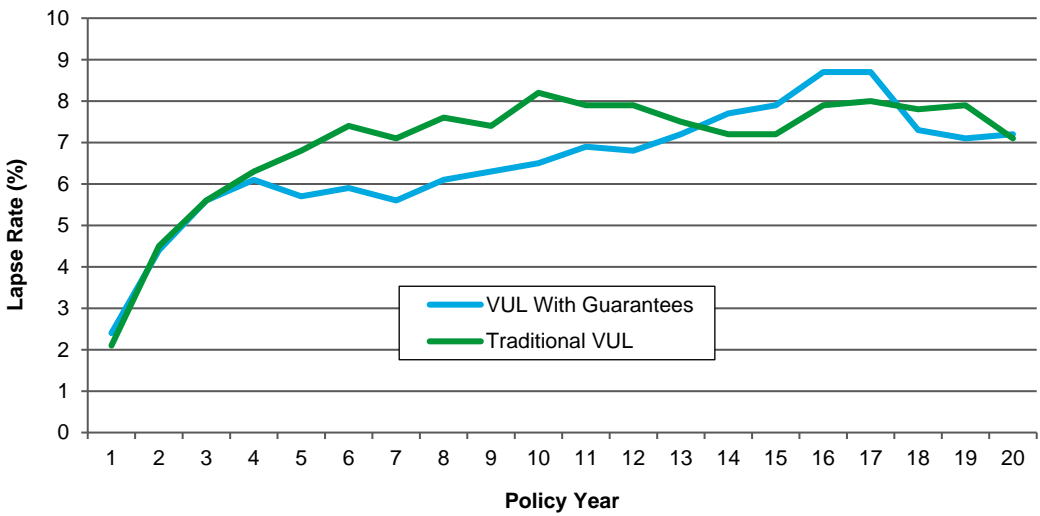


Figures 117 and 118 show the policy and face amount lapse rates for variable UL with and without secondary guarantees. Notably, policy lapse rates on variable UL with guarantees are actually higher than variable UL without guarantees in the early policy years but generally become lower starting after policy year five. This is different than UL with guarantees relative to traditional UL, where UL with guarantees have lower lapse rates in the early policy years. Higher early lapse rates on variable UL with guarantees may be caused by mix of business differences as well as early price shopping or buyer's remorse.

**Figure 117 — Variable UL Insurance Products Policy Lapse Rates**



**Figure 118 — Variable UL Insurance Products Face Amount Lapse Rates**



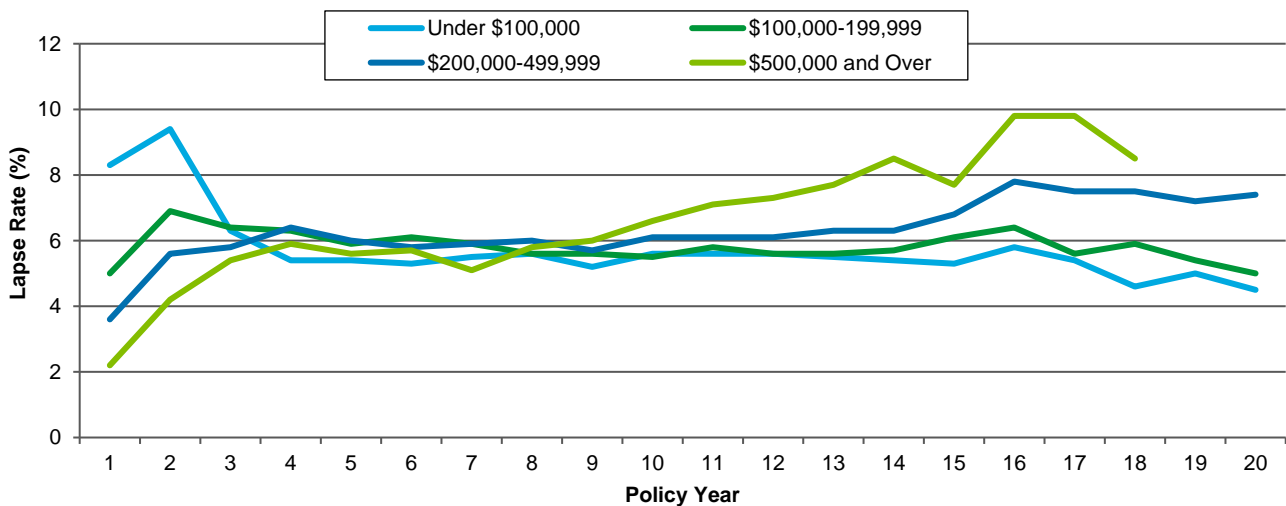
Both policy exposure and average face amount exposed skew to larger sizes for variable UL with guarantees relative to traditional variable UL (Table 33).

**Table 33 — Variable UL Insurance With Guarantees Exposure by Policy Size**

Policy Size	Average Face Amount Exposed	Percent of Policy Exposure
Under \$100,000	\$54,000	13%
\$100,000-199,999	\$114,000	35%
\$200,000-499,999	\$266,000	33%
\$500,000 and Over	\$983,000	19%
<b>Total</b>	<b>\$324,000</b>	<b>100%</b>

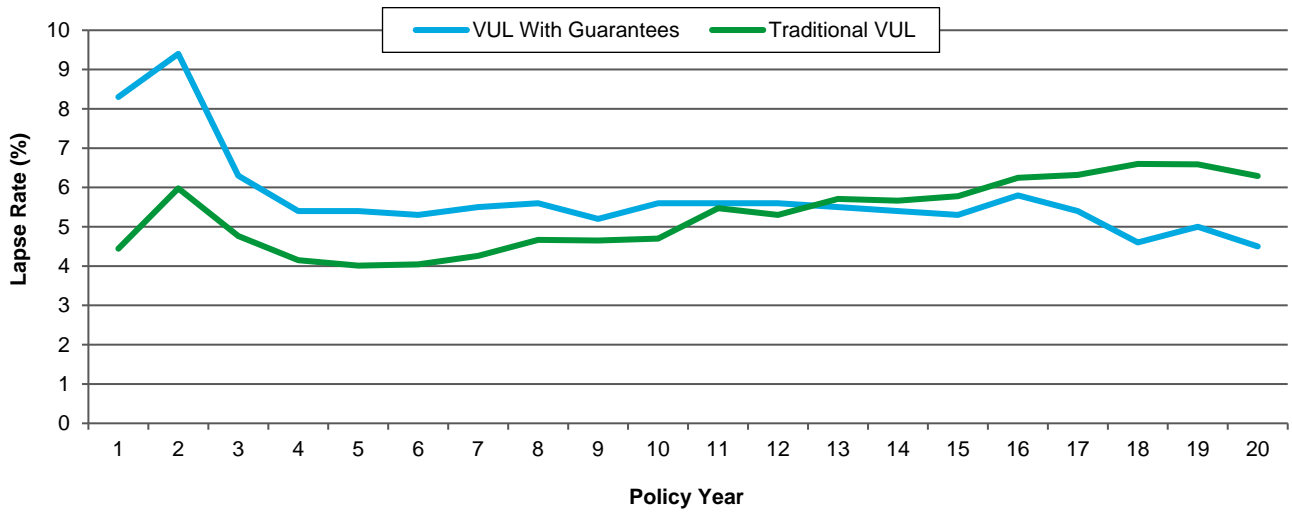
Similar to universal life trends in general, lapse rates on larger face amounts are lower than lapse rates on smaller face amounts. This pattern does reverse in the middle policy years, as lapse rates follow an increasing trend for larger policies but more of a decreasing trend for smaller policies.

