

HEALTH ACTUARIAL (B) TASK FORCE

Health Actuarial (B) Task Force Aug. 11, 2026, Minutes

Health Actuarial (B) Task Force April 20, 2026, Minutes (Attachment One)

Health Knowledge Statement (Attachment One-A)

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Draft Pending Adoption

Draft: 8/17/26

Health Actuarial (B) Task Force
Columbus, Ohio
August 11, 2026

The Health Actuarial (B) Task Force met in Columbus, OH, Aug. 11, 2026. The following Task Force members participated: Anita G. Fox, Chair, represented by Kevin Dyke (MI); Jon Pike, Vice Chair, represented by Ryan Jubber (UT); Mark Fowler represented by Sanjeev Chaudhuri (AL); Peter M. Fuimaono represented by Edward S. Lotulelei (AS); Ricardo Lara represented by Ahmad Kamil (CA); Joshua Hershman represented by Tricia Davé (CT); Karima M. Woods represented by Stephen Flick (DC); Scott Saiki represented by Kathleen Nakasone (HI); Dean L. Cameron represented by Weston Trexler (ID); Ann Gillespie represented by Shannon Whalen (IL); Holly W. Lambert represented by Scott Shover (IN); Vicki Schmidt represented by Nicole Boyd (KS); Timothy N. Schott represented by Marti Hooper (ME); Julia Dreier represented by David Nelson (MN); Angela L. Nelson represented by William Leung (MO); Jon Godfread represented by Colton Storseth (ND); Eric Dunning represented by Michael Muldoon (NE); Susan Ochs represented by David Wolf (NJ); Ned Gaines represented by Maile Campbell (NV); Judith L. French represented by Craig Kalman (OH); Carter Lawrence represented by Eric Scott (TN); Amanda Crawford represented by R. Michael Markham (TX); Scott A. White represented by Tim Connell (VA); Patty Kuderer represented by Rocky Patterson (WA); and Erin K. Hunter represented by Joylynn Fix (WV).

1. Adopted its April 20 and Spring National Meeting Minutes

Dyke said the Task Force met April 20. During this meeting, the Task Force took the following action: 1) adopted the incorporation of reference to the health knowledge statements into the Health Annual Statement Instructions as a requirement for actuaries signing the Statement of Actuarial Opinion (SAO) for the health annual statement blank.

Trexler made a motion, seconded by Leung, to adopt the Task Force's April 20 (Attachment One) and March 22 (see *NAIC Proceedings – Spring 2026, Health Actuarial (B) Task Force*) minutes. The motion passed unanimously.

2. Adopted the Report of the Long-Term Care Actuarial (B) Working Group

Dyke said the Long-Term Care Actuarial (B) Working Group met Aug. 5, July 14, and May 27. During these meetings, the Working Group took the following action: 1) heard an industry presentation on hybrid life/long-term care insurance (LTCI) product features and pricing; and 2) exposed proposed LTCI lapse and mortality tables for a 45-day public comment period ending July 14. Dyke said the Working Group received one comment letter in response to the exposure and will meet soon to discuss and consider adoption of the proposed tables. He said the Working Group may need to determine whether any areas of the *Valuation Manual* require changes to accommodate hybrid product reserving features.

Leung made a motion, seconded by Trexler, to adopt the report of the Long-Term Care Actuarial (B) Working Group, including its Aug. 5 (Attachment Two), July 14 (Attachment Two-A), and May 27 (Attachment Two-B) minutes. The motion passed unanimously.

3. Discussed its 2026 Work Plan

Dyke said the Task Force has completed work related to the incorporation of the health knowledge statements into the Health Annual Statement instructions. He said the proposed revisions to the instructions have been forwarded to the Blanks (E) Working Group for consideration. Dyke said relative to its charge to provide support for issues related to implementation of, and/or changes to, the federal Affordable Care Act (ACA), the Task Force

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actively monitors ACA-related developments and analyzes reports from the American Academy of Actuaries (Academy), the Society of Actuaries (SOA), and the federal Center for Consumer Information and Insurer Oversight (CCIIO).

Dyke said in addition to the items from the report earlier of the Long-Term Care Actuarial (B) Working Group, the Working Group and the Task Force continue to monitor the LTCI Multistate Rate Review process for submitted filings and to identify any changes to the LTCI Multistate Rate Review Framework (LTCI MSA Framework) that may be needed. He said the Working Group and the Task Force continue to monitor developments with the SOA Research Institute's LTCI experience study.

4. Heard an Update from the CCIIO

Peter Nelson (CCIIO) said the *City of Columbus v. Kennedy II* lawsuit stayed several provisions that had been put forward in the 2027 Notice of Benefit and Payment Parameters (NBPP). He said the two provisions of the stay that are most critical to address are those disallowing flexibility on maximum out-of-pocket (MOOP) amounts and the requirement that standardized plans be offered, along with limits on the number of nonstandardized plans that can be offered. He said the CCIIO published guidance on standardized and nonstandardized plan options on Aug. 4. He said the CCIIO expects that issuers will need to price those standardized plans and may want to reprice the remaining nonstandardized plans.

Nelson said the CCIIO recognizes that issuers and state insurance regulators will be working on a compressed timeline, and it has extended the deadline for issuers to finalize changes to their 2027 Qualified Health Plan (QHP) applications from Aug. 12 to Aug. 20. Nelson said the deadline for federally facilitated exchanges (FFE) and state-based exchanges (SBEs) using the federal platform to finalize determinations for QHP rate filings has been extended from Aug. 12 to Aug. 28. He said SBE states continue to have until Oct. 15 to finalize QHP and non-QHP rate-filing determinations. He said that even with these extensions, regulators and issuers may face practical difficulties: They may lack the necessary time and resources to comply with the requirements of these deadlines, or they may have concerns about market destabilization. Nelson said states that believe they will be unable to meet these timelines should e-mail the federal Centers for Medicaid & Medicare Services (CMS) by Aug. 14 with concerns and include a description of good faith compliance efforts.

Nelson said the 2027 NBPP included requirements that actual amounts spent by issuers on cost-sharing reductions (CSRs) from plan year 2025 be entered into the Unified Rate Review Template (URRT). He said there is no stay on this policy. He said the requirement includes reporting any CSR load factor that will be applied for plan year 2027, recoveries from the plan year 2025 CSR load, and expected recoveries from the plan year 2027 CSR load. He said that the CCIIO expected issuers to be able to comply with the CSR requirements this year, but it has received feedback that about 75% of issuers are not prepared to provide actual CSR amounts. He said for this year, the CCIIO is exercising enforcement discretion on the regulation and is allowing estimates of actual spending to be provided. Nelson said next year, the CCIIO expects issuers to provide the actual dollar amount for CSRs. Nelson said when the CCIIO sets rates, it looks at actual spending across plans and then makes projections based on prior spending.

Nelson said the CMS issued a proposed rule on July 23 that implements Section 71115 of the Working Families Tax Cut Act, which amended the indirect hold-harmless threshold for health care-related taxes. He said currently, the threshold for a state's collection of tax revenues generally is no more than 6% of net patient revenue attributable to the assessed permissible class of health care items or services. He said this limits how much states and localities may collect in taxes without penalty. He said Section 71115 generally sets a threshold equal to the applicable percent of net patient revenue attributable to taxes enacted and imposed as of July 4, 2025, and includes a phase-down of those thresholds in most permissible classes for Medicaid expansion states. He said he recognizes that there may be questions about the proposed rule, particularly regarding the proposed new

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permissible class for health insurers' services and the rule's downstream impacts. He said state departments of insurance (DOIs) have expertise on state-specific statutes, assessment structures, insurance products, and regulatory frameworks. He said that given this expertise, he encourages comments on this rule.

Dyke asked for clarification of the deadline for URRT submission and the deadline for the final rate transfer. Rebecca Lund (CCIIO) said states have until Aug. 28 to finalize determinations for rate filings in the System for Electronic Rates and Forms Filing (SERFF). She said issuers will still need to submit a rates table template by the Aug. 20 deadline, but that does not require the URRT to be finalized. She said states will then have until Aug. 28 to finalize the rate filing determination. She said that if a state's review of the URRT necessitates changes to the rates table template submitted by Aug. 20, the issuer will need to submit a data change request to the CCIIO plan management team, and that correction will be made during the September modification window.

5. Heard an Academy Professionalism Update

Tricia Matson (Academy), Linda Lankowski (Academy), Laura Hanson (Academy), and April Choi (Academy) gave an update (Attachment Three) on the Academy's Committee on Qualifications (COQ) and Actuarial Standards Board (ASB) activity related to revisions to current Actuarial Standards of Practice (ASOPs) and the development of new ASOPs, as well as Actuarial Board for Counseling and Discipline (ABCD) activities and publications.

Lankowski said there have been many questions raised about the language that is currently in place in the U.S. Qualification Standards (USQS), and the COQ is considering the use of better language and what would help clarify intent. She said artificial intelligence (AI) has been used in reviews and has pointed out things that were thought to be clear but could be interpreted differently.

Hanson said there are three ASOPs currently under revision, and they apply to actuaries in all practice areas. She said ASOP No. 1, *Introductory Standard of Practice*, is being revised to further standardize the guidance for actuaries when performing actuarial services. She said the ASB plans to expose a draft of ASOP No.1 for public comment in early 2027. She said ASOP No. 12, *Risk Classification (for All Practice Areas)*, is being revised to reflect appropriate actuarial practice.

Hanson said 57 comment letters were received after the first exposure, and an ASB task force is currently making revisions in response to those comments. She said the ASB reviewed progress on ASOP No. 12 during its June meeting and plans to review again during its December meeting. She said the ASB plans to expose the second draft of ASOP No. 12 for public comment in early 2027.

Hanson said ASOP No. 41, *Actuarial Communications*, is being revised to reflect appropriate actuarial practice with a focus on when an actuary should issue an actuarial report. She said a third exposure draft was exposed for public comment earlier this year, and an ASB task force is currently making revisions in response to those comments. She said the ASB plans to review ASOP No. 41 during its September meeting and will consider adopting a final version at that time. Hanson said that if adopted, the revisions to ASOP No. 41 would go into effect in early 2027.

Hanson said several health ASOPs are currently being revised or developed. She said ASOP No. 8, *Regulatory Filings for Health Benefits, Accident and Health Insurance, and Entities Providing Health Benefits*, is being revised to provide guidance for a broader array of health benefit plans. She said the work on this ASOP is in its very early stages, so it should be a while before the first draft is exposed for public comment. She said ASOP No. 45, *The Use of Health Status Based Risk Adjustment Methodologies*, is being revised to reflect developments in risk practices, including the expanded use of nonlinear models and new data sources. She said ASOP No. 49, *Medicaid Managed Care Capitation Rate Development and Certification*, is being revised with a focus on incorporating both regulator and managed care organization perspectives. She said both ASOP No. 45 and ASOP No. 49 currently have drafts out for public comment, with comments due Sept. 1.

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Hanson said ASOP No. 50, *Determining Minimum Value and Actuarial Value under the Affordable Care Act*, is being revised to provide guidance on the minimum value determination and actuarial certification for nonstandard plan designs that are not currently in scope of the standard. She said a new ASOP on reinsurance pricing is being developed that applies to actuaries' pricing of risk transfer transactions involving long-duration health benefit plans. She said a second draft of this new ASOP on reinsurance pricing is currently exposed for public comment, with comments due Oct. 15. She said that revisions to ASOP No. 7, *Life or Health Cash Flow Analysis*, have been adopted, and the revised ASOP went into effect June 1.

