

SOCIETY OF ACTUARIES

Long Term Care  
Intercompany  
Experience Study –  
Policy Terminations  
Aggregate Databases  
2000-2011 Report



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**Caveat and Disclaimer**

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**Preface: Information added to the report subsequent to the July 2015 release**

**July 2015 Update:**

Labels for marital status were corrected for the LTC Voluntary Lapse Experience data base only:  
See new file: [LTC Voluntary Lapse Experience 2000-2011 revised.xlsx](#)

# Long Term Care Intercompany Experience Study – Policy Terminations Aggregate Databases 2000-2011 Report

## SECTION 1: ACKNOWLEDGEMENTS

The authors 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. Your contributions have led to this broad industry benchmark of the experience results for long term care policy termination assumptions.

A list of the participating companies is included in Section 4.

We would like to thank the SOA LTC Experience Committee and the SOA LTC Experience Committee Policy Terminations subgroup for their support, guidance, direction and feedback throughout the project.

The members of the LTC Experience Committee are:

- Sheryl Babcock
- Barry Koklefsky
- Susan Oberman Smith
- Eric Perry
- Eric Poirier
- Jon Prince (Chair)
- Steve Schoonveld
- Maureen Shaughnessy
- Bruce Stahl
- Kevin Waterman
- Perry Wiseblatt
- Bob Yee

The members of the LTC Policy Termination subgroup were Eric Poirier, Kevin Waterman, and Muz Waheed.

We would like to thank Cynthia MacDonald and Korrel Rosenberg from the SOA for their leadership and coordination of the project.

We would also like to thank Bruce Stahl, Kevin Waterman and Matthew Morton for their efforts in peer review of the policy terminations work.

## SECTION 2. BACKGROUND AND SCOPE

LIMRA assisted the Society of Actuaries (“SOA”) in a multi-phase project with an objective of creating a report of recent experience for long term care (“LTC”) business in the United States utilizing data gathered by the SOA from 22 LTC carriers in the industry, representing approximately 75 percent of the lives inforce.

Data was submitted for the study period 2000-2011 and industry experience databases were produced for incidence, claim termination, and claim utilization experience by Towers Watson. Aggregate databases for policy termination experience including voluntary lapse, mortality, and total termination experience were developed by LIMRA and are detailed in this report.

This document describes the approach taken to develop the aggregate databases for the voluntary lapse and mortality experience studies and provides definitions for each of the data elements included.

Note that the databases provided to the SOA in conjunction with this report have not been altered to adhere to any specific Safe Harbor Rule application for data confidentiality. However, care has been taken to ensure that data is presented in a way that would not allow an individual company’s experience to be identified.

This report and the associated data are intended to provide certain actuarial information and analyses that would assist a qualified professional in interpreting experience data and developing model assumptions for long term care products.

## SECTION 3. AGGREGATE DATABASE DESCRIPTIONS

Aggregate databases of voluntary lapse, mortality, and total termination experience were developed from the data provided by qualifying Participants.

The development of the voluntary lapse, mortality, and total termination experience databases are discussed separately below. The aggregate databases can be found in the following files located on the SOA website:

- LTC Voluntary Lapse Experience 2000-2011.xlsx
- LTC Mortality Experience 2000-2011.xlsx
- LTC Total Termination Experience 2000-2011.xlsx

These databases cover individual policies only. A limited number of companies provided data on group contracts and those will be treated separately at a later date if credibility allows.

### 3.1 VOLUNTARY LAPSE AGGREGATE DATABASE

The following data elements were identified by the LTC Experience Committee as potentially important factors in explaining LTC industry voluntary lapse results.

#### Key Data Elements Requested for Voluntary Lapse Study Inclusion

- Issue Date – date the policy was issued
- Gender – gender of the primary insured
- Coverage Type (Comprehensive, Nursing Home Only, Assisted Living Only, Home Health Care Only, Other)
- Date of Birth – date of birth of the primary insured
- Benefit period - benefit period for specified coverage type (the longest benefit period among the care types is used for comprehensive plans)
- Elimination Period – elimination period for coverage type (the longest elimination period among the care types is used for comprehensive plans)
- Policy Termination Cause – this field provides an indicator of the policy termination cause for contracts that terminated during the study period:
  - Termination due to contract holder death
  - Termination due to non payment of premium
  - Conversion (does not include reduced paid up benefits)
  - Termination of a group
  - Termination due to expiration of benefits
  - Termination for other reasons
  - Termination for unknown reason
- Policy Termination Date – date the policy terminated or blank for inforce
- Marital Status - indicates whether the insured was married at the time the contract was issued
- Marital Discount - indicates whether a discount for marital status was applied when the policy was issued
- Inflation Protection Provision – level and type of inflation protection, if any
- Premium Payment Frequency – indicates whether the contract holder makes monthly, quarterly, semiannual, annual payments of premium
- Billing Type - indicates how billing is done, direct bill, payroll deduction, monthly credit card deduction, monthly automatic pay

Of the 22 companies that submitted data, 20 companies satisfied all of the criteria for inclusion and are included in the aggregate voluntary lapse database.