**Figure 119 — Variable UL Insurance With Guarantees Policy Lapse Rates by Policy Size**

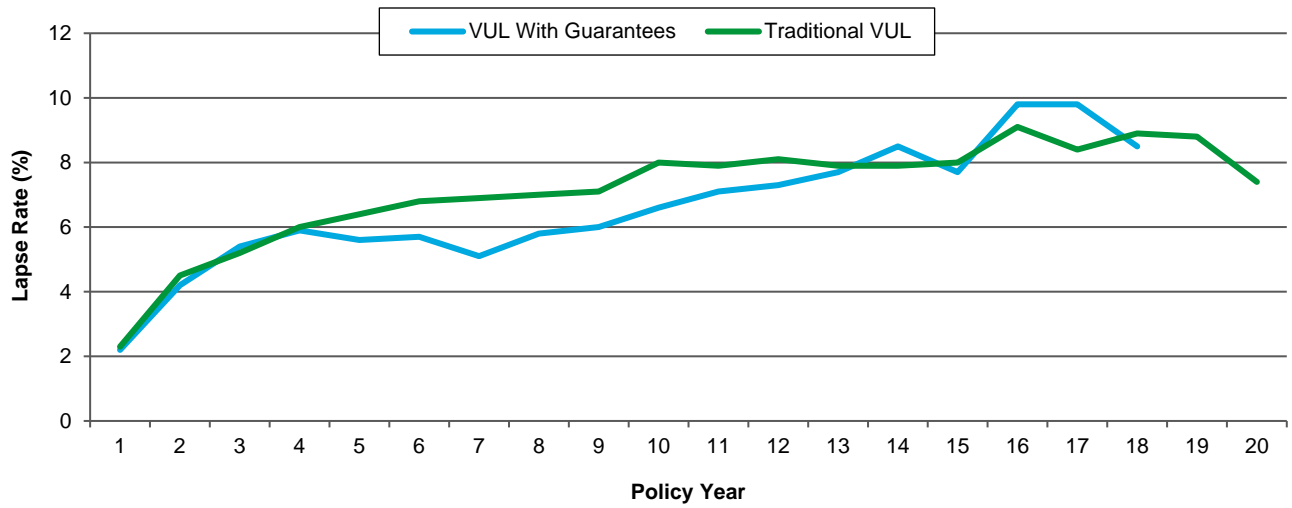


The difference in early-policy-year lapse rates between variable UL with guarantees and traditional variable UL wears off by increasing policy size, with lapse rates on the largest face amount sizes similar between the two types of plans. The pattern seen in larger-sized policies is more of the expected pattern with lower or similar lapse rates on the guaranteed plans. Figure 120 compares lapse rates on the smallest face amounts while Figure 121 compares lapse rates on the largest face amounts.

**Figure 120 — Variable UL Insurance Product Policy Lapse Rates for Policy Size Under \$100,000**



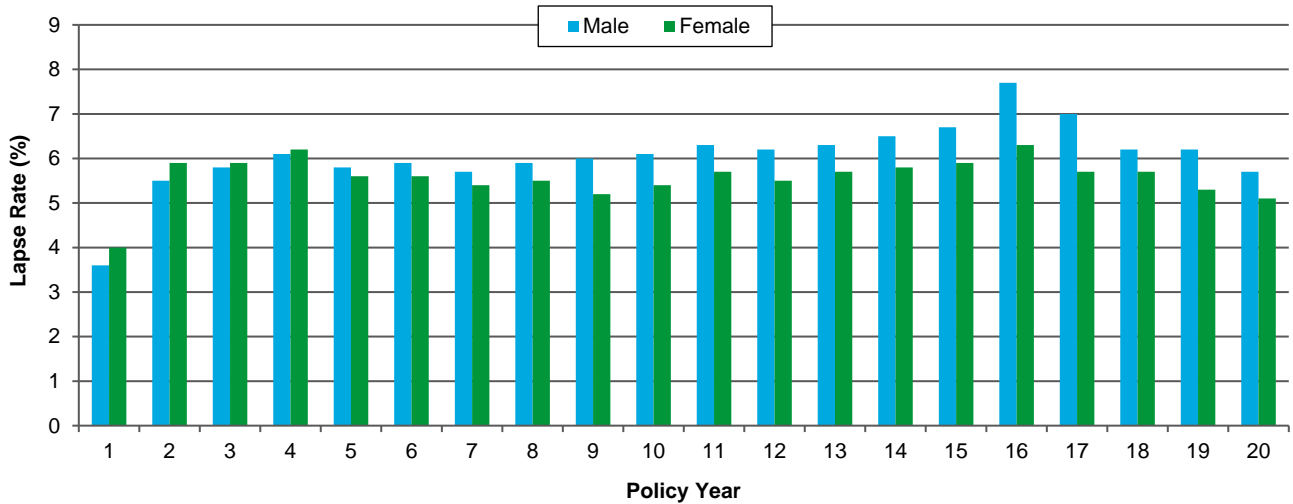
**Figure 121 — Variable UL Insurance Product Policy Lapse Rates for Policy Size \$500,000 and Over**



## Gender

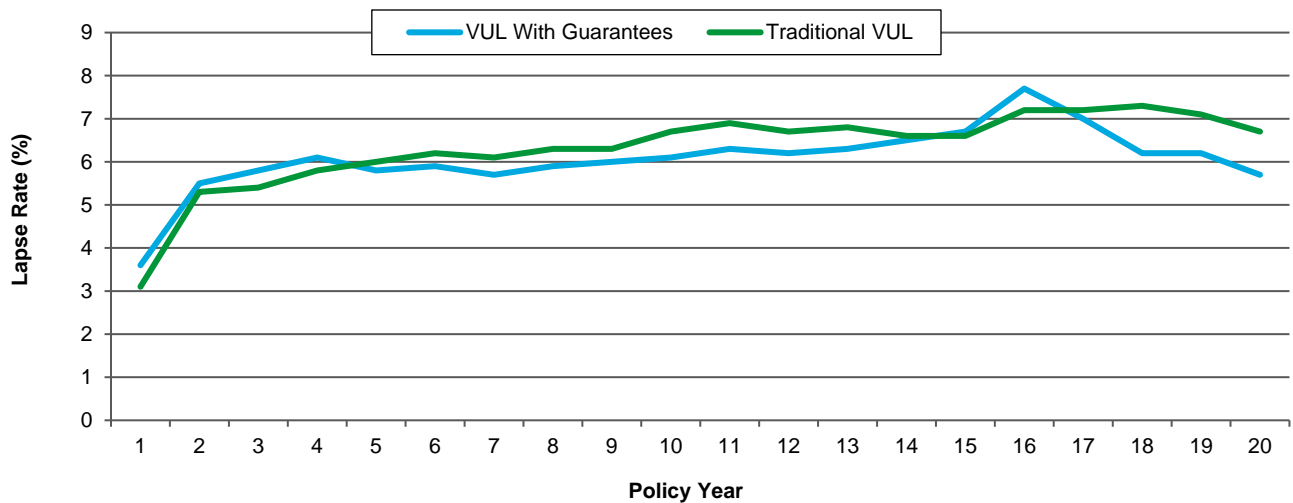
Female lapse rates are higher than male lapse rates in the early policy years. However, starting in policy year five female lapse rates are lower. This pattern is similar to trends on traditional UL and UL with guarantees.