Choi said the ABCD has two primary functions: 1) respond to actuaries' requests for guidance on professionalism; and 2) consider complaints about possible violations of the Code of Professional Conduct.

6. Heard an Update from the Academy Health Practice Council

Annette James (Academy) and Julia Lerche (Academy) gave a presentation (Attachment Four) on recent and upcoming Academy Health Practice Council (HPC) activities.

James said HPC Vice Chair and incoming Vice President of Health Susan Pantely recently testified before the Texas House Select Committee as a member of a panel on health care affordability. James said since many of today's challenges cross traditional practice area boundaries, the HPC continues to collaborate with other actuarial practice areas. She said the glucagon-like peptide-1 (GLP-1) policy paper the HPC is developing focuses on GLP-1 medications and explores the cost considerations, potential for savings offsets, stakeholder dynamics, and health equity concerns associated with GLP-1 medication coverage.

Lerche said the HPC will begin its summer planning soon and is seeking input from state insurance regulators on items that the HPC should prioritize for next year.

Having no further business, the Health Actuarial (B) Task Force adjourned.

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Health Actuarial (B) Task Force
Virtual Meeting
April 20, 2026

The Health Actuarial (B) Task Force met April 20, 2026. The following Task Force members participated: Anita G. Fox, Chair, represented by Kevin Dyke (MI); Jon Pike, Vice Chair, represented by Ryan Jubber (UT); Mark Fowler represented by Sanjeev Chaudhuri (AL); Joshua Hershman represented by Tricia Davé (CT); Michael Yaworsky represented by Kyle Collins (FL); Dean L. Cameron represented by Shannon Hohl (ID); Ann Gillespie represented by Shannon Whalen (IL); Holly W. Lambert represented by Scott Shover (IN); Angela L. Nelson represented by Chris Murrah (MO); Eric Dunning represented by Margaret Otto (NE); Susan Ochs represented by Seong-min Eom (NJ); Ned Gaines represented by Maile Campbell (NV); Judith L. French represented by Laura Miller (OH); Carter Lawrence represented by Eric Scott (TN); Amanda Crawford represented by R. Michael Markham (TX); Scott A. White represented by Tim Connell (VA); Patty Kuderer represented by Rocky Patterson (WA); and Allan L. McVey represented by Joylynn Fix (WV).

1. Adopted the Health Knowledge Statements

Dyke said the development of the health knowledge statements began in late 2024 in response to changes to the Society of Actuaries (SOA) Fellowship education syllabus. He said the Task Force worked with the American Academy of Actuaries (Academy) to develop a set of health knowledge statements, which were exposed for public comment with a deadline for comments of Oct. 31, 2024. Dyke said the health knowledge statements (Attachment One-A) were again exposed for public comment with a comment deadline of March 23, 2026. He said no comments were received, and one question for clarification was received.

Dyke said the Task Force's next step is to consider incorporating the health knowledge statements into the Health Annual Statement Instructions as a requirement for actuaries signing the Statement of Actuarial Opinion (SAO) for the health annual statement blank.

Fix made a motion, seconded by Miller, to adopt the incorporation of reference to the health knowledge statements into the Health Annual Statement Instructions as a requirement for actuaries signing the SAO for the health annual statement blank. The motion passed unanimously.

Having no further business, the Health Actuarial (B) Task Force adjourned.

Knowledge Statements for Appointed Actuary for Health Blank

These knowledge statements apply to the Appointed Actuary for Health and apply to the Health Annual Statement, also known as the Health Blank or Orange Blank.

These knowledge statements apply to the Appointed Actuary signing the Actuarial Opinion to the extent that the filed blank includes the item listed in the Knowledge Statement. As best practice, the Appointed Actuary is encouraged to keep records of the relevant knowledge statements and how they have met these knowledge statements.

This is intended to be a living document that may be updated as new products and features are introduced.

As stated within the Health Blank instructions, the requirements for an actuary to qualify as the Appointed Actuary and be permitted to sign the Actuarial Opinion are that the actuary must be “a member in good standing of the American Academy of Actuaries, or a person recognized by the American Academy of Actuaries as qualified for such actuarial valuation.” Being a member in good standing implies, among other things, that an actuary adheres to the “Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States” (USQS).

The USQS were revised from prior editions of the qualification standards and therefore specifically apply to actuaries issuing Statements of Actuarial Opinion (SAOs) starting on January 1, 2023. Furthermore, such actuaries need to meet the continuing education (CE) requirements before issuing any SAOs.

Section 2.1 of the [USQS](#) specifies the Basic Education and Experience Requirements, stating that an actuary should have achieved the following:

- Through education or mutual recognition, received a Fellow or Associate designation from either the Society of Actuaries (SOA) or the Casualty Actuarial Society (CAS), or be a member of the American Academy of Actuaries (Academy) through its approval process. It is important to note that this would most likely be the SOA for an actuary issuing an opinion related to the Health/Orange Blank.
- Three years of responsible actuarial experience, which is defined as work that requires knowledge and skill in solving actuarial problems.
- Be knowledgeable, through education or documented professional development, of
 1. U.S. Law, including statutes, regulations, judicial decisions, and other statements having legally binding authority, applicable to the SAO, and
 2. U.S. actuarial practices and principles.
- Have either
 1. Obtained Fellowship in the CAS or SOA. In addition to obtaining this fellowship, the actuary must:
 - i. Have completed education relevant to the subject of the SAO. Such education may have been obtained in attaining the fellowship designation or highest possible designation of a non-U.S. actuarial organization, or by

- completing additional education relevant to the subject of the SAO; or
- ii. Have a minimum of one year of responsible actuarial experience in the particular subject relevant to the SAO, under the review of an actuary who was qualified to issue the SAO at the time the review took place under the USQS in effect at the time.

OR

- 2. Have a minimum of three years of responsible actuarial experience in the particular subject relevant to the SAO under the review of an actuary who was qualified to issue the SAO at the time the review took place under the USQS in effect at that time.

Section 3. of the [USQS](#) specifies the Specific Qualification Standards beyond those required to satisfy the General or Basic Education and Experience requirements. For issuing Health SAOs, this includes examinations administered by either the Academy, CAS, or SOA covering

- a) Principles of insurance and underwriting;
- b) Principles of ratemaking;
- c) Statutory insurance accounting and expense analysis;
- d) Premium, loss, expense and contingency reserves; and
- e) Social insurance.

Alternatively, this education may be acquired through responsible work or self-study if another qualified actuary familiar with the work is willing to attest to the knowledge of the opining actuary. To meet the experience requirement, an actuary is required to have at least three years of responsible experience relevant to the Opinion under the review of another actuary who was qualified to issue the Opinion at the time the review took place.

Principles of Insurance and Underwriting

- 1. **Insurable Risk Concepts:** Comprehensive knowledge of the dynamic between moral hazard and insurable risks, including recognizing the increased risks associated with moral hazards as insurable risks diminish.
- 2. **Health Insurance Products:** Comprehensive knowledge of various health insurance products and their unique features, including:
 - Medical Insurance: Individual, small group, large group, self-funded, Medicare Advantage, Medicare Part D, Medicare Supplement, Managed Medicaid, and short-term medical plans.
 - Dental and Vision Insurance: Characteristics and coverage details.
 - Group Term Life and AD&D Insurance: Key aspects and insurance parameters.
 - Disability Insurance: Short-term, individual, and long-term disability insurance.
 - Long-Term Care Insurance: Coverage scope and policy features.
 - Specialized Health Insurance: Cancer/critical illness and hospital indemnity insurance.
- 3. **Distribution Methods:** Comprehensive knowledge of distribution channels for each type of coverage.

4. **Underwriting Processes:** Comprehensive knowledge of underwriting procedures for each coverage type and strategies to address selection risks.
5. **Behavioral Underwriting Factors:** Comprehensive knowledge of behavioral underwriting factors, such as the following:
 - Effects of network and coverage limitations.
 - Impact of healthy lifestyle incentives on consumer choices.
 - The correlation between individual choices and funding sources.
6. **Seasonal Claim Patterns:** Comprehensive knowledge of seasonal claim patterns, including recognizing and analyzing seasonal trends in claim incidences for different products.

Principles of Ratemaking

1. **Premium Rate Components:** Understanding the constituents of premium rates, including benefit costs, expenses, and risk charges.
2. **Medical Insurance Contract Elements:** Comprehensive knowledge of medical insurance contracts including risk assumption, provider network access, care management/wellness programs, and claims management/adjudication.
3. **Risk Levels of Different Products:** Expertise in evaluating risk for diverse products, including self-funded plans, dental/vision plans, retrospective experience rated plans, fully insured plans, specific and aggregate stop loss, disability insurance, and long-term care (LTC) coverage.
4. **Renewal Rate Change Rules:** Understanding renewal rate change regulations for each product.
5. **Rating Restrictions:** Understanding the rating limitations for products such as those under the Patient Protection and Affordable Care Act (ACA).
6. **Risk Adjustment in ACA and Medicare Advantage:** Understanding the impact of risk adjustment on premium amounts and payment timings, including risk adjustment data validation (RADV) issues.

Statutory Insurance Accounting and Expense Analysis

1. **Statutory Accounting Principles:** Comprehensive knowledge of statutory accounting principles and guidance sources.
2. **Statutory Accounting Blanks and SSAPs:** Understanding statutory accounting blanks and associated Statements of Statutory Accounting Principles (SSAPs).
3. **Conservatism in Financial Statements:** Understanding the treatment of conservatism in statutory financial statements.
4. **Reserves vs. Liabilities:** Distinguishing between reserves and liabilities (*e.g., what is included in Underwriting and Investment Exhibit Part 2A vs. Part 2D*).
5. **Covered and Uncovered Expenses/Liabilities:** Understanding the differences and implications.
6. **Reinsurance:** Comprehensive knowledge of reinsurance in statutory accounting, including issues related to risk transfer.
7. **Expenses:** Comprehensive knowledge of expense components, such as claim adjustment expenses and variable versus fixed costs.
8. **Appointed Actuary Requirements:** Understanding the appointed actuary's roles and

responsibilities.

9. **Actuarial Opinion and Memorandum Components:** Understanding the different types of opinions, prescribed language, and scope.
10. **Timing of Actuarial Opinions and Memorandums:** Understanding the appropriate timing for these documents.
11. **Risk-Based Capital (RBC) Formula Elements:** Comprehensive knowledge of the components of the risk-based capital formula and its regulatory impacts.
12. **Testing of Prior Period Liabilities and Assets:** Expertise in evaluating the accuracy and adequacy of prior period liabilities and actuarial assets.