These 20 participants were included because they were able to provide all or most of the key data items above and were able to identify deaths separately from other causes of termination as defined above. The voluntary lapse study includes over 35 million years of total life exposure and 1 million voluntary lapses for the Participants whose data qualified.

The Calculations section below describes how the data was used to develop voluntary lapse rates.

Appendix A provides a description of those data elements that are made available in the aggregate database for voluntary lapse activity.

### **Calculations**

The voluntary lapse rates are calculated as the number of voluntary lapses divided by exposure. For voluntary lapse, exposure is based on an active lives definition. This means that only active lives not on claim are included in the exposure and lapse counts.

Exposure is calculated as the fraction of the year that a policy is exposed to voluntary lapse. For the year in which a voluntary lapse occurs exposure is equal to 1.

Historically, it has been difficult to produce separate industry level experience studies of voluntary lapse and mortality experience. This is because the majority of LTC contracts do not have a cash surrender value and therefore many companies have not found an efficient way to track the distinction between a death and a termination due to nonpayment of premium. Several Participants indicated that in recent years they have put procedures in place (including performing Social Security death file checks on a regular basis) to better identify deaths from lapses. However the death file data is not considered completely accurate. In addition, there are variations in the scheduled Social Security checks and the timing for conducting them across participating companies.

For this reason, as part of the analysis work for this report, two definitions of voluntary lapse were examined.

The 20 companies included in the analysis were categorized into “Definition 1” companies and “Definition 2” companies based on the number of terminations categorized as “Termination for Unknown Reason” and “Termination for Other Reason”. All 20 companies are included in Definition 1 experience results and only the 10 companies with less than 25 percent of their total terminations coded as “Termination for Unknown Reason” and “Termination for Other Reason” categories were included in Definition 2 experience results. The “Termination for Unknown Reason” and “Termination for Other Reason” categories were treated as voluntary lapses in both definitions, while the deaths, conversions, and expiration of benefits were not. Policies moving to reduced paid up status were not identified as terminations and are therefore not included in the voluntary lapse count. There are differences in practice by company as to whether reduced paid up contracts are included in the voluntary lapse count and we would recommend this data be collected for future studies.

#### Definition 1

This definition is intended to include the largest number of Participants based on a review of each company’s ability to specifically categorize terminations by cause.

For this definition, a company was included in the voluntary lapse experience provided the company was able to identify deaths separately from the following other causes of termination:

- Terminations due to unknown reason
- Terminations for Non Payment of Premium
- Terminations for Other Reasons

#### Definition 2

For this definition, a company was included in the voluntary lapse experience **provided the company was able to identify deaths separately from the following other causes of termination AND the “Unknown Termination Cause” and “Terminated for Other Reasons” categories below represented less than 25% of total reported terminations:**

- Unknown Termination Cause
- Non Payment of Premium
- Terminated for Other Reasons

### 3.2 MORTALITY AGGREGATE DATABASE

To develop the mortality experience, the following data elements were identified by the LTC Experience Committee as critical to the determination of industry mortality results or as a potential key risk factor by which mortality rates vary.

#### Critical Data Elements for the Mortality Study

- Issue Date – date the policy was issued
- Gender – gender of the primary insured
- Date of Birth – date of birth of the primary insured
- Policy Termination Cause – this field provides an indicator of the policy termination cause for contracts that terminated during the study period:
  - Termination due to contract holder death
  - Termination due to non payment of premium
  - Conversion (does not include reduced paid up benefits)
  - Termination of a group
  - Termination due to expiration of benefits
  - Termination for other reasons
  - Termination for unknown reason
- Premium Class – risk class assigned at issue – preferred, standard, or substandard
- Marital Status - indicates whether the insured was married at the time the contract was issued

Of the 22 Participants, 17 companies satisfied all the criteria for inclusion in the study and are included in the aggregate database.

The Calculations section below describes how the data was used to develop mortality rates.

Appendix B provides a description of those data elements that are made available in the aggregate database for mortality.

The mortality study includes nearly 24 million years of total life exposure and over 270,000 deaths for the Participants whose data qualified.

Although certain risk factors, such as attained age and gender, are critical to setting mortality assumptions, the aggregate database includes a more expansive list of policy and benefit characteristics by which experience can be measured.

#### **Calculations**

Mortality rates were calculated as the number of deaths divided by exposure.

Exposure for mortality is calculated on a total lives basis including all policies whether or not the insured is on claim. This approach was taken in order to provide for consistency with the work done by the American Academy of Actuaries LTC Working Group in 2014 using data from previous studies.

Exposure is calculated as the fraction of the year that an insured is exposed to death. For the year in which a death occurs exposure is equal to 1.