**Figure 122 — Variable UL Insurance With Guarantees Policy Lapse Rates by Gender**

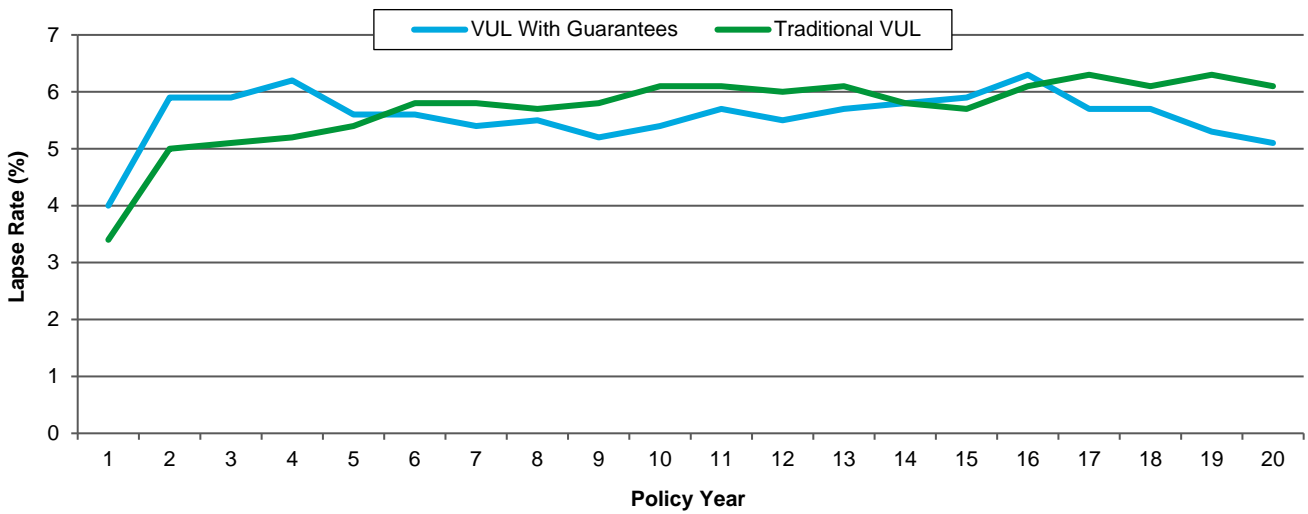


The difference in early-policy-year lapse rates between traditional and guaranteed variable UL is larger on females than males. There is also a higher percentage of females in guaranteed variable UL than traditional variable UL, with 43 percent in guaranteed and 39 percent in traditional.

**Figure 123 — Variable UL Insurance Product Policy Lapse Rates for Males**



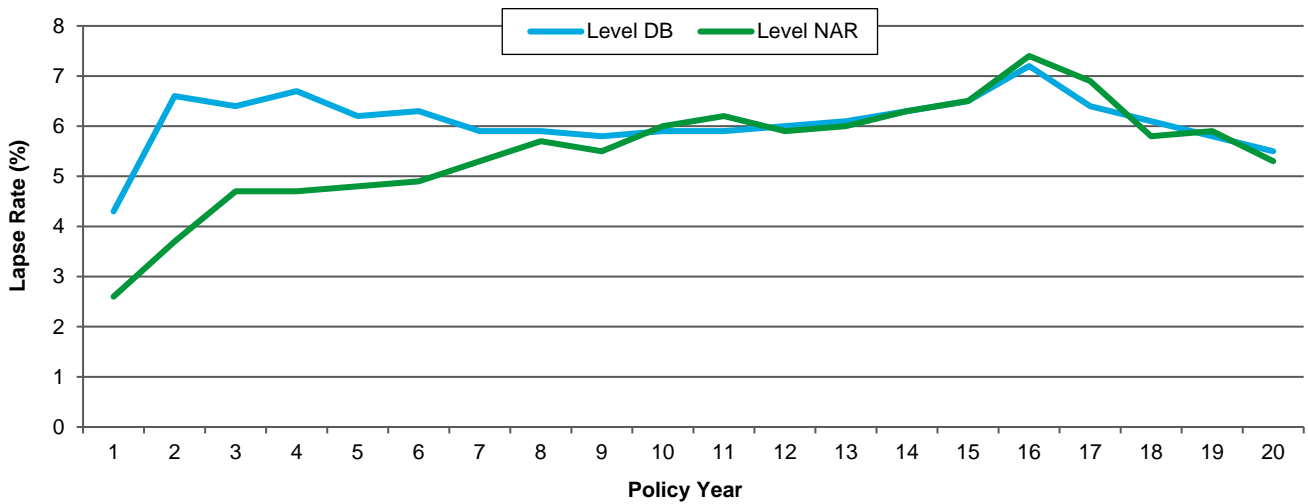
**Figure 124 — Variable UL Insurance Product Policy Lapse Rates for Females**



**Death Benefit Option**

Level death benefit policies are less prevalent for variable UL with guarantees than within other types of universal life and comprise 64 percent of average policy exposure. As opposed to all other types of UL, lapse rates on level death benefit plans are higher than level NAR plans in the early policy years. Level NAR lapse rates increase quickly however, and by policy year 10 lapse rates are similar between the two death benefit options.

**Figure 125 — Variable UL Insurance With Guarantees Policy Lapse Rates by Death Benefit**





## Risk Class

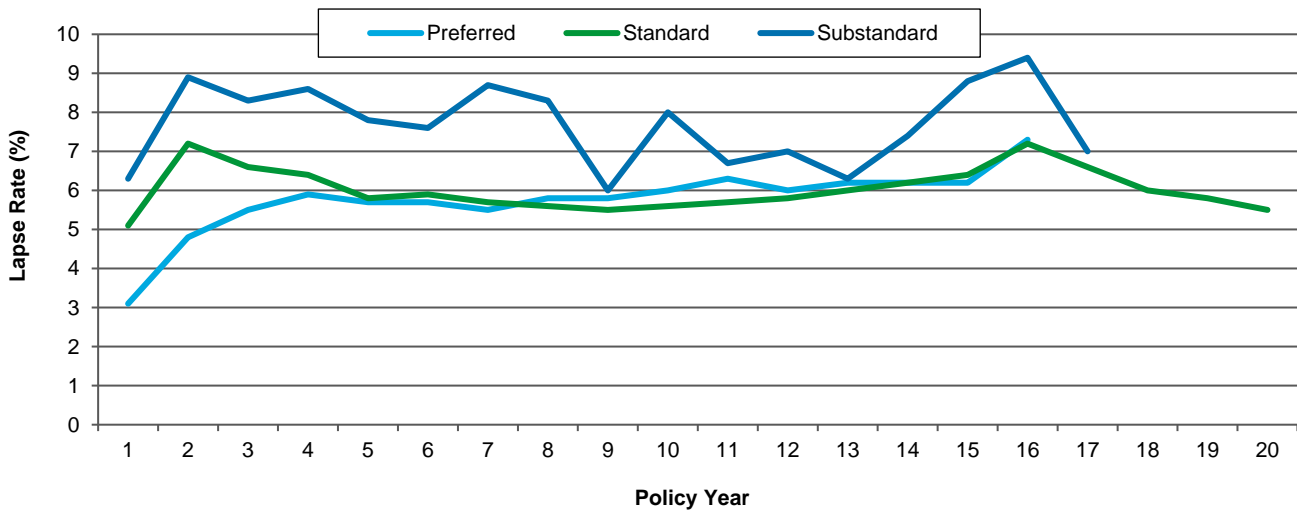
Table 34 below details policy and average face amount exposure by risk class. Fifty percent of policy exposure for variable UL with guarantees is in the preferred risk class, which is a higher percent than traditional variable UL. The preferred risk class also has the largest average face amount, similar to other product lines. Average face amounts on variable UL with guarantees are slightly larger than traditional variable UL, more so on the substandard risk class.

**Table 34 — Variable UL Insurance With Guarantees Exposure by Risk Class**

Risk Class	Average Face Amount Exposed	Percent of Policy Exposure
Preferred	\$396,000	50%
Standard	\$246,000	46%
Substandard	\$293,000	4%
<b>Total</b>	<b>\$324,000</b>	<b>100%</b>

In early policy years, lapse rates increase by increasing class, with preferred lapse rates lower than standard. Preferred-risk-class lapse rates do increase above standard-risk-class lapse rates in policy years 8-13 and are similar thereafter. Substandard lapses are higher in all policy years.