Premium, Loss, Expense, and Contingency Reserves (and Actuarial Assets)

1. **Premium Reserves:** Understanding assets and liabilities typically found in health products, calculation methods, and their documentation. Premium reserves include items such as:
 - Due and uncollected premium
 - Premium paid in advance
 - Unearned premium
 - Gross premium reserves, including prescribed assumptions
 - Retrospective premium receivable or payable (receivables under contracts subject to redetermination)
 - Risk adjustment receivable or payable
 - Minimum loss ratio (MLR) refund liability
 - Risk corridor assets and liabilities
2. **Loss Reserves:** Expertise in calculating loss reserves, including segmentation and consideration of various factors affecting reserves. Loss reserves include items such as:
 - Unpaid claim reserves and liabilities, including segmentation into not reported, in course of settlement, due and unpaid, and present value of amounts not yet due.
 - Contract reserves, including prescribed assumptions.
 - Provider assets and liabilities, including the types of contractual provisions that give rise to such assets/liabilities.
 - Reserves for future contingent benefits.
3. **Claim Adjustment Expense Liability:** Expertise in determining claim adjustment expense liabilities.
4. **Premium Deficiency Reserves:** Expertise in calculating premium deficiency reserves (PDR) and reserves for insufficient administrative fees for self-insured contracts, including considerations for grouping, projection time periods, expense reallocation, treatment of investment income, and tax implications.
5. **Asset Adequacy Analysis:** Expertise in conducting asset adequacy analysis and determining additional reserve requirements.

6. **Capitations and Provider Insolvency Risks:** Understanding capitations and the associated risks of provider insolvency.
7. **Other Actuarial Assets:** Expertise in estimating and documenting other actuarial assets specific to health insurance products. Other actuarial assets include items such as:
 - Provider risk sharing receivables
 - Loans and advances to providers
 - Capitation arrangement receivables
 - Pharmacy rebate receivables
 - Claim overpayment receivables

Social Insurance

1. **Medicare Program:** Comprehensive knowledge of the components, coverages, and funding mechanisms of the Medicare program.
2. **Medicaid and CHIP:** Comprehensive knowledge of Medicaid and the Children's Health Insurance Program (CHIP), including their components, coverages, and funding.
3. **Disability Insurance and Social Security:** Understanding the components and coverages of the Disability Insurance (DI) portion of Social Security and its interactions with other disability income coverages.

Professionalism and Business Skills

The Appointed Actuary must have professional and business skills to enable the Appointed Actuary to perform the required actuarial services in an ethical manner that upholds the reputation of the actuarial profession. The Appointed Actuary must know and adhere to the Code of Professional Conduct, as well as relevant ASOPs and must meet the USQS. The Appointed Actuary must have the professional and business skills to manage the tasks, make informed decisions, communicate effectively with users of the actuary's work products, resolve disagreements, and seek guidance as necessary.

2. **Code of Conduct:** Familiarity with the Code of Conduct and its application in professional scenarios.
3. **US Qualification Standards:** Profound understanding of the USQS.
4. **Actuarial Standards of Practice (ASOPs) and Applicability:** Mastery of applicable ASOPs and guidelines for their application. The actuary should refer to the Academy's Applicability Guidelines to determine applicable ASOPs.
5. **Documentation:** Understanding the importance of documentation of work as discussed in many ASOPs and as required by the Laws and Regulations applicable to the SAO.

In addition to these knowledge statements, Section 2.1.c of the USQS requires the actuary to be knowledgeable of the U.S. law applicable to the SAO. For a health blank actuarial opinion signed by the Appointed Actuary, this would include knowledge of:

- Health Insurance Reserves Model Regulation.
- NAIC Health Reserve Guidance Manual.

- NAIC Annual Statement Instructions, specifically as it relates to Health and the SAO.
- Applicable provisions of Health Insurance Portability and Accountability Act (HIPAA)
- Applicable SSAPs including:
 - SSAP 54
 - SSAP 55
 - SSAP 84
- Individual state laws and regulations applicable to the actuarial opinion and assets and liabilities within the scope of the opinion.
- Other applicable laws and regulations related to specific products referenced in the specific SAO.

Familiarity with the relevant Practice Notes from the Academy is also a valuable component of professionalism.

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Long-Term Care Actuarial (B) Working Group
E-Vote
August 5, 2026

The Long-Term Care Actuarial (B) Working Group of the Health Actuarial (B) Task Force conducted an e-vote that concluded Aug. 5. The following Working Group members participated: Fred Andersen, Chair (MN); David Yetter, Vice Chair (NC); Sarah Bailey (AK); Sanjeev Chaudhuri (AL); Thomas Reedy (CA); Sean Brady (CO); Tricia Davé (CT); Stephen Flick (DC); Lilyan Worlund (FL); Weston Trexler (ID); Scott Shover (IN); Nicole Boyd (KS); Marti Hooper (ME); Kevin Dyke (MI); William Leung (MO); Margaret Otto (NE); Jennifer Li (NH); Neil Gerritt (NY); Craig Kalman (OH); Andy Schallhorn (OK); Timothy Hinkel (OR); Jim Lavery (PA); R. Michael Markham (TX); Tomasz Serbinowski (UT); and Joylynn Fix (WV).

1. Adopted its July 14 and May 27 Minutes

The Working Group conducted an e-vote to consider adoption of its July 14 and May 27 minutes. During these meetings, the Working Group took the following action: 1) heard a presentation on hybrid long-term care insurance (LTCI) products; and 2) exposed proposed mortality and lapse tables for a 45-day public comment period ending July 14.

A majority of the members voted in favor of adopting the Working Group's July 14 (Attachment Two-A) and May 27 (Attachment Two-B) minutes. The motion passed.

Having no further business, the Long-Term Care Actuarial (B) Working Group adjourned.

Draft: 7/29/26

Long-Term Care Actuarial (B) Working Group
Virtual Meeting
July 14, 2026

The Long-Term Care Actuarial (B) Working Group of the Health Actuarial (B) Task Force met July 14, 2026. The following Working Group members participated: Fred Andersen, Chair (MN); David Yetter, Vice Chair (NC); Sarah Bailey (AK); Sanjeev Chaudhuri (AL); Lisa Luo (CA); Sean Brady (CO); Tricia Davé (CT); Stephen Flick (DC); Scott Shover (IN); Nicole Boyd (KS); Marti Hooper (ME); Kevin Dyke (MI); William Leung (MO); Margaret Otto (NE); Jennifer Li (NH); Neil Gerritt (NY); Craig Kalman (OH); Andy Schallhorn (OK); Jim Lavery (PA); Carol Lo (TX); Tomasz Serbinowski (UT); and Joylynn Fix (WV).

1. Heard a Presentation on Hybrid LTCI Products

Paul Lombardo (PSL Consulting), Adam Bezman (Trustmark), Doug Krupa (Transamerica), and Robert Eaton (Milliman) gave a presentation (Attachment Two-A1) providing an overview of product features and pricing of hybrid combination life/long-term care insurance (LTCI) products. Eaton said there was a peak in stand-alone LTCI sales around 2005. He said that the market has gone from one with hundreds of thousands of policies sold annually to a market in 2015 where the stand-alone LTCI product is less commonly sold than hybrid life/LTCI products. He said that the comparatively larger number of stand-alone LTCI policies sold in 2021 can be partially attributed to the effects of the requirements of the WA Cares Fund, Washington's mandatory, state-run LTCI program. Eaton said the policy counts shown on the Growth of Hybrid LTC Products slide do not include life policies with no-fee chronic illness acceleration riders. He said the counts represent life products with an LTCI component that has an additional premium for the benefit.

Krupa said an advantage of hybrid life/LTCI products is that they offer protection at different stages of a policyholder's life, providing life insurance coverage during younger years and long-term care (LTC) coverage in later years. He said another advantage is that there is less of a "use it or lose it" perception than for life-only products, where policyholders may feel that they have received no benefit from the policy if the insured does not die. He said this flexibility has helped increase sales of hybrid products.

Bezman said group hybrid products are attractive to employers because they allow them to offer permanent life insurance that complements term life coverage. He said another benefit to the employer is the ability to offer LTCI coverage on a guaranteed issue basis, rather than offering stand-alone group LTCI, which requires underwriting. Bezman said that LTCI can help protect employees' retirement savings if an event requiring LTC services occurs. He said an option available in the group market but not seen in the individual market is permanent term life insurance with an LTCI component. He said permanent term life insurance is designed to offer life insurance coverage for the insured's lifetime. Bezman said these products, unlike whole life insurance, do not have a cash value component.

Bezman said acceleration of benefits riders does not create much extra risk for the insurer, as it is expected that a policyholder receiving LTC benefits is likely to die soon after the LTC benefits go into effect. He said extension of benefits riders adds to the LTC benefit so it lasts beyond the standard acceleration period. He said a restoration of the benefit rider restores some or all of the original death benefit after an acceleration of the death benefit for LTC services. Bezman said the premium associated with the LTCI component for hybrid products is typically between 15% and 40% of the total premium.

Krupa said in the individual market, there is a great deal of flexibility in LTCI rider benefit options. He said the total death benefit that can be accelerated to pay LTC benefits can vary, as can the portion of the available benefit that can be accelerated each month. Krupa said inflation of the available benefit is also an option. He said the relative affordability of hybrid products compared to stand-alone LTCI makes them more attractive to younger consumers. He said the average issue age for hybrid products is about 10 years younger than that for stand-alone LTCI.

Krupa said benefit triggers for hybrid products are generally the same as for stand-alone LTCI products, such as the inability to perform at least two of six activities of daily living (ADLs) or the presence of significant cognitive impairment, with annual recertification required for continued benefit payment. He said waiting periods for benefit payment apply, with 90-day waiting periods being the most common. Krupa said some carriers offer a residual death benefit option, which pays a final expense benefit in the event acceleration of benefits has exhausted the original death benefit amount.

Eaton said the consideration of mortality for hybrid products is more complex than for life insurance only, as the mortality for the life insurance component for active lives differs from that of disabled lives that are receiving LTC benefits. He said the integration of life and LTCI components in hybrid products provides greater predictability and price stability than that of stand-alone LTCI. He said that the policyholder's ability to decide when and how much of the available death benefit can be accelerated for LTC needs is a factor in how hybrid products are priced. He said that many hybrid products' LTCI component is noncancelable, with premiums that cannot increase, unlike most stand-alone LTCI policies, which are guaranteed renewable and can have premium increases.

Serbinowski asked if the premium structure for permanent term life is like whole life, where it is expected to be level, or like a term product, where premiums increase with attained age. Bezman said it is like whole life, where premiums are designed to be level over the length of the policy.

Andersen asked whether it is fair to think of the stand-alone LTCI policies as being less expensive but more volatile and the hybrid products as being more expensive but less volatile when considering pricing rate increases. Bezman said he thinks this is accurate, and Eaton said he thinks this is generally correct. Andersen asked whether the pricing assumptions, such as mortality and lapse for hybrid products, tend to fall more in line with life insurance assumptions or stand-alone LTCI assumptions. Eaton said this depends on the market in which the product is sold. He said if it is sold on a voluntary basis in the worksite market, the mortality assumption is similar to other voluntarily sold permanent life insurance policies. Eaton said if it instead is sold in the retail market, and full underwriting is being done, mortality might be more similar to that seen in the traditional stand-alone LTCI market.

