

# Individual Long-Term Care Policy Persistency – Lapse and Mortality Rates

A Joint Study Sponsored by the  
Society of Actuaries and LIMRA

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# Study Overview

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This report documents the development of policy lapse, mortality, and total termination rate experience on individually issued long-term care insurance for the study period 2000 through 2016. This study was conducted jointly by LIMRA and the Society of Actuaries (SOA) and was based on data provided by 18 companies. The results of the study can be used for industry benchmarking as well as for background information for product development and planning processes. The data is presented in a Tableau file, allowing the user to choose a variety of factors to study experience results. This file is available on both the LIMRA and SOA websites ([www.limra.com](http://www.limra.com) and [www.soa.org](http://www.soa.org)).

The data contained in the Tableau file can help companies identify factors that impact long-term care insurance policy persistency, as well as to validate lapse and mortality assumptions. While the study contributors represent a sizable portion of the long-term care 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.

## ***Acknowledgments***

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.

## ***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 underlying data was provided by each contributing company. Neither the Society of Actuaries nor LIMRA has reviewed the data submitted for accuracy or completeness, other than a high-level review for general reasonableness, as described in the Data Description section.

The study is for informational purposes only and should not be construed as professional or financial advice.

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# Data Description

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In May of 2018, the Society of Actuaries (SOA) requested updated long-term care policy and claim experience data from companies for the 17-year period from 2000 through 2016. Eighteen (18) companies submitted data, representing approximately 80 percent of all 2016 long-term care earned premium. The data submitted included both individually issued and group business.

After submission, the data was validated and reviewed by MIB for morbidity purposes with assistance from the SOA and the Long-Term Care Experience Committee (LTCEC). Data resubmissions were requested where needed and the data was finalized. After the data was finalized for morbidity purposes, MIB passed the policy data information to LIMRA in May 2020. The data was adjusted to meet Health Insurance Portability and Accountability Act (HIPAA) safe-harbor requirements, including aggregating age information on all policies attained age 90 or higher, as well as masking claim dates and birthdates.

LIMRA performed additional validation on the data more specifically targeted to policy persistency studies, as opposed to morbidity. As a result, additional data resubmissions were received and processed.

The observation years in the study were calendar years 2000 to 2016. Contributing companies were asked to provide information on their entire in-force blocks at the policy level. All calendar-year contributions were converted to policy year for analysis and any partial policy years were dropped. 2000 to 2016 calendar-year data combine to create a total of 16 possible complete policy years in this anniversary-to-anniversary study. **Study year is defined as the policy year ending in the named calendar year.**

It should be noted that not all contributing companies in the study contributed data for their entire in-force blocks or for all observation years requested. In addition, several companies were not able to provide data for all product factors requested.

**In order to maintain data confidentiality, lapse, mortality, or total termination rate data is not reported for any cell with fewer than three (3) companies, fewer than 1,000 policies exposed, or where one company represented more than 40 percent of the exposure.**

Due to the data confidentiality rules outlined above, group business was removed and only individually issued business remains in the policy persistency study.

## 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 for each study experience year was compared to the annual statement information or LIMRA sales and in-force survey data to determine whether the contributing carrier had provided a full or partial in-force sample. If a partial in force was received, efforts to obtain full in-force data were made; however, not all carriers were able to provide a full in force.
- **Distribution of Business by Policy Characteristics** — The distribution of business for each company was examined by each of the key policy variables to ensure the data format was adhered to. If the distribution of business seemed out of line with general industry expectations, then the company was specifically asked to verify their data submission for that policy characteristic.
- **Distribution of Policy Terminations by Cause** — Companies were asked to provide a description of their internal processes to obtain an accurate split in terminations due to death and voluntary lapse. The distribution of policy termination cause was also examined to ensure that voluntary lapses were not overly represented in their businesses.
- **Lapse and Mortality Rates by Company** — For each company, lapse and mortality rates were calculated by a handful of policy characteristics and provided to each company via a personalized tableau file. The data contacts were asked to review the lapse and mortality 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. For the one company that never responded, sign-off was assumed.

# Calculations

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Industry termination rates are calculated as a weighted average of the experience of all contributing companies with each policy contributing up to one year of exposure for each study year. As such, companies with larger in-force blocks will affect the overall results more than companies with smaller in-force blocks.

**In order to maintain data confidentiality, lapse, mortality, or total termination rate data is not reported for any cell where there were fewer than three (3) companies, fewer than 1,000 policies exposed, or where one company represented more than 40 percent of the exposure.**

It should be noted that the individual company data underlying this study produces a pattern of voluntary lapses by policy year that indicates some policy deaths may have been coded incorrectly as lapses, especially for earlier study years. Also, based on information from individual companies, the extent to which deaths are distinguished from voluntary lapses varies by company. The split between deaths and voluntary lapses for recent terminations at most companies is felt to be very good as checks against the Social Security Master Death File or some other external database are performed regularly. However, the extent to which these checks have been performed on historical data varies. Therefore care should be taken in interpreting the results, especially by study year.

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

## ***Data Exposure***

The 2000 – 2016 persistency experience study data was 4.5 million policies exposed from 18 contributing companies, on both individually issued and group long-term care policies. Due to the implementation of data confidentiality rules, only individually issued policies are included in this study, as group business data was highly concentrated in a small number of companies.