**Figure 126 — Variable UL Insurance With Guarantees Policy Lapse Rates by Risk Class**

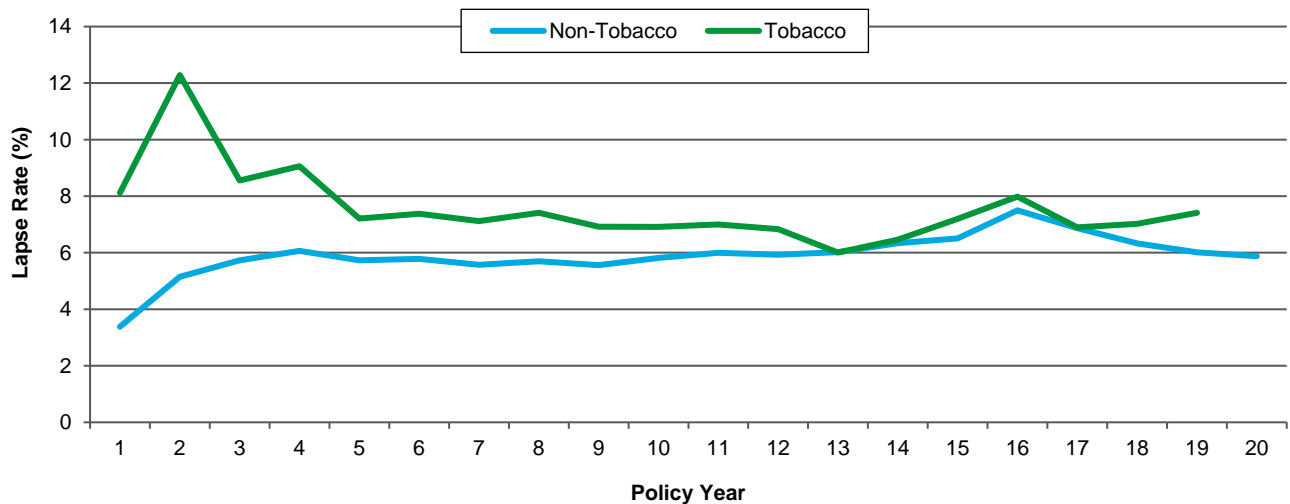


While not shown in the report, the pattern of higher early-policy-year lapse rates for variable UL with guarantees relative to traditional variable UL is seen within all risk classes. Substandard lapse rates for variable UL with guarantees are higher than substandard lapse rates for traditional variable UL in almost all policy years.

## Tobacco Status

The distribution of policy exposure by tobacco status is mostly non-tobacco at 92 percent. Similar to other plan types, in almost every policy year, non-tobacco lapse rates are lower than tobacco lapse rates.

**Figure 127 — Variable UL Insurance With Guarantees Policy Lapse Rates by Tobacco Use**



## Issue Age

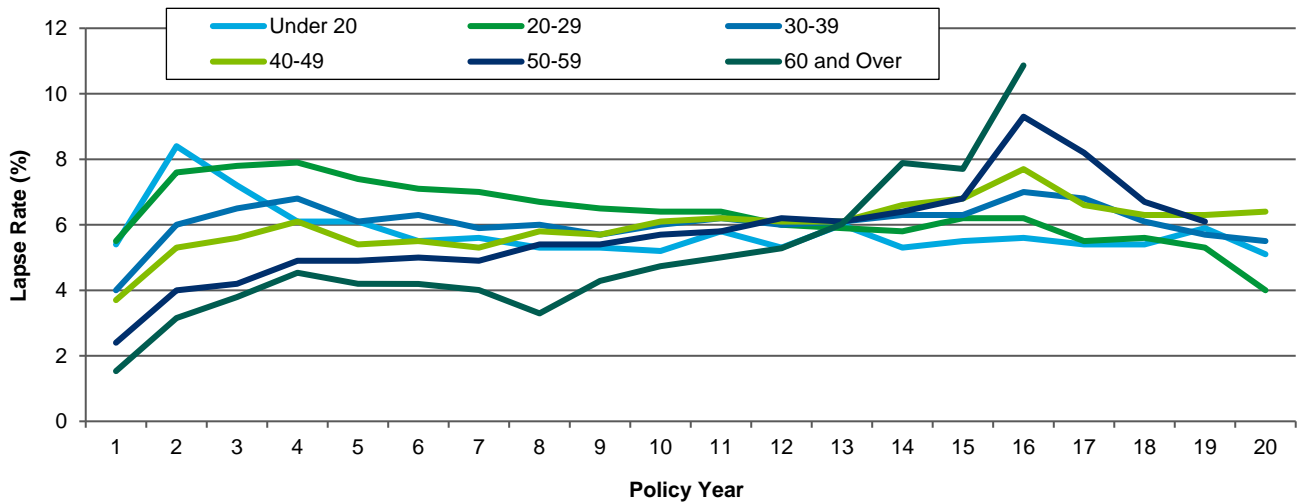
Over 50 percent of policy exposure for variable UL with guarantees is in issue ages 30-49 (Table 35). Those issue ages also have the highest average face amount. The distribution of issue ages is similar to traditional variable UL.

**Table 35 — Variable UL Insurance With Guarantees Exposure by Issue Age Cohort**

Issue Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 20	\$182,000	11%
20-29	\$279,000	13%
30-39	\$362,000	29%
40-49	\$360,000	27%
50-59	\$338,000	15%
60 and Over	\$307,000	5%
<b>Total</b>	<b>\$324,000</b>	<b>100%</b>

Lapse rates are generally decreasing by increasing issue age, with the oldest issue ages experiencing the lowest lapse rates in early policy years. This pattern does reverse in the later policy years as lapse rates on older issue ages generally follow an increasing trend, while lapse rates at younger issue ages follow a decreasing trend. This is similar to other product lines.

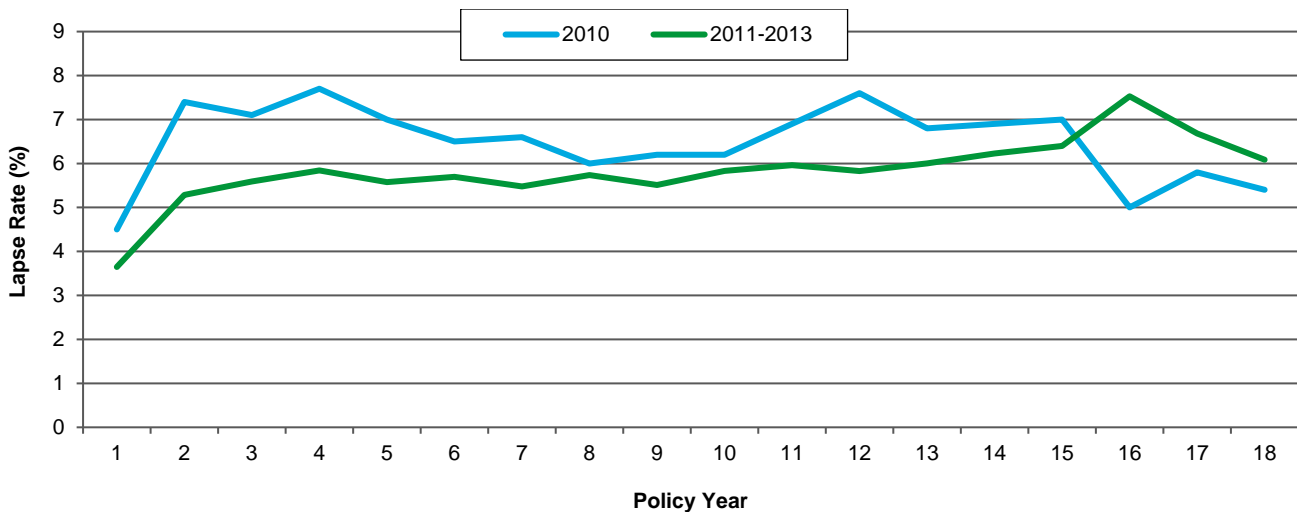
**Figure 128 — Variable UL Insurance With Guarantees Policy Lapse Rates by Issue Age Cohort**



**Observation/Study Year**

Study year 2010 lapse rates are higher than study years 2011-2013 through policy year 15. While limited data exists for certain breakdowns, this general trend is true across both genders and most issue ages.