Andersen asked if pricing in the hybrid market is currently aggressive and competitive or if it is more conservative. Eaton said he thinks the pricing is appropriate and would not call it aggressive or conservative, and that reserves are set with conservative assumptions. Andersen asked if there are any reasons to change any statutes or rules based on the products that are being sold today or that can be anticipated to be sold in the next few years. Eaton said that the *Valuation Manual* addresses certain life insurance assumptions but does not focus as much on LTCI assumptions. He said that it would be good to consider whether there are gaps in the *Valuation Manual* related to hybrid products. Krupa said he wants to give more thought to this issue and will respond to the question in the future. Eaton said some thought should be given to whether the 5% inflation protection requirement for stand-alone LTCI policies is also applicable to the LTCI component of hybrid policies.

Having no further business, the Long-Term Care Actuarial (B) Working Group adjourned.



Comprehensive coverage combining life and long-term care benefits

Hybrid Combo Life / LTC Product Overview

Overview

Key Presentation Features

Focus on product mechanics, pricing assumptions, and risk considerations of hybrid LTC policies.

Hybrid Product Purpose

Hybrid products combine life insurance with long-term care benefits for dual financial protection.

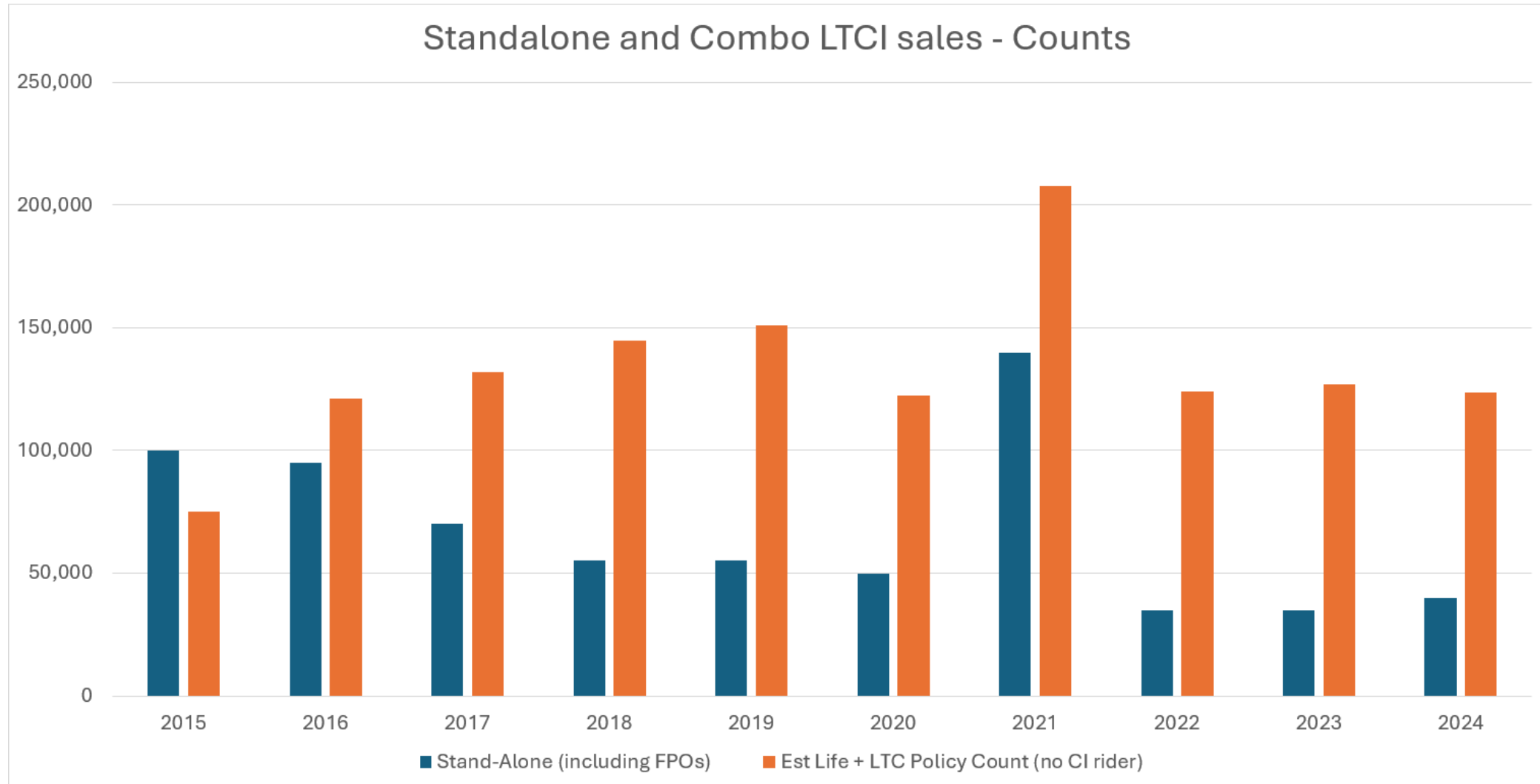
Market Evolution

The market is evolving with growing demand for products that address both death benefits and care needs.

Stakeholder Benefits

Hybrid policies broaden consumer choices and serve as practical alternatives to standalone LTC coverage.

Growth of Hybrid LTC Products



Data collected from LIMRA and Milliman's Broker World LTC Survey

Sales counts for combination products represent life insurance policies with LTC riders that charge additional premium, and not \$0 ("no cost") riders

Growth of Hybrid LTC Products Cont'd

Shift to Hybrid Products

The insurance market is shifting towards hybrid LTC products due to consumer demand for flexible, value-driven coverage.

Benefits Not Use or Lose

Hybrid products offer the possibility of life insurance or long-term care benefits and address rising premiums and rate increase concerns faced by standalone LTC insurance.

Growth in Market and Employer Adoption

Sales growth of hybrid products outpaces standalone policies, with employers increasingly adopting them in group benefits.



Structure and Features of Hybrid Products

Life Insurance Frameworks

Hybrid products combine life insurance types with added long-term care riders or integrated features.

Benefit Access Mechanisms

- Acceleration of death benefits,
- Restoration of previously accelerated death benefits and/or
- Extension of benefits

Dual-Purpose Value

Products ensure financial benefit for policyholders or beneficiaries whether LTC is needed or not.



Differences in Buyer Segments

Group Market Characteristics

Employers select benefits and coverage, simplifying purchasing but limiting employee customization and flexibility.

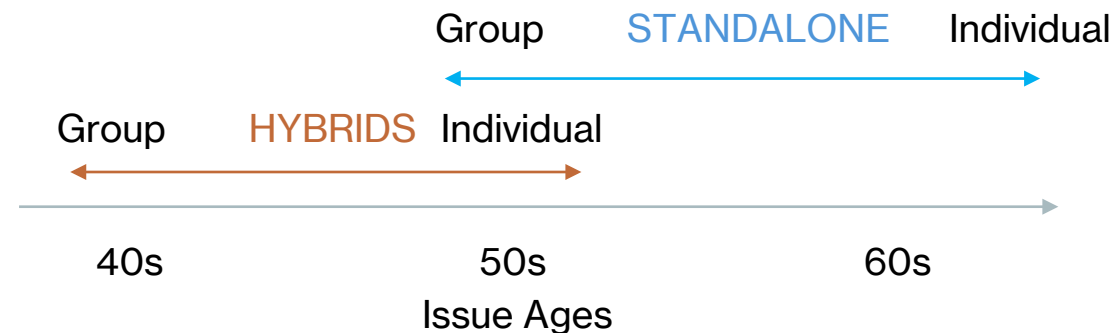
Individual Market Flexibility

Individual buyers control policy specifics including options like inflation protection for greater customization.

Expanding Access via Hybrids

Hybrid solutions increase LTC coverage access among younger and working populations, bridging gaps in traditional markets.

Issue Age Ranges



How Benefits Are Triggered

Eligibility Criteria

LTC benefits start when an individual cannot perform required activities of daily living or shows cognitive impairment.

Benefit Payment Options

Benefits may be paid as fixed indemnity, reimbursement for expenses, or flexible cash benefits to suit policyholder needs.

Policy Features and Flexibility

Policies may include benefit caps, duration limits, inflation protection, and restoration of previously accelerated death benefit provisions to support diverse needs.



Key Pricing Drivers

Mortality and Morbidity

Mortality reflects life expectancy while morbidity estimates long-term care needs and costs.

Voluntary Lapse Rates

Voluntary lapse rates measure how often policyholders discontinue their coverage prematurely.

Interest Rate Impact

Prevailing interest rates affect investment returns on premiums, influencing pricing stability.

Integrated Pricing Stability

Hybrid products combine life and long-term care risks for balanced pricing and greater predictability.

Comparison with Standalone LTC

Risk Profiles Differ

Hybrid products combine mortality and morbidity risks, unlike standalone LTC which focuses only on long-term care risks.

Premium Stability

Life insurance benefits in hybrids help stabilize pricing and reduce chances of premium hikes compared to standalone LTC.

Consumer Clarity

Hybrid policies offer clearer premium structures, making them easier for consumers to understand.

Diversified Risk Environment

Combining life and LTC benefits creates a more manageable risk environment, appealing to insurers and consumers alike.



Key Takeaways

Balanced Protection and Flexibility

Hybrid life and long-term care products combine protection with flexibility to meet diverse insurance needs.

Risk Offsetting Advantage

Offsetting mortality and morbidity risks improve pricing stability compared to standalone long-term care policies.

Broadened Buyer Profile

Hybrid products attract younger buyers, expanding access to long-term care coverage.

Complementary Coverage Options

Hybrids complement standalone long-term care insurance, expanding consumer choice and coverage options.



FAQs

Premium Increases Over Time

If premiums are not guaranteed, premium increases will typically apply only to the long-term care portion of the hybrid product, affecting policy affordability over time.

Policy Cancellation and Renewal

Whether policies are non-cancellable or guaranteed renewable impacts future cost certainty for buyers.

Rate Increase Determinations

Insurer methodologies for rate increases may differ between group and individual hybrid life/LTC policies.

Expected Loss Ratios

Expected loss ratios indicate the portion of premiums anticipated to be paid out in LTC claims, guiding financial risk assessment.

Group Term Life Availability

An LTC benefit on a group term life product can help protect younger workers from potentially catastrophic LTC events.

Draft: 6/13/26

Long-Term Care Actuarial (B) Working Group
Virtual Meeting
May 27, 2026

The Long-Term Care Actuarial (B) Working Group of the Health Actuarial (B) Task Force met May 27, 2026. The following Working Group members participated: Fred Andersen, Chair (MN); David Yetter, Vice Chair (NC); Sarah S. Bailey (AK); Lisa Luo (CA); Sean Brady (CO); Tricia Davé (CT); Stephen Flick (DC); Lilyan Worlund (FL); Scott Shover (IN); Nicole Boyd (KS); Marti Hooper (ME); Kevin Dyke (MI); William Leung (MO); Margaret Otto (NE); Jennifer Li (NH); William B. Carmello (NY); Craig Kalman (OH); Andy Schallhorn (OK); R. Michael Markham (TX); Tomasz Serbinowski (UT); and Joylynn Fix (WV).

1. Exposed Proposed Mortality and Lapse Tables

Andersen presented a long-term care insurance (LTCI) mortality and lapse study (Attachment Two-B1) by the American Academy of Actuaries (Academy) and the Society of Actuaries (SOA) Research Institute that includes proposed lapse and mortality valuation tables. These tables are being considered as replacements for outdated tables currently in *Valuation Manual* (VM)-25, Health Insurance Reserves Minimum Reserve Requirements. The new tables will only apply to newly issued standalone LTCI business.