Please note exposure is reported based on all submitted data where possible. Exposure is calculated on a total lives basis for lapse, mortality, and total termination rates. Total lives includes all lives, both off and on claim. The underlying policy data passed to LIMRA from MIB did not include the exact date of claim for HIPAA safe harbor purposes, so an active-only lives exposure methodology is not possible.

## ***Policy Lapse Rates***

For purposes of this report, lapse includes any termination not due to death or benefit expiry, including termination for nonpayment of premium, termination of the group, conversion, rate increase reasons including contingent non-forfeiture, other reasons, and terminations for unknown reason. This is consistent with the definition of lapse applied to other LIMRA and Society of Actuaries policy persistency studies and allows for better comparison of results over time.

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 or benefit expiry are not included in the amounts lapsing and contribute to exposure for only the fraction of the policy year they were in force.



### ***Policy Mortality Rates***

For purposes of this report, only policy terminations identified as deaths were included in policy mortality rate calculations.

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

Mortality improvements have not been applied as a part of this analysis.

### ***Actual-to-Expected Policy Mortality Rates***

Policy mortality rates are compared against the 2012 IAM (Individual Annuitant Mortality) age-nearest birthday table. The birthdate field was masked by MIB for HIPAA purposes, and as such, we were unable to re-calculate issue age on an age-nearest birthday basis to allow for consistency when comparing against the expected table. Issue age and attained age are, therefore, a mixture of age-last and age-nearest birthday.

### ***Policy Total Termination Rates***

For purposes of this report, all policy terminations except benefit expiries were included in policy total termination rate calculations. All terminations contribute exposure for the full 12 months of the policy year except terminations due to benefit expiry that contribute to exposure for only the fraction of the policy year they were in force.

# Definitions

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## ***Maximum Daily Limit***

The data format allowed policy benefits to vary by care setting. For simplicity, we assigned each policy one benefit amount and one benefit period where possible. For policies where benefits vary by care setting, the following fields were checked in order, and benefit information was assigned based on the first time non-zero information was found.

- 1) Overall Per Unit Maximum Benefit Amount (field 36)
- 2) Maximum Per Unit Benefit Amount for Nursing Home (field 42)
- 3) Maximum Per Unit Benefit Amount for Assisted Living (field 48)
- 4) Maximum Per Unit Benefit Amount for Home Health Care (field 54)

The per-unit maximum amount was then converted to a daily amount for consistency across all policies. Monthly per unit amounts were divided by 30, and yearly per unit amounts were divided by 360. The resulting field in the Tableau is called Max Daily Limit.

A very limited number of policies did not have any per unit benefit information and were dropped completely from the study. Policies for companies where the per unit benefit information was inconsistent with the benefit unit were assigned an unknown Max Daily Limit.

## ***Benefit Period***

The same hierarchal procedure as described for Max Daily Limit was applied to determine the policy benefit period. Non-lifetime benefit periods were then grouped together.

## ***Study Year***

The observation years in the study were calendar years 2000 to 2016. All calendar-year contributions were converted to policy year for analysis and any partial policy years were dropped. 2000 to 2016 calendar-year data combines to create a total of 16 possible complete policy years in this anniversary-to-anniversary study.

**Study year is defined as the policy year ending in the named calendar year.** For example Study Year 2001 is the first year in this study and covers experience from policy anniversary in 2000 to policy anniversary in 2001. Study Year 2016 is the final year in this study and covers experience from policy anniversary 2015 to policy anniversary 2016.

## ***Other Policy Variables in Tableau File***

Table 1 below details the other policy variables available in the Tableau file for analysis of the policy persistency experience.

**Table 1 — Variable Definitions**

Variable Name	Definition (based on data call format)
Benefit Type	Cash (1) Indemnity (2) Reimbursement (3) Unknown (0) Other (else)
Coverage Type	Nursing Home Only (1) HHC Only (2) Facility Only (5) Comprehensive (6) Unknown (0) Other (else)
Covered Sex	Female (1) Male (2) Unknown (else)
Inflation	None (1) GPO (2) Automatic (else not 0) Unknown (0)
Issue Age	Various
Issue Type	Individual (1, 2, 3, 4, 5, 9, 11)
Marital Discount	Two Insureds Discount (1) One Insured Discount (2) No Discount (3) Unknown (else)
Premium Class	Standard (1) Preferred (2) Substandard (3) Unknown (else)
Premium Payment Frequency	Annual (1) Semi-Annual (2) Quarterly (3) Monthly (4) Other (else not 0) Unknown (0)
Restoration Benefit	Yes (1) No (2) Unknown (else)
Tax Qualification	Tax Qualified (1,3) Non-Tax Qualified (2)
Max Daily Limit, Study Year, Benefit Period	Defined previously in Definitions section

# Participating Companies

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Ability Resources

Allianz Life

Bankers Life

Berkshire Life

Fortis

Genworth Financial

John Hancock

Knights of Columbus

Lincoln Benefit Life

MassMutual

MetLife

Mutual of Omaha

New York Life

Northwestern Mutual Life

Senior Health Insurance Company of Pennsylvania

Thrivent Financial

Transamerica

UNUM

### 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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