**Figure 129 — Variable UL Insurance With Guarantees Policy Lapse Rates by Study Year**



# Joint Life (Second-to-Die Survivorship)

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Due to the requirement under VM-50/51 that all ordinary business be submitted, additional information is now available on plans with two lives allowing for a detailed analysis to be included in this report.

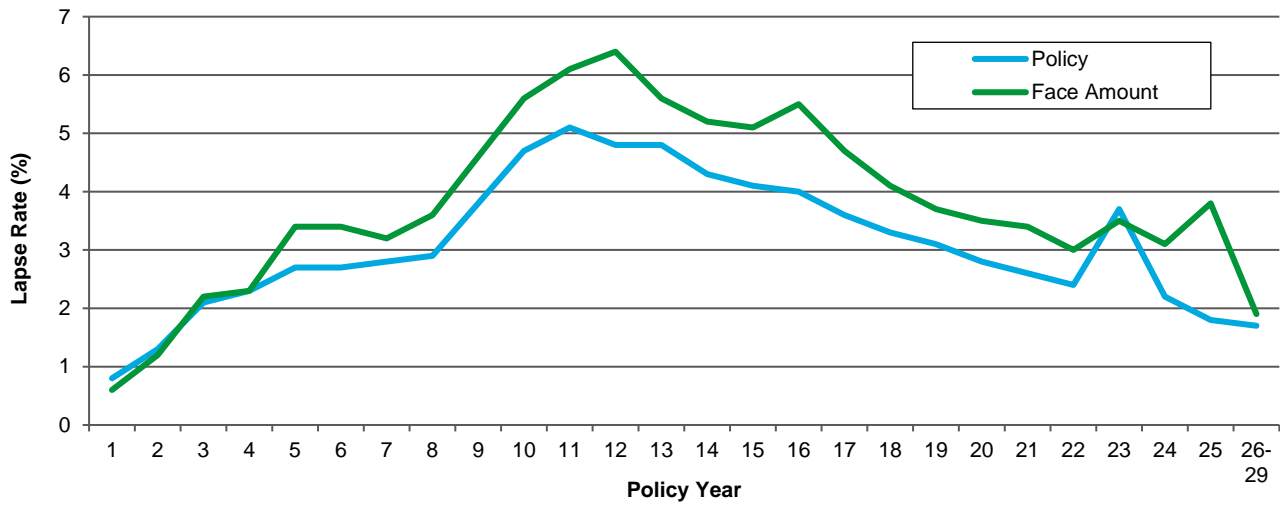
Twelve companies submitted data on joint life policies, including both first-to-die and second-to-die plans. Eighty-four percent of the policy exposure is on second-to-die survivorship plans. The average face amount on survivorship plans is considerably larger than that of first-to-die plans. Due to an overweighting of first-to-die plans within a couple companies, only second-to-die survivorship policy-year lapse rates will be shown. Policies identified as unknown first- or second-to-die are also included in the lapse rates. Unknown accounts for only one percent of total joint life policy exposure.

**Table 36 — Joint Life Insurance Exposure**

	Average Face Amount Exposed	Percent of Policy Exposure
First-to-Die	\$65,000	15%
Survivorship / Second-to-Die	\$2,401,000	84%
Unknown	\$1,858,000	1%
<b>Total</b>	<b>\$2,037,000</b>	<b>100%</b>

The pattern of lapse rates for survivorship policies is quite different than the pattern of most other life insurance products, with a very well-defined upside-down “U” shape. Lapse rates start very low, at less than 1 percent, but quickly increase before peaking around policy year 10. Afterward, lapse rates do come back down, but not as quickly as they increased in the early policy years. One possible reason for low early lapse rates may be the insured’s recognized need for the insurance, generally purchased for estate planning purposes.

**Figure 130 — Survivorship\* Life Insurance Lapse Rates**



\* Includes a small amount of unknown first- or second-to-die

The average size of survivorship policies is much larger than other product lines, at \$2.4 million. The majority of policies are in face amount bands of \$1 million or higher. There are more exposures in the \$5 million and over band than in the less than \$250,000 band.

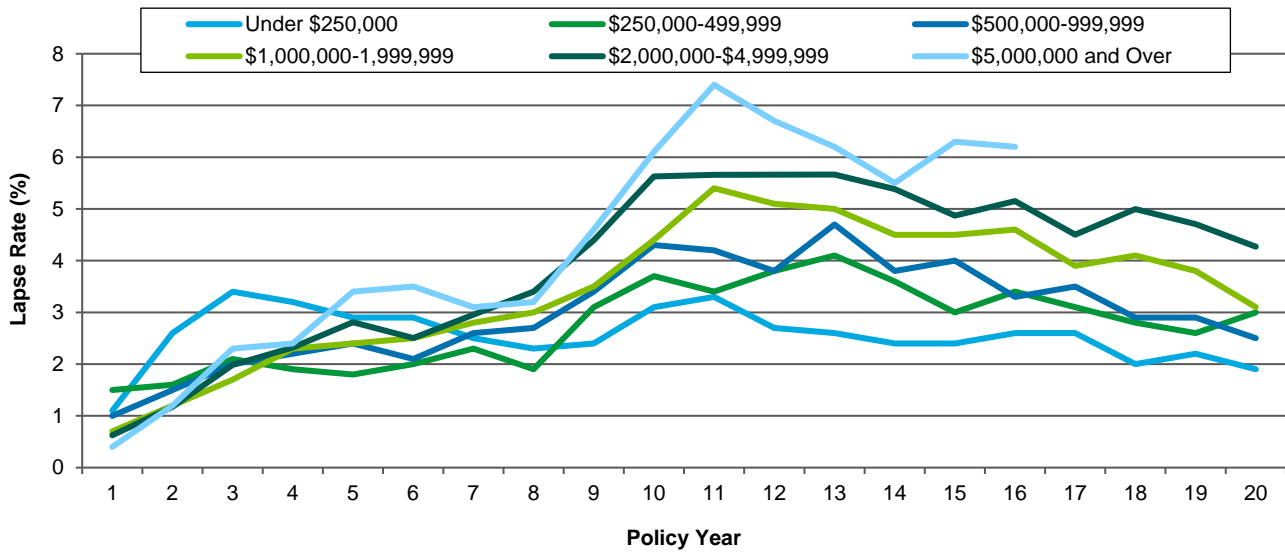
**Table 37 — Survivorship\* Life Insurance Exposure and Average Face Amount by Policy Size**

Policy Size	Average Face Amount Exposed	Percent of Policy Exposure
Under \$250,000	\$141,000	11%
\$250,000-499,999	\$324,000	13%
\$500,000-999,999	\$620,000	17%
\$1,000,000-\$1,999,999	\$1,194,000	24%
\$2,000,000-\$4,999,999	\$2,780,000	22%
\$5 million and Over	\$10,119,000	13%
<b>Total</b>	<b>\$2,401,000</b>	<b>100%</b>

\* Includes a small amount of unknown first- or second-to-die

As with whole life lapse rates, in the early policy years lower-face-amount policies lapse more frequently than higher-face-amount policies. The upside-down “U” pattern of lapse rates is much more pronounced in larger-sized policies, while the lapse rate pattern for smaller-face-amount policies is more flat. This difference in pattern causes larger-amount lapse rates to become higher than smaller-amount lapse rates by policy year six.

**Figure 131 — Survivorship\* Life Insurance Policy Lapse Rates by Policy Size**



\* Includes a small amount of unknown first- or second-to-die

### Product Line Chassis

Survivorship policies are sold within each of the major product lines summarized in this report, including whole life, traditional UL/VUL, and UL/VUL with guarantees. The majority of survivorship policies in this study are sold on a whole life chassis (Table 38). Whole life survivorship has the smallest average face amount exposed. Universal life with guarantees is the second largest chassis for survivorship policies.