Andersen said that, for mortality, many actuaries have observed, through work on valuation, pricing, and rate increases, that LTCI mortality resembles annuity mortality more than life insurance mortality. Under current valuation standards, the table used is over 30 years old, and the proposed table will be an update that reflects the more recent annuity mortality shown in the 2012 Individual Annuity Mortality Table. In valuation, pricing, and rate increase work, actuaries have observed lapses decline over time and, in many cases, fall below 1% annually at later policy durations.

Andersen said the Academy/SOA study used data from companies that separated deaths from lapses, and the data appears credible and consistent with what actuaries are observing throughout the industry. For the mortality study, the predictive variables used include age, risk class, and benefit limits. Both data and judgment were used to focus on the factors with the greatest impact. For mortality, a 10% margin was used that would grade to 0% at very high ages. The base mortality rates would be in line with the 2012 Individual Annuity Mortality Table, and a mortality improvement factor would be applied, consistent with observations and conservatism.

Andersen said the lapse data show a continued decline in lapse rates, as observed in prior studies. The study used policy duration, premium status, age, and underwriting as key predictive factors. Margins were provided to ensure appropriate applicability for a majority of companies. The recommended individual lapse rates vary by duration, issue age, marital status, and risk class. Andersen said the proposed group lapse table is similar to the individual table, but places greater emphasis on lower issue ages. This reflects the tendency for individual coverage to be purchased at higher issue ages than group coverage.

Andersen said the Working Group will expose the Academy/SOA report and tables for 45-day public comment ending July 14. He said during the exposure period, the Working Group can analyze the numbers and the analysis that went into the development of the tables for a future discussion. Another topic for discussion can be whether adoption of new tables is actually needed given the small number of companies currently selling standalone LTCI and the fact that *Actuarial Guideline LI—The Application of Asset Adequacy Testing to Long-Term Care Insurance Reserves* (AG 51) has been in effect for several years and is applicable in many more cases because AG 51 applies

to existing business in addition to new business, whereas these new tables would only apply to new business. Andersen believes that having the new tables makes sense because they are more accurate.

2. Discussed Presentations on Pricing Hybrid LTCI Products

Andersen said the Working Group plans to offer one or more presentations on the pricing of hybrid LTCI products in the near future. He said initially this will involve hybrid life/LTCI products and may eventually include hybrid annuity/LTCI or other products. Andersen said the Working Group, in coordination with the Health Insurance and Managed Care (B) Committee, the Senior Issues (B) Task Force, and the Health Actuarial (B) Task Force, determined that discussion of policy and actuarial issues regarding these products would be useful. The Senior Issues (B) Task Force will continue to focus on policy issues, and the Working Group will focus on pricing issues. Andersen said he has been in contact with the industry, and within the next couple of months, the Working Group will meet to hear a presentation from subject matter experts, who will provide background on these products and general pricing practices, such as accelerated death benefits, extension of benefits, and restoration of benefits.

Having no further business, the Long-Term Care Actuarial (B) Working Group adjourned.



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Long-Term Care Insurance Mortality and Lapse Study

November 2021

Developed by the Long-Term Care Valuation Work Group
of the American Academy of Actuaries
and the Society of Actuaries Research Institute

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I. INTRODUCTION

On May 5, 2016, the Long-Term Care Valuation (B) Work Group of National Association of Insurance Commissioners' (NAIC's) Health Actuarial (B) Task Force's Long-Term Care Actuarial Working Group (LTCAWG) requested recommendations from the American Academy of Actuaries (Academy)¹ and the Society of Actuaries Research Institute (SOA)² to replace the mortality and lapse bases for statutory minimum reserves. A copy of the request is included in Appendix 1 to this report.

The Academy and SOA created a Long-Term Care Valuation Work Group (Work Group) to address the request. The Work Group is chaired by Warren Jones, the Mortality Subgroup is led by Bruce Stahl, and the Lapse Subgroup is led by Bob Yee. The Work Group has provided regular updates to the LTCAWG at national meetings and provided opportunities for the LTCAWG members to ask questions regarding the work in progress.

This report presents the recommended lapse tables in Appendix 3, and recommended mortality tables in Appendix 4, and describes the methodology and process in developing these tables.

¹ The American Academy of Actuaries is a 19,500-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 years, the Academy has assisted public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

² Serving as the research arm of the Society of Actuaries, the SOA Research Institute provides objective, data-driven research bringing together tried and true practices and future-focused approaches to address societal challenges and business needs. The Institute provides trusted knowledge, extensive experience and new technologies to actuaries, employers, regulators, research funders and the public, to help them effectively identify, predict and manage risks.

II. BACKGROUND

The minimum statutory reserve basis for long-term care (LTC) insurance is documented in the NAIC Valuation Manual VM-25: Health Insurance Reserves Minimum Reserve Requirements. The mortality table specified for currently new issues is the 1994 Group Annuity Mortality (GAM) Table. The lapse rate specified is the lesser of $x\%$ of the voluntary lapse rate used in the calculation of gross premiums and $y\%$, where x and y vary by policy year:

For policy year one (1), x is 80% and y is 6%.

For policy years two (2) through four (4), x is 80% and y is 4%.

For policy years five (5) and later, x is 100% and y is 2%, except for group insurance, for which y is 3%.

Both the mortality and lapse bases for the minimum reserve requirements have been revised over the years with the changes to apply to new issues only. The mortality basis has been that for whole life insurance or payout annuities.

General Approach

Our charge is to develop recommended mortality and lapse tables for valuation on both a total-lives basis and an active-lives basis. This charge dictates the approach we have chosen to develop such tables.

Valuation tables are conservative in nature. A logical method is to develop basic tables based on experience first and then consider the margins to be added. Because the mortality and lapse tables would be used in combination, it is desirable for both tables to be as consistent as possible with respect to the data source and the factors that the tables vary by. The Work Group recognizes the likelihood of the under-reporting of death for healthy policyholders. Thus, the delineation between death and lapse is not always clear. Consistency in both data source and factors can facilitate the assessment of combined deaths and lapses for reasonableness checks.

Source of Data

The Work Group defined the base mortality table to be the 2012 Individual Annuity Mortality Table. Further, development of mortality margins and the lapse assumption is to be based on the recent SOA/LIMRA LTC Voluntary Lapse and Mortality Experience Study (the Study). It is comprised of experience data from 2000 through 2011 for 22 companies. From the aggregate data, we observed trends during the study period, especially for lapse. Accordingly, we selected the observation period 2008-2011 to reflect more recent trends. Furthermore, the Study identified certain participating companies with relatively more accurate data submitted. Data from 10 companies (Definition 2 [DEFN 2] companies) satisfied the following conditions:

1. Deaths are separately identified from lapses,
2. Unknown terminations are less than 25% of total terminations, and
3. Performed matching with Social Security death records within the previous three years from the date of submission.

Apart from some preliminary comparisons between DEFN 2 data and the full dataset, we further restricted our data to these DEFN 2 companies. We compared our tabulated lapse counts and exposures with the published summary data from the SOA. We concluded that our data is reasonably representative of corresponding summary data from the Study. The DEFN 2 companies represent approximately 70% of the industry experience for the exposure period used.

The following table shows the summary statistics of the DEFN 2 subset of data:

Table 1. DEFN 2 Exposures

	Total Lives ³		Active Lives	
	Counts	Exposure Years	Counts	Exposure Years
Mortality—Individual	142,647	9.4MM	95,474	9.0MM
Lapse—Individual⁴	197,000	9.4MM	197,000	9.0MM
Lapse—Group⁵	302,000	4.9MM	302,000	4.8MM

³ The mortality was derived using individual mortality and tested using both individual and group data. Also, the figures in this line include 19,599 deaths from “Substandard” and “Unknown” risk classes that do not appear in the “Death Count Totals” table later in this report.

⁴ The lapse count is the same for Total Lives and Active Lives as the immaterial number of disabled life lapses that were ignored.

⁵ Ibid.

III. MORTALITY

Purpose and Scope

The Mortality Subgroup worked to identify reasonable mortality tables to be used in setting statutory reserves for individual LTCI policies, either as a particular set of tables or as guidance that the NAIC could expect from insurers.

The Work Group further recognized that the NAIC allows principle-based reserving for life insurance and that, therefore, the NAIC may be interested in guidance for a similar approach with LTCI mortality. Guidance for principle-based reserving may be of particular interest when considering marital status and underwriting risk classes.

When setting mortality assumptions in accordance with actuarial standards of practice (ASOPs) for LTC (e.g., ASOP 18⁶), it is appropriate to consider the effects of both selection and class of applicants on expected mortality experience (section 3.2.2). Consequently, in addition to other potential mortality rate differentiators, the analysis considered risk class and marital status, representing both selection and class of applicants.

Data Quality

Addressing data quality under ASOP 23, *Data Quality*,⁷ the Work Group relied upon the Society of Actuaries' Intercompany Study from 2015 to make sure the data was "clean" and as uniform as possible for complex and diverse data that came from 10 insurance companies.

The Work Group sought to follow the ASOP on credibility procedures (ASOP 25⁸) in its work. Industry data is more relevant than general population data for two reasons. First, the selection process when issuing LTCI, from both the applicants' and the insurers' perspectives, may result in the insured population being a low mortality subset of the general population. Second, a mortality study of this nature requires consideration of numerous cells of data. The number of deaths in a given cell may or may not be credible. Looking at data from multiple insurers increases the number of cells that are credible.

⁶ Actuarial Standards Board; Actuarial Standard of Practice No. 18, *Long-Term Care Insurance*; May 2011.

⁷ Actuarial Standards Board; Actuarial Standard of Practice No. 23, *Data Quality*; December 2016.

⁸ Actuarial Standards Board; Actuarial Standard of Practice No. 25, *Credibility Procedures*; December 2013.

To assess data credibility with respect to rate development, it is a common practice to consider 1,082 or more counts in a particular cell in Tables 2 and 3 below to be fully credible.⁹ It is also typical to assign a lower count number to annotate partial credibility for a cell. For example, a minimum count of 271 can be considered as partially credible.¹⁰ Using 271 deaths as a measure, the majority of the cells in Table 2 below can be considered as partially credible.