Actual to expected mortality ratios were compared across several different industry standard mortality tables including:

- 1994 GAM (Group Annuity Mortality)
- 2012 IAM (Individual Annuity Mortality – Durational Table)
- RP 2014 Pension Annuity Table
- 2008 Individual Life Insurance Basic Tables (SM/NS, ultimate rates)
- 2014 Draft Individual Life Insurance Basic Tables (SM/NS, ultimate rates)

- General Population Mortality – based on Social Security Administration Mortality Data (through experience year 2008)

The 2012 IAM was found to be the closest overall fit to LTC mortality experience for data collected for this study and ratios get closer to 100 percent with increasing attained age. Therefore, the aggregate database includes actual to expected values based on the 2012 IAM.

Mortality improvements have not been applied as part of this analysis. Policies issued with underwriting type equal to “guaranteed issue” or “simplified issue” are not included in this analysis.

### 3.3 TOTAL TERMINATIONS AGGREGATE DATABASE

To develop the total terminations experience, the key data elements are those included for both voluntary lapse and for mortality as shown above.

Of the 22 Participants, 20 companies satisfied the criteria for inclusion in the aggregate database for total termination experience.

The *Calculations* section below describes how the data was used to develop total termination rates.

*Appendix C* provides a description of those data elements that are made available in the aggregate database for total terminations.

#### **Calculations**

Total termination rates were calculated as the total number of terminations due to from all causes divided by exposure.

Exposure for total termination is calculated on a total lives basis including all policies whether or not the insured is on claim.

Exposure is calculated as the fraction of the year that an insured is exposed to termination. For the year in which a termination occurs exposure is equal to 1.

## SECTION 4. RELIANCES AND LIMITATIONS

In developing this report, LIMRA relied upon data and information supplied by the SOA and the Participants both in writing and in discussions. For each Participant this information includes, but is not limited to:

- Data submission for policy termination experience
- Responses to LIMRA validation spreadsheets sent to individual companies by SOA
- Responses to questions on phone discussions

## SECTION 5. PARTICIPATING COMPANIES

- Allianz
- Berkshire Life
- CalPERS
- Continental Casualty (CNA)
- Fortis
- Genworth Financial
- John Hancock
- Lincoln Benefit Life
- Mass Mutual
- MetLife
- Mutual of Omaha
- United of Omaha
- New York Life Insurance Company
- Northwestern Mutual
- Penn Treaty
- Prudential
- Senior Health
- State Farm
- Thrivent AAL
- Thrivent LB
- Transamerica-Aegon
- UNUM

## APPENDIX A - DATA DEFINITIONS – VOLUNTARY LAPSE

Below is a description of the data included in the voluntary lapse aggregate database:

- ObservationYear: Experience year of the study (study year).
- Gender: Male or female.
- Issage\_Group: Age of policyholder when the policy became effective.
- Attage\_Group: Age of policyholder in the observation year.
- Polyr: Policy duration in years.
- Marital\_Stat: Policyholder marital status at policy issue.
- EPdays\_Grp: For contracts with the elimination period expressed in days, elimination period of the contract
- PremFreq\_Grp: Number of premium payments made by the contract holder per year.
- Infl\_Covg\_Grp: Inflation rider of the policy grouped into inflation, guaranteed purchase option, none and unknown.
- RateInc\_Descr: Indicates whether or not this policy has had a rate increase during the observation period of the study (2000-2011). Does not specify when or magnitude of the rate increase.

## APPENDIX B - DATA DEFINITIONS – MORTALITY

Below is a description of the data included in the mortality database:

- ObservationYear: Experience year of the study (study year).
- Gender: Male or female.
- Age: Attained age of policyholder in the Observation Year.
- Polyr: Policy duration in years.
- Marital\_Status: Policyholder marital status at policy issue.
- Risk\_Class: Underwriting class as identified by the company. Includes preferred, standard, and substandard.
- Infl\_Covg\_Desc: Inflation rider of the policy grouped into inflation, guaranteed purchase option, none and unknown.

## APPENDIX C- DATA DEFINITIONS – TOTAL TERMINATION

Below is a description of the data included in the total terminations database:

- ObservationYear: Experience year of the study (study year).
- Gender: Male or female.
- Polyr: Policy duration in years.
- Marital\_Status: Policyholder marital status at policy issue.
- Issage\_Group: Age of policyholder when the policy became effective.
- Attage\_Group: Age of policyholder in the observation year.
- EPdays\_Grp: For contracts with the elimination period expressed in days, elimination period of the contract
- PremFreq\_Grp: Number of premium payments made by the contract holder per year.
- Infl\_Covg\_Grp: Inflation rider of the policy grouped into inflation, guaranteed purchase option, none and unknown.
- RateInc\_Descr: Indicates whether or not this policy has had a rate increase during the observation period of the study (2000-2011). Does not specify when or magnitude of the rate increase.