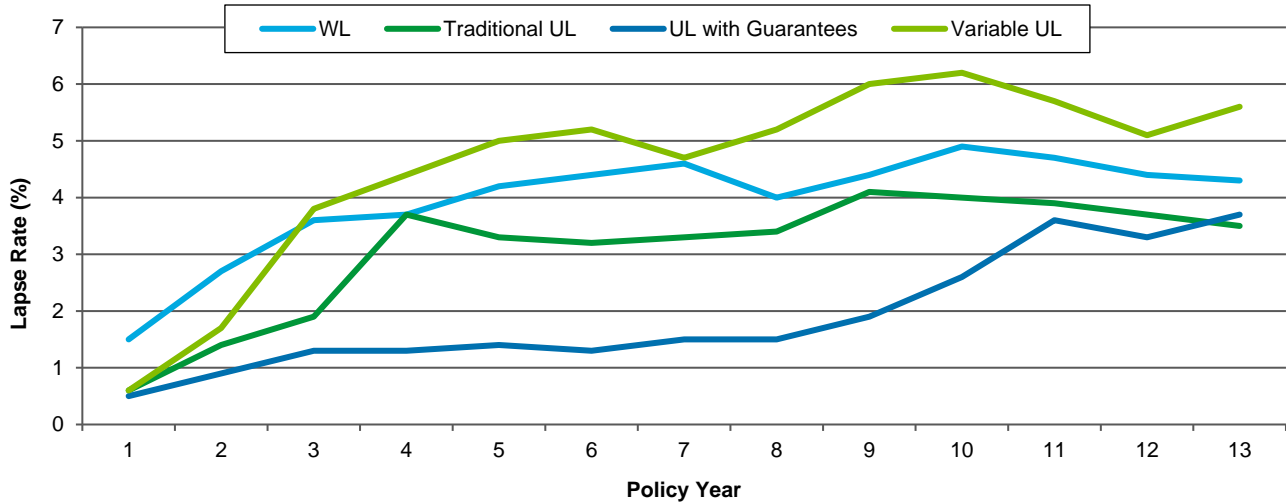
**Table 38 — Survivorship\* Life Insurance Exposure by Product Line Chassis**

	Average Face Amount Exposed	Percent of Policy Exposure
Whole Life	\$1,278,000	43%
Universal Life	\$2,917,000	9%
Universal Life with Guarantees	\$3,337,000	26%
Variable Universal Life	\$3,471,000	16%
Variable Universal Life with Guarantees	\$2,618,000	6%
<b>Total</b>	<b>\$2,401,000</b>	<b>100%</b>

\* Includes a small amount of unknown first- or second-to-die

Lapse rates on the universal life with guarantees chassis are the lowest for most policy years. Traditional variable UL lapse rates start low, but quickly increase to the highest of all the product line chassis. The exposure by policy year for variable UL with guarantees was too low to allow lapse rates to be shown.

**Figure 132 — Survivorship\* Life Insurance Policy Lapse Rates by Product Line Chassis**



\* Includes a small amount of unknown first- or second-to-die

### Issue Age

Issue age refers to the issue age of the primary/first insured. Issue ages 50-59 and 60-69 are the two largest issue age bands and represent almost 60 percent of the total exposure for survivorship plans. The average issue age for survivorship policies in this study is 57, which is considerably older than that of other product lines.

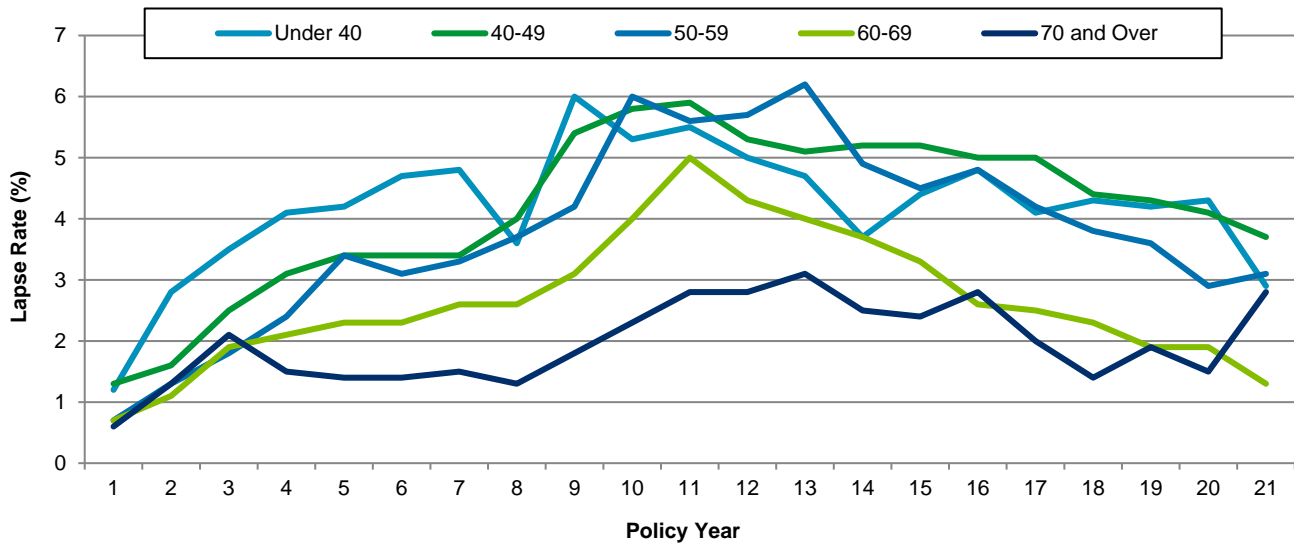
**Table 39 — Survivorship\* Life Insurance Exposure by Primary Insured Issue Age Cohort**

Issue Age	Average Face Amount Exposed	Percent of Policy Exposure
Under 40	\$3,066,000	7%
40-49	\$3,046,000	19%
50-59	\$2,589,000	29%
60-69	\$1,950,000	30%
70 and Over	\$1,780,000	15%
<b>Total</b>	<b>\$2,401,000</b>	<b>100%</b>

\* Includes a small amount of unknown first- or second-to-die

Lapse rates tend to increase with decreasing issue age, a pattern seen in other product lines. However, this pattern tends to stay consistent throughout most policy years. The middle issue ages have the most well-defined upside-down “U” lapse rate pattern, while the oldest issue age band has a flatter pattern of lapse rates by policy year. At the youngest issue ages, lapse rates do not decrease as quickly after peaking than the other issue ages, causing lapse rates to remain higher than those of other cohorts.

**Figure 133 — Survivorship\* Life Insurance Policy Lapse Rates by Issue Age Cohort**



\* Includes a small amount of unknown first- or second-to-die

### Issue Age and Issue Age Difference

Since there are two lives on each survivorship policy, an attempt was made to study the impact of both issue ages. The possible combinations of two issue ages are quite large, so a second issue age variable was created that calculates the absolute value of the difference in issue age between the two insureds. Those issue age differences were then grouped and an analysis by primary insured issue age and issue age difference was performed.

Within each issue age cohort, the majority of policies had an issue age difference of 0 to 1 year. However, in the 70 and over issue age cohort, a similar exposure percent is found for issue age difference of 0 to 1 year and 2 to 4 years. The 70 and over issue age cohort also has the largest percent of policies with an issue age difference of five or more years.