Table 2. Death Counts (Total Lives) By Sex, Risk Class, Attained Age, and Marital Status

Attained Age	Female: Preferred Risk			Female: Standard Risk			Male: Preferred Risk			Male: Standard Risk		
	Married	Single	Total	Married	Single	Total	Married	Single	Total	Married	Single	Total
Under 60	217	113	330	373	184	557	180	69	249	384	113	497
60-64	393	194	587	708	357	1,065	407	106	513	887	192	1,079
65-69	670	346	1,016	1,329	839	2,168	795	177	972	1,720	425	2,145
70-74	1,022	716	1,738	2,402	1,670	4,072	1,375	370	1,745	3,331	934	4,265
75	270	252	522	650	520	1,170	414	115	529	938	293	1,231
76	266	288	554	717	562	1,279	454	148	602	1,112	332	1,444
77	272	296	568	786	675	1,461	515	132	647	1,167	342	1,509
78	243	304	547	868	779	1,647	485	190	675	1,261	460	1,721
79	330	415	745	937	904	1,841	527	163	690	1,436	520	1,956
80	304	442	746	951	999	1,950	527	186	713	1,426	594	2,020
81	313	459	772	984	1,129	2,113	542	169	711	1,541	652	2,193
82	338	509	847	999	1,224	2,223	527	218	745	1,534	666	2,200
83	337	591	928	1,008	1,290	2,298	546	228	774	1,557	748	2,305
84	307	602	909	925	1,345	2,270	526	208	734	1,549	762	2,311
85	344	694	1,038	954	1,395	2,349	515	241	756	1,451	735	2,186
86	316	757	1,073	868	1,506	2,374	487	276	763	1,460	756	2,216
87	308	727	1,035	791	1,520	2,311	434	254	688	1,302	799	2,101
88	258	803	1,061	725	1,452	2,177	397	208	605	1,184	733	1,917
89	248	745	993	624	1,362	1,986	356	198	554	964	589	1,553
90-94	590	2,605	3,195	1,543	4,483	6,026	943	625	1,568	2,467	1,911	4,378
95 and over	112	914	1,026	266	1,542	1,808	199	171	370	360	463	823
Total	7,458	12,772	20,230	19,408	25,737	45,145	11,151	4,452	15,603	29,031	13,019	42,050

⁹ Full credibility means that there is a 90% probability that the observed rate is within 5% of the true underlying result. Some practitioners would accept as low as 200 data points as minimally credible (approximately 40% partial credibility).

¹⁰ Corresponding to 1,082 as full credibility, 271 counts means that there is a 90% probability that the observed rate is within 10% of the true underlying rate.

Table 3. Active Life Death Counts

Death Counts (Active Lives)			
Attained Age	Female	Male	Total
Under 60	1,029	978	2,007
60-64	1,829	1,890	3,719
65-69	3,325	3,460	6,785
70-74	5,367	6,001	11,368
75	1,425	1,631	3,056
76	1,502	1,859	3,361
77	1,607	1,916	3,523
78	1,765	2,082	3,847
79	2,032	2,324	4,356
80	2,077	2,277	4,354
81	2,079	2,388	4,467
82	2,173	2,400	4,573
83	2,219	2,465	4,684
84	2,133	2,399	4,532
85	2,163	2,273	4,436
86	2,162	2,204	4,366
87	2,061	2,036	4,097
88	1,932	1,848	3,780
89	1,720	1,402	3,122
90-94	5,052	3,946	8,998
95 and over	1,336	707	2,043
Total	46,988	48,486	95,474

As important as using multiple contributors is to enhance credibility, using multiple contributors also compromises the uniformity of the data and, in that sense, reduces the credibility. For example, the study identified marital status based in part on the presence of a spouse discount,¹¹ and some insurers apply a spouse discount based on the legal status of being married alone, while others require both spouses to apply for coverage, and still others require both spouses to be issued policies. Similarly, the data recorded whether policies were preferred, standard, or substandard risks,¹² but each insurer defines the health

¹¹ The study variable “marital status” is based on a combination of the data fields “marital status at issue” and “marital discount.” In the case where marital status at issue was provided, that field was used. For approximately 43% of the policies submitted for the study, marital status at issue was not provided. For 37% of the policies, the marital status at issue was not provided but the marital discount was provided (and was used to define the study marital status variable for those policies). For the remaining policies (approximately 20%), neither marital status at issue nor marital discount were provided; these cases were coded as marital status = “unknown.”

¹² The SOA study defined the risk class using “Premium Class” as “The class in which the policy was issued relative to the base policy.” If an underwriting discount or load was given, then preferred or substandard was provided by the company. The data provided did not permit aligning across companies.

status of the risk in different ways following its own particular underwriting guidelines. The NAIC may want to address this lack of homogeneity when determining what mortality table standards to set for statutory reserves.

The Work Group also chose to rely on statistical metrics to identify the significance of the variables associated with each policy. The statistical metrics help to identify interactions among the variables, allowing the Work Group to minimize the number of parameters needed for setting mortality tables. They also help to identify which variables the NAIC may want each insurer to consider more closely when setting reserves for LTCI, using the information as guidance.

When setting tables using the statistically identified variables, the Work Group employed smoothing techniques that generated reasonable outcomes. Part of the analysis involved an iterative smoothing process. At younger and older ages where data was sparse, we used the slope of the 2012 Individual Annuity Mortality Basic tables (2012 IAM) as a guide.

Before converting the smoothed tables as guidance for deriving the valuation tables, the Work Group decided to apply mortality improvement to recognize that LTC insured mortality has likely improved since the time of the experience period 2008–2011. A separate section on mortality improvement is provided below.

A valuation table is expected to be conservative; for longevity risks such as with LTCI, “conservative” means using lower mortality than expected. Past annuity tables have essentially used mortality rates that are 90% of the experience, with modifications for very old ages beyond 100. The Work Group recommended using the 90% factor once again and capping the mortality of the valuation table at 0.400, which generally limits the mortality at very old ages. A large majority of insurers’ actual mortality experience exceeded this proposed mortality factor.

The Work Group does not think the NAIC should ignore marital status and risk class because, despite the lack of homogeneity in the definitions, these variables still proved to be influential in the prediction of the actual mortality.

The Work Group does not necessarily think the NAIC should use marital status and risk class without any consideration for specific insurer definitions and practices. As stated previously, insurers treat these differently, and, while these items had a high statistical significance, the effect of these items will likely vary according to the definition followed or practices used by each insurer.

The Work Group did not have the data necessary to identify the specific values for each marital status definition or risk class identification. Therefore, adjusting for these variables may not be practical without the NAIC granting individual companies the ability to justify how their mortality might appropriately vary from the findings identified in this report. If the NAIC allowed individual insurers to justify such differences, each insurer could easily add margin by applying a similar conservative factor of 90% to the mortality rates that it identifies.

Methods

Issue Ages

The data was consistent with measuring age as age last birthday (ALB). No tables are offered to convert the findings to age nearest birthday (ANB).

Exposures

For policyholders who died within a particular period, the Work Group chose to use the full exposure, meaning the count of lives at the beginning of the period being measured; for everyone else, the Work Group chose to use the exact (daily) exposure (for example, a policy that lapsed three months into its policy year was treated as having one-fourth of an exposure year for that particular year). This method of calculating exposure is consistent with the Balducci Hypothesis, which essentially assumes mortality rates decrease during the exposure period. As a reminder, the Balducci assumption may have distortions when the mortality rates are relatively high and credibility is low. Please see “Experience Study Calculations” written by David Atkinson and John McGarry on behalf of the SOA. Please also note that the manner used to derive mortality rates in this study relied heavily on the 2012 IAM slope at very old ages where the lack of credibility is of greatest concern (the method is described later). The 2012 IAM study also used the Balducci method and smoothing.

Predictive Variables

LIMRA developed a statistical Generalized Linear Model and other statistical methods to identify variables that had the greatest significance in explaining the mortality experience and might be most appropriate for use in projecting future experience.

Initially, the analysis recognized nine variables: sex, attained age, policy year, coverage type (whether nursing home only, home health care only, comprehensive, or other), an indicator for the presence of an automatic increasing benefit, an indicator that the policy has had a rate increase, the underwriting risk class (Preferred, Standard, or Substandard), marital status, and an indicator for whether the policy had an unlimited maximum benefit period.

Some factors were represented by multiple indicator variables. For example, Premium Risk Class was represented by three indicators. (For Table 4, we identified the highest Wald Chi-Square value from the group of indicators.)

Table 4 shows a measure of the significance of the variables under a Poisson distribution and is generally representative of other measures. Under other distributions, the factor “Gender” had greater statistical significance yet, even here, we deemed the significance to be strong.

Table 4. Significant Covariates Using Poisson Distribution

Significant Covariates	
Factor	Wald Chi-Square
Age	7,838
Premium Risk Class	5,508
Lifetime Maximum (Limited or Unlimited)	3,851
Coverage Type	2,336
Marital Status (presence of spouse discount)	1,605
Premium Rate Increase	276
Policy Year	110
Gender	6
Automatic Increasing Benefit Maximums	0

For example, using the standard Chi-squared test in the Poisson distribution, most of the factors had a probability of being statistically significant at over 0.9999. Gender had a probability of being statistically significant at 0.9884, compared to the Automatic Increasing Benefit Maximum at only 0.2639.

The factors (variables) were selected based on (1) those that had a high rate of responses (some variables had a relatively high number of missing values), (2) those that had a material influence on the mortality (sometimes a variable appeared to be statistically significant but only trivially altered the mortality rate), and (3) those that were not redundant (not statistically correlated with other factors). Such analysis reduced the initial nine to five: sex, age, policy year, underwriting risk class, and marital status. (Age can be identified either at issue age or attained age because the presence of policy year correlates the two age measurements.).

The findings, therefore, provide tables that include the five predictive variables. For two of the variables—underwriting class and marital status—the underlying data is not homogeneous by contributing company because contributing insurers derive or define these differently, and presumably the differences for some insurers could be larger for some than others. The findings provide a set of tables that offer the option to exclude underwriting risk class and marital status. The NAIC may want to consider the optionality of these two variables.

Development of Tables

The Work Group noticed that the selection period in the data appeared to be about 20 years, and that the number of deaths in policy years 21 and over was not very credible. The Work Group, consisting primarily of LTCI actuaries, then relied heavily upon Susan Willeat, an actuary from RGA with many years of experience in deriving mortality tables. She initially identified a set of ultimate tables prior to identifying selection factors. She increased the number of deaths from policy years 15 to 20 to estimate the ultimate mortality, and she did so iteratively in order to find a good fit. Starting with an increase of anywhere between 2% and 4%, she narrowed the annualized increases to an average of 3%. Therefore, the death counts from policy year 15 were increased by a factor of 1.03^6 in order to identify the number of deaths expected without any value from initial underwriting. She adjusted the death counts for policy years 16 through 20 in a similar manner. For example, she increased death counts from policy year 19 by a factor of 1.03^2 , and from policy year 20 by a factor of 1.03.

Willeat used the ultimate rates for quinquennial age bands to improve credibility. This result required a 1.02 overall “true-up” factor to match the actual experience. The Work Group then identified a trend line by applying Gompertz’s law (mortality increases exponentially) through the Excel GROWTH function. This resulted in a pattern for ages 60 to 89 (in five-year age bands) that the Work Group considered to be materially inconsistent with the actual data, so the Work Group modified the approach to find two suitable trend lines. Then, the Work Group followed through with applying selection factors and calculated final actual to expected factors. The female actual data had only a small departure from ages 75 to 79, while the male actual data had a major departure that the Work Group deemed unusable. The Work Group decided to apply the female ratios to the male data in order to get a better fit.

Next, the Work Group graduated the curves for ages 60 to 89 using the Karup-King six-point graduation technique and then extended the table to younger and older ages using the slope of the 2012 IAM as a guide. Initially, the Work Group tried to set the expected mortality rates at younger ages using 90% of the 2012 IAM, but iteratively found that 100% for males and 120% for females appeared to be a better fit to the actual data. For older ages, the Work Group floored the Karup-King results at 107% of the 2012 IAM for males and 101% for females. See Figures 1 and 2 below.