**Table 40 — Percent of Survivorship\* Policy Exposure Within Primary Issue Age by Issue Age Difference**

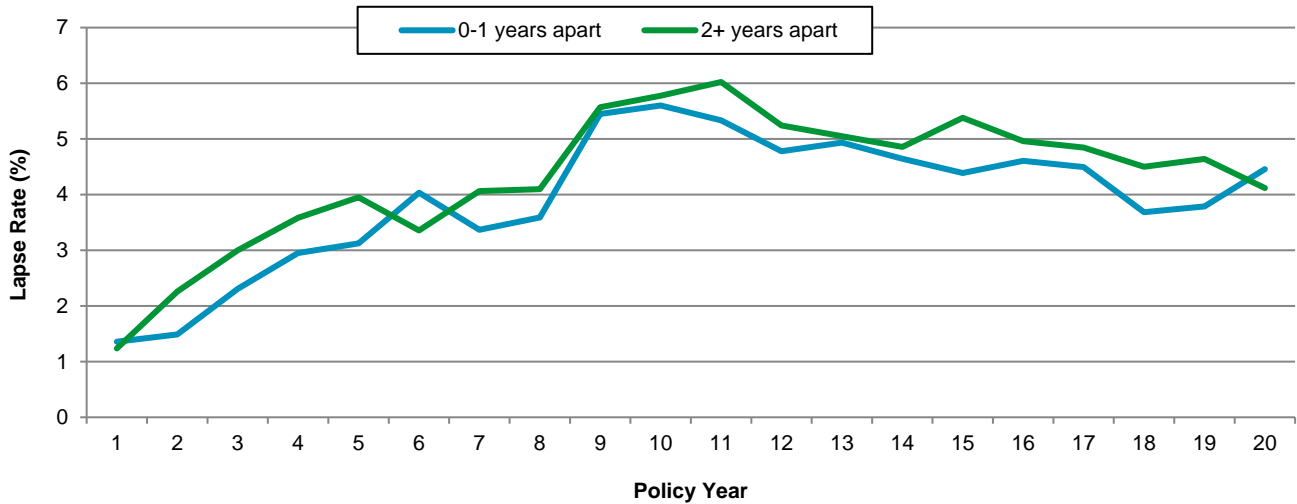
	Under 40	40-49	50-59	60-69	70 and Over
0-1 years	43%	44%	43%	42%	36%
2-4 years	35%	35%	36%	36%	35%
5 or more years	22%	21%	21%	22%	29%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

\* Includes a small amount of unknown first- or second-to-die



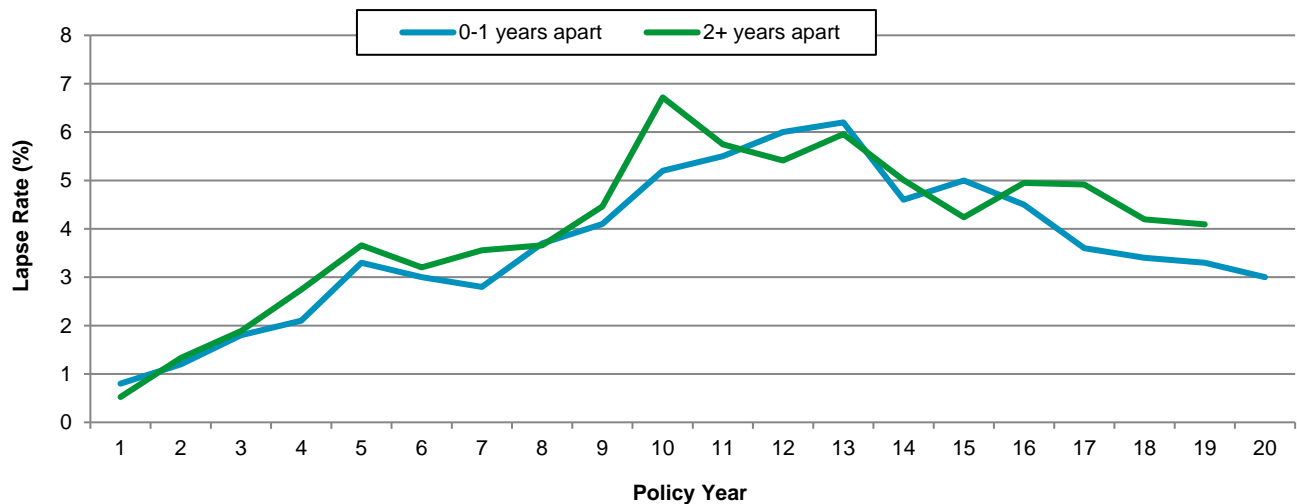
Due to exposure and company count considerations, certain issue age and issue age difference cohorts were combined for the lapse rate analysis. Very generally, within each issue age cohort lapse rates tend to be slightly higher for policies with an issue age difference of 2 or more years relative to an issue age difference of 0 to 1 year, especially at the youngest issue age cohorts.

**Figure 134 — Survivorship\* Life Insurance Policy Lapse Rates by Issue Age Difference for Issue Age Under 50**



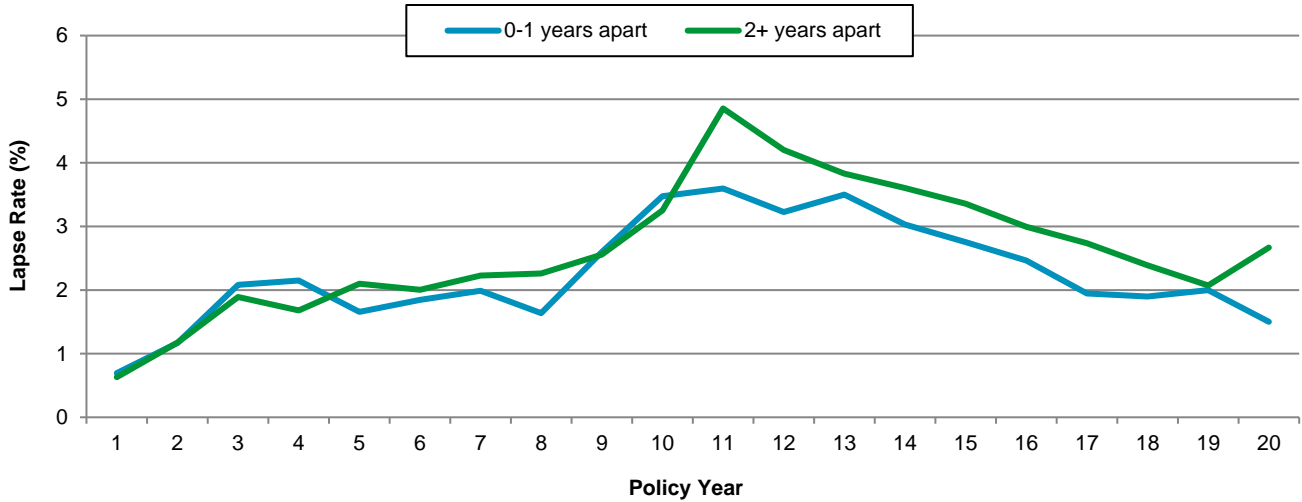
\* Includes a small amount of unknown first- or second-to-die

**Figure 135 — Survivorship\* Life Insurance Policy Lapse Rates by Issue Age Difference for Issue Age 50-59**



\* Includes a small amount of unknown first- or second-to-die

**Figure 136 — Survivorship\* Life Insurance Policy Lapse Rates by Issue Age Difference for Issue Age 60 and Over**



\* Includes a small amount of unknown first- or second-to-die

**Risk Class of Both Insureds**

Without regard for order, there are six possible combinations of underwriting class for both insureds. Below is a table of exposure and average face amount for those six possible class combinations. The majority of policy exposure is when both insureds are standard class. The average face amount is highest on policies where both insureds are preferred class, at slightly over \$3.8 million. Almost half of the exposure of policies that are both preferred class is from the universal life with guarantees chassis, and those policies tend to have higher average face amounts than the other chassis, influencing the overall face amount in this class.