Figure 1. Male Ultimate Mortality Rates, Age Last Birthday

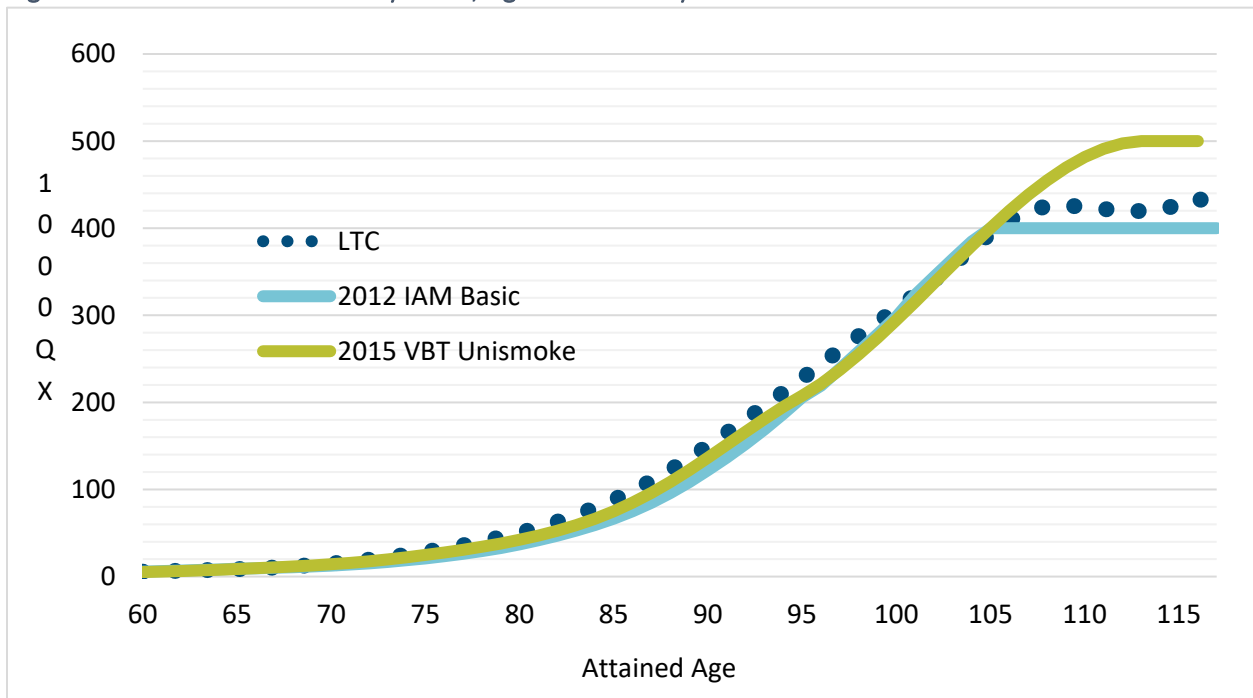
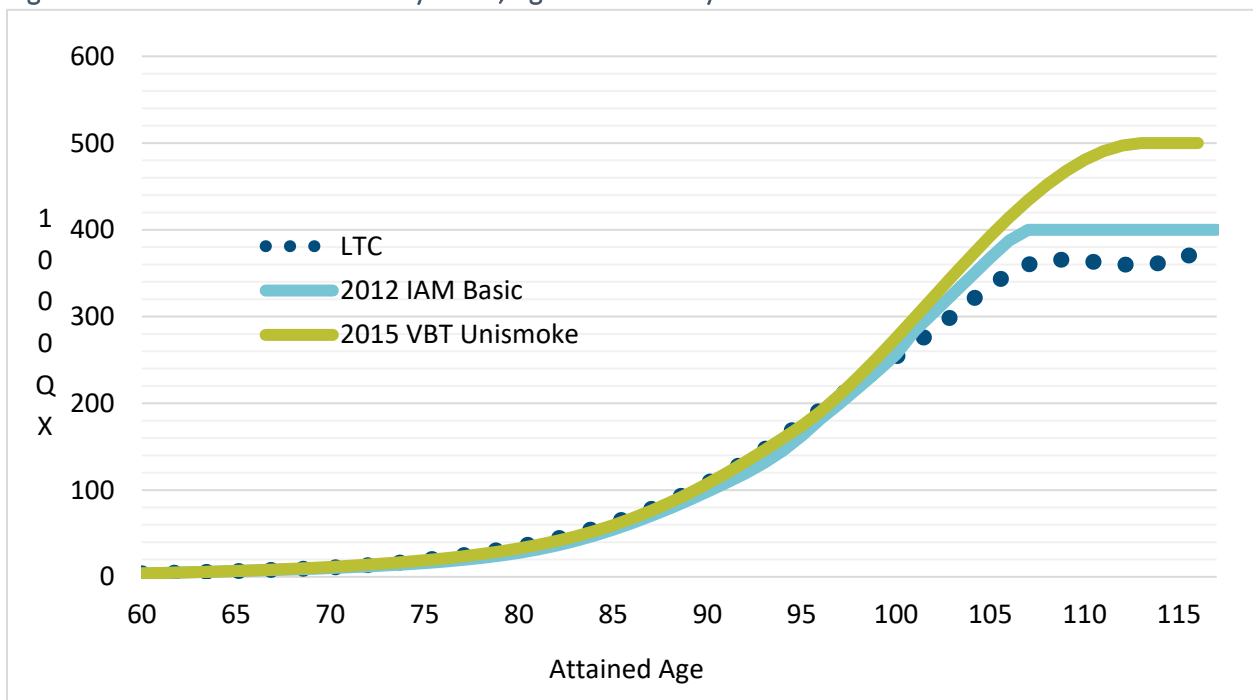


Figure 2. Female Ultimate Mortality Rates, Age Last Birthday



Applying the Excel “add trendline” options to the issue-age adjusted data, the Work Group found a best fit selection pattern with an R-square value of 0.9967. It was a POWER function in the form $y = 0.1736 * x^{.5775}$. The Work Group modified this slightly to allow policy year 21 to be exactly at 100%, so the equation became $y = 0.175 * x^{.5775}$.

Further review suggested that there was less value from selection at younger issue ages than at older but longer selection periods at younger issue ages than older. For issue ages below 65, the Work Group extended the selection period to 30 years and, for issue ages above 70, reduced the selection period to 10 years. The Work Group graded the selection period between these issue ages.

Then, the Work Group returned to validate the results by determining the actual-to-expected ratios, as shown in Tables 5 and 6.

Table 5. Males—Actual-to-Expected Ratio

Policy Year	Issue Age Range								Total
	<50	50-54	55-59	60-64	65-69	70-74	75-79	80+	
1		119.8%	108.3%	113.0%	97.0%	68.6%	136.1%	138.7%	104.9%
2	37.7%	99.4%	104.9%	109.7%	97.7%	130.0%	79.3%	82.4%	104.7%
3	128.9%	81.0%	96.1%	107.4%	123.1%	94.2%	95.1%	93.8%	104.5%
4	103.1%	107.5%	106.2%	112.5%	116.0%	82.0%	97.4%	102.7%	105.4%
5	83.1%	103.2%	110.4%	99.1%	110.2%	98.9%	89.0%	97.8%	102.2%
6	73.3%	106.7%	107.9%	102.5%	103.2%	96.7%	95.1%	113.4%	101.7%
7	116.1%	96.9%	106.3%	103.1%	89.8%	96.1%	94.2%	113.2%	98.0%
8	90.0%	92.5%	110.4%	89.1%	100.1%	99.2%	111.6%	104.8%	100.7%
9	66.8%	93.3%	102.6%	97.5%	96.1%	108.0%	102.6%	105.6%	101.0%
10	101.3%	77.9%	96.8%	93.1%	104.6%	104.4%	106.2%	110.5%	102.0%
11	98.3%	83.6%	107.3%	93.2%	104.0%	101.2%	103.3%		101.2%
12	87.9%	91.6%	103.3%	96.0%	101.8%	109.2%	104.2%		103.4%
13	113.9%	128.5%	111.1%	98.8%	99.8%	100.7%	98.8%		100.8%
14	116.5%	89.6%	95.0%	93.2%	104.1%	101.3%	95.0%		99.9%
15	104.3%	127.3%	103.9%	98.9%	101.5%	103.8%	98.0%		102.1%
16	96.5%	106.1%	85.3%	97.4%	98.8%	97.8%			97.7%
17	146.6%	99.4%	93.2%	101.9%	103.7%	97.5%			101.0%
18	86.2%	119.2%	135.3%	98.8%	97.2%	99.0%			100.0%
19	78.8%	123.2%	89.7%	95.7%	93.8%	96.0%			94.8%
20	172.5%	95.6%	89.3%	90.4%	99.2%	105.1%			97.0%
Total	97.1%	98.0%	103.8%	97.0%	101.0%	101.9%	102.0%	107.4%	100.9%

Table 6. Females—Actual-to-Expected Ratio

Policy Year	Issue Age Range								Total
	<50	50-54	55-59	60-64	65-69	70-74	75-79	80+	
1		115.6%	81.3%	65.0%	98.8%	85.6%	91.6%	17.6%	83.3%
2	291.9%	85.7%	93.3%	103.1%	90.7%	102.7%	116.9%	63.4%	98.1%
3	139.3%	106.6%	89.6%	107.5%	106.2%	111.9%	102.9%	58.9%	102.6%
4	104.6%	128.9%	111.4%	103.5%	72.7%	99.0%	90.5%	84.9%	97.0%
5	144.8%	85.4%	103.2%	110.8%	103.6%	100.6%	101.8%	106.1%	104.1%
6	77.4%	97.7%	91.5%	86.7%	94.0%	99.6%	85.8%	101.9%	92.5%
7	108.0%	102.3%	94.5%	105.8%	96.4%	83.2%	99.2%	102.7%	96.7%
8	96.6%	100.0%	93.5%	102.6%	95.6%	100.2%	100.8%	99.3%	99.0%
9	78.0%	93.5%	96.7%	102.7%	102.3%	102.7%	99.6%	91.6%	100.1%
10	76.4%	91.6%	105.2%	105.5%	101.5%	107.6%	100.1%	98.4%	102.9%
11	106.2%	98.8%	98.9%	102.1%	105.2%	106.8%	98.2%		102.9%
12	81.1%	96.7%	94.2%	105.1%	95.5%	101.0%	101.9%		99.8%
13	76.0%	87.5%	93.8%	102.0%	99.3%	103.9%	96.8%		100.0%
14	113.1%	90.7%	102.0%	97.6%	98.9%	97.8%	88.7%		97.0%
15	130.7%	126.8%	104.7%	98.6%	95.0%	95.0%	99.1%		97.2%
16	80.0%	101.5%	101.7%	96.9%	98.0%	98.5%			98.1%
17	95.1%	125.1%	104.8%	104.9%	100.4%	101.6%			102.2%
18	99.2%	120.9%	116.1%	104.0%	98.1%	100.6%			101.3%
19	34.8%	97.4%	111.6%	102.3%	95.2%	102.7%			99.2%
20	67.3%	104.3%	99.2%	101.9%	101.3%	101.7%			101.3%
Total	95.7%	99.5%	99.1%	101.7%	98.6%	100.9%	98.2%	96.5%	99.7%

The Work Group followed similar methods for deriving tables by adding underwriting risk classes and marital status, both separately and together, and for deriving tables for Active Lives.

Being healthier than the disabled lives, the mortality rates for the Active Lives are smaller than for Total Lives. At very old ages, the mortality of Active Lives is as high as that for Total Lives. Beginning around attained age 90, the ultimate Active Lives mortality begins to converge to that of the Total Lives to the point they are equal at ages above 100.

Procedures

The Work Group initially worked in coordination with the Lapse Subgroup to make sure that the findings of the two Subgroups (1) would be consistent and (2) could be used in conjunction with each other. Insurers of LTCI typically know when a policy terminates, but they do not necessarily know the reason. Often deaths and lapses can be misreported or not be identified at all. Comparing the data to the Social Security Database is one way to clarify which of the terminated policies were due to death. This database is not without error, yet the Subgroups believed that using it to adjust the data was more credible than otherwise. Therefore, the two Subgroups agreed to use a restricted number of contributors identified as “Definition 2” (DEFN 2).

Early in the process, the Work Group recognized that few of its members had experience in deriving mortality tables. Therefore, the group relied heavily upon guidance provided by Marianne Purushotham of LIMRA, as well as previous studies performed by the SOA, in order to identify how to calculate the actual mortality rates and how to identify the predictive variables (please see Methods above, particularly “Exposure” and “Predictive Variables”). When the Work Group reached the point of developing mortality tables, it relied heavily upon Susan Willeat.

The study period is the four-year period 2008 to 2011. The central year of the study’s exposure was 2010; to adjust the study to 2020, the Work Group applied the G2 mortality improvement assumptions for 11 years. If subsequent issue years are to have improvement, the same annual improvement figures can be applied. The Work Group applied G2 mortality improvement during the study but did not measure the actual mortality improvement.

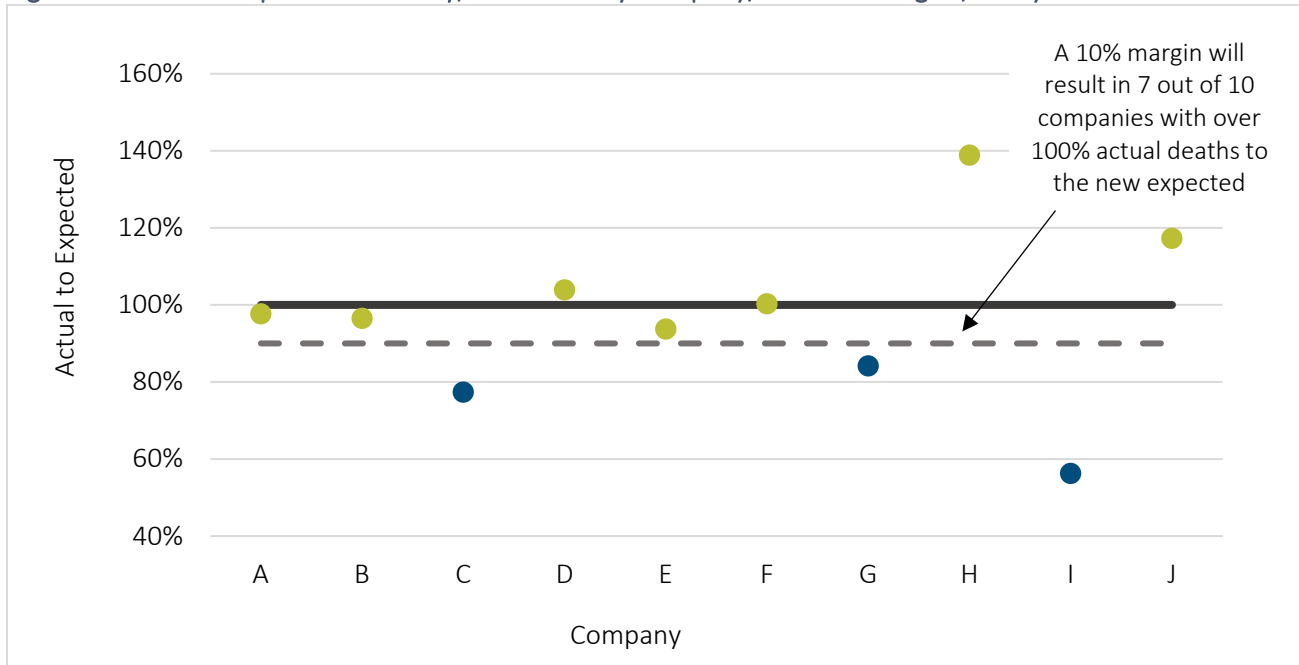
Finally, the Work Group chose to follow similar Provisions for Adverse Deviation (PAD) as used by those who had derived mortality tables for annuity valuation tables in the past.

Table 7. Summary of Valuation or Period Table Ratio to the Basic Table

Annuity Table	Omega Age	General Adjustment to Age 100	Adjustment Age 100+
1983 GAM	110	90% at all ages	90% at all ages
1994 GAM	120	93% at all ages	Beginning after age 102, graded up from 93% to 100% when mortality was .5000 or greater.
1996 IAM	115	90% at all ages	Graded from 90% to 100%
2000 Annuity	115	90% at all ages	Graded from 90% to 100%
2012 IAM	120	90% at all ages	Minor grading around age 103 that ends due to a capping of the rate at 0.400000

The Work Group tested the number of contributors of data whose mortality would have been higher than the mortality using a similar PAD as used for the 2012 IAM. The grading was performed over the same ages as the 2012 IAM but with slightly different and rounded factors. As shown in Figure 3, seven of the 10 had mortality that was higher overall than identified by the recommended table with this PAD.

Figure 3. Actual-to-Expected Mortality, Total Lives by Company, Without Margins, Policy Years 11 & Over



Six out of 10 companies had less than or equal to 100% actual deaths to expected deaths based on the fitted table before the application of the margin. (Less than 100% A/E implies that the recommended table is inadequate in reflecting their experience.) The number of companies to have actual-to-expected ratios below 100% may reasonably be expected to be about half of the total unless a small number have an inordinate amount of weight. Six is about half. By lowering the expected deaths by 10%, only three companies remain under 100% A/E. The 70% coverage is adequate as a valuation table provided that the sample of 10 companies is a fair representation of the industry. If the margin were to cover 80% or 90% of the companies, the expected deaths would need to be reduced by 16% or 22%, figures which seem extreme considering that one company's experience is less credible than the whole, and that other mortality table provisions for adverse deviation are not that high. However, with more data or a more precise explanation of the existing data, an actuary may sufficiently demonstrate that a company has different mortality than the industry. For example, if hypothetically a particular company had a spouse discount only when the married applicant also had a healthy spouse apply for coverage, while most other companies required only that the applicant be married regardless of the status of the spouse, the particular company's actual-to-expected ratio could be low. Similarly, the reverse could be true. If hypothetically, a particular company had a relatively weak requirement for spouse discounts, then the actual-to-expected ratio could be high.

Disclosures

1. The Work Group relied upon the following reports and parties to perform its work.
 - a. SOA Long Term Care Experience Study Committee for the collection of the data.
 - b. LIMRA, MIB, and Willis Towers Watson for “cleaning” the data (part of the SOA Long-Term Care Experience Study Committee work).
 - c. The SOA report titled “Experience Study Calculations” by David Atkinson and John McGarry.¹³
 - d. Marianne Purushotham and LIMRA for calculating the exposure and identifying the statistical significance of predictive variables.
 - e. Susan Willeat of RGA Reinsurance Company for developing the mortality tables.
2. The findings of this study have important limitations as follows.
 - a. The data was for traditional, stand-alone LTCI. Mortality for combination or hybrid products may differ. Also, what represents provision for adverse experience on combination products will likely differ. Similarly, the mortality may differ for other products that have some features in common with LTCI (i.e., short-term care products).
 - b. The Social Security Database may not be as accurate as expected and, therefore, the mortality assignments for terminations may be misleading.
 - c. The predictive variables may not be defined consistently among the contributors. This is particularly true for marital status and underwriting risk class.
 - d. The data for later policy durations and extremely old ages may not be fully credible.
 - e. The trend or mortality improvement from 2010 to 2020 based on the 2012 IAM may not have represented the LTCI insured population.
3. Recommendations for further study
 - a. Update this study when mortality at extremely old ages and later policy durations becomes more credible.
 - b. While individual insurance companies are not the intended users of the findings from this study, they may find value in identifying mortality within their own definitions of marital status and underwriting risk class, particularly if they have maintained their definitions over the entire population within the data being analyzed. Insurance companies may want to compare their own mortality to this study.

¹³ <https://www.soa.org/globalassets/assets/Files/Research/2016-10-experience-study-calculations.pdf>

Mortality Tables

The mortality tables presented in this report should be used with the full understanding of how they were derived and the purpose for which they were intended.

Basic tables are without margin (they are smoothed and extrapolated actual experience with the ability to apply G2 mortality improvement for a specified period of improvement).

Total or Active Lives may be selected, as well as the following parameters:

- Sex, Issue age, and Policy year
- Sex, Marital status, Issue age, and Policy year
- Sex, Underwriting risk class, Issue age, and Policy year
- Sex, Marital status, Underwriting risk class, Issue age, and Policy year

Valuation tables are derived by multiplying the “Expected” mortality rates by a factor of 0.90 with the margin factor grading to 1.00 at very old ages.

Mortality Improvement

Mortality improvement is observed in the general population and all insured lines of business. Mortality improvement scales are almost always based on Social Security Administration general population data over decades of time.

The Work Group is recommending the G2 Scale developed by the American Academy of Actuaries/Society of Actuaries Payout Annuity Table Team in the development of the 2012 Individual Annuity Reserving Table (2012 IAR). The recommended improvement starts from the midpoint of the observation period for the mortality data, 2008 to 2011 inclusive to the end of 2020 (i.e., 11 years of improvement).

ASOP No. 18, *Long-Term Care Insurance*,¹⁴ section 3.2.8 “Change-over-Time Assumptions” requires the actuary to consider assumptions that change over time. Mortality improvement from the period observed to the period for which the assumption is to be used should be considered. The LTCAWG may consider alternative projection scale(s) to that recommended by the Work Group. The impact of improvement to the ultimate basic (without margin) mortality is illustrated in Table 8 below.

The G2 scale is recommended for improvement from the observation period to the end of 2020 for both total life mortality and active life mortality. The Work Group chose the G2 scale as it is a contemporary mortality improvement scale developed from Social Security Administration’s mortality data. The G2 scale was developed by the 2012 IAR Work Group. We note that the ultimate LTC mortality table developed by the Work Group has a substantially similar shape and level as the 2012 IAM table. The Work Group is not making any recommendations for disabled life mortality as that is outside of the scope of the request from the LTCAWG.

¹⁴ Actuarial Standards Board; Actuarial Standard of Practice No. 18, *Long-Term Care Insurance*, May 2011.

Additionally, an alternative the LTCAWG may consider is improvement of total life mortality and active life mortality beyond 2020, either for all policies for which the recommended mortality would apply (i.e., calendar year), or by issue year with no improvement beyond the issue year.

We used the Actuarial Guideline 51 (AG51) sample cells