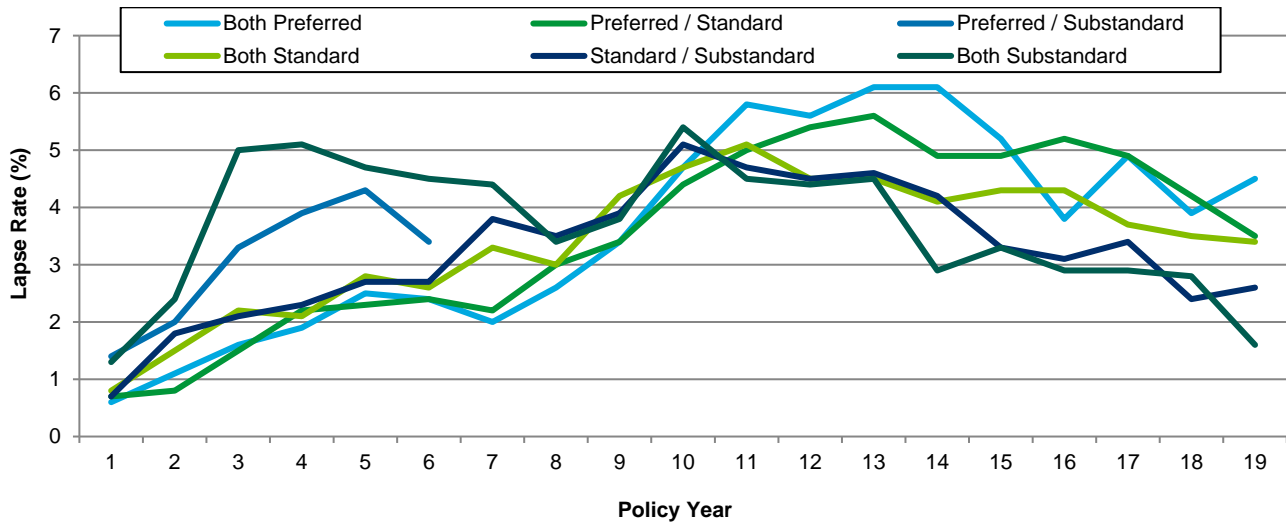
**Table 41 — Survivorship\* Life Insurance Exposure by Risk Class Combination**

	Average Face Amount Exposed	Percent of Policy Exposure
Both Preferred	\$3,815,000	22%
One Preferred, One Standard	\$2,985,000	15%
One Preferred, One Substandard	\$2,474,000	2%
Both Standard	\$1,799,000	37%
One Standard, One Substandard	\$1,678,000	17%
Both Substandard	\$2,158,000	7%
<b>Total</b>	<b>\$2,401,000</b>	<b>100%</b>

\* Includes a small amount of unknown first- or second-to-die

The pattern of lapse rates by risk class for survivorship plans is similar to other product lines. Lapse rates in the early policy years are low for any policy with a preferred insured, with higher lapse rates on any policy with a substandard insured. In the rare case of a preferred/substandard combination, the lapse rate pattern seems to follow more of a substandard pattern than preferred pattern. Lapse rates increase on preferred plans and become higher than those of substandard plans by policy year 11. After policy year 11, preferred lapse rates are highest and substandard lapse rates are lowest.

**Figure 137 — Survivorship\* Life Insurance Policy Lapse Rates by Risk Class Combination**

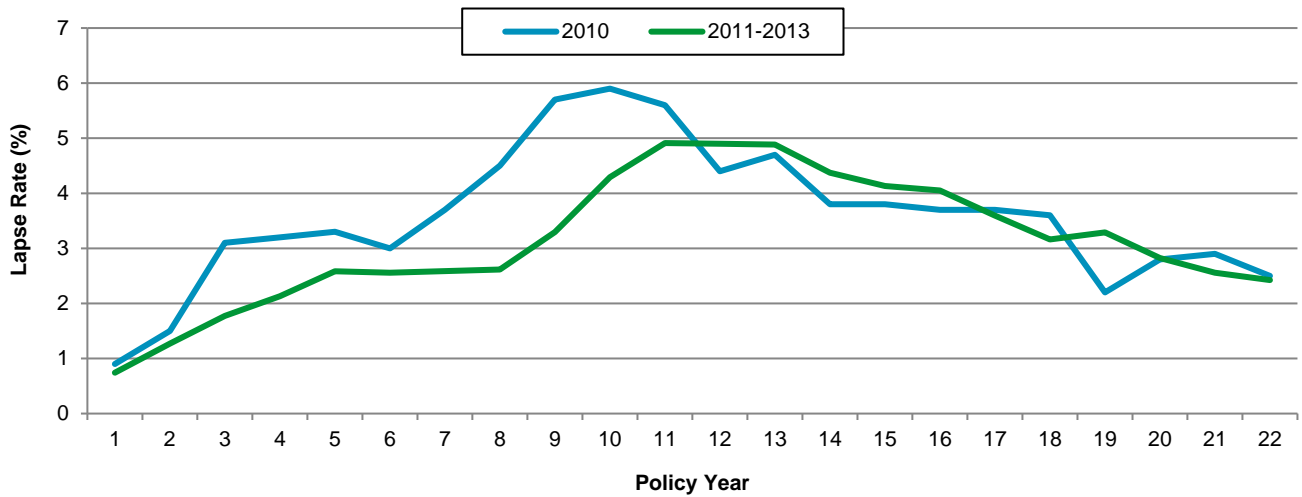


\* Includes a small amount of unknown first- or second-to-die

### Observation/Study Year

Similar to other product lines, lapse rates for study year 2010 are generally higher than those for study years 2011-2013, especially in early policy years. After policy year 10, little difference is noted between the two study year cohorts.

Figure 138 — Survivorship\* Life Insurance Policy Lapse Rates by Study Year



\* Includes a small amount of unknown first- or second-to-die

Due to data exposure constraints, a more detailed analysis of study-year results is not possible except by policy size. It appears that within all policy size groupings, study year 2010 lapse rates were higher than the other study years, especially on smaller-than-average size policies (policies with face amounts less than \$2 million).

# Methodology

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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 terminations for unknown reason. This is consistent with the definition of lapse applied to other LIMRA and Society of Actuaries experience studies and allows for better comparison of results over time.

The observation years in the study were 2009 to 2013, with partial data for calendar years 2009 and 2013. Contributing companies were asked to provide information on their entire in-force block at the policy level. Not all companies contributed data for all years. All policies were converted to policy year for this anniversary-to-anniversary analysis.

There are four complete, anniversary-to-anniversary study years in this report, study year 2010 through study year 2013. Study year is defined as the policy year ending in the named calendar year.

The lapse rates shown are based on 100 percent of policies submitted, except in cases where a company's volume of business was so large or its experience was so different from that of other contributors such that overall industry results would be unduly skewed.

It should be noted that not all contributing companies in the study contributed data for their entire inforce block of subsidiaries, product lines, and experience years. In addition, several companies were not able to provide data for all policies and product factors requested. Therefore, care should be taken in interpreting the results.

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 policy year they were in force.

Industry lapse rates are calculated as a weighted average of the experience of all contributing companies; companies with larger inforce blocks will affect the overall results more than companies with smaller inforce blocks. However, results for each policy factor analyzed are also examined at the company level to ensure that reported experience is not overly 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 or less than 1,000 policies exposed.

Experience was reported exactly as calculated. No attempts were made to level or smooth results.

# Participating Companies

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Allstate

American United

AXA US

Brighthouse Financial

Fidelity & Guaranty Life Insurance Company

Fidelity Investments Life Insurance Company

John Hancock Life Insurance Company

MetLife

MassMutual Life Insurance Company

New York Life

Northwestern Mutual

Pacific Life

Principal

Prudential Financial

Thrivent Financial

Vantis Life



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## About LIMRA

Established in 1916, LIMRA is a research and professional development not-for-profit trade association for the financial services industry. More than 600 insurance and financial services organizations around the world rely on LIMRA's research and educational solutions to help them make bottom-line decisions with greater confidence. Companies look to LIMRA for its unique ability to help them understand their customers, markets, distribution channels, and competitors and leverage that knowledge to develop realistic business solutions.

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## About The Society of Actuaries

With roots dating back to 1889, the Society of Actuaries (SOA) is the world's largest actuarial professional organization with more than 30,000 actuaries as members. Through research and education, the SOA's mission is to advance actuarial knowledge and to enhance the ability of actuaries to provide expert advice and relevant solutions for financial, business, and societal challenges. The SOA's vision is for actuaries to be the leading professionals in the measurement and management of risk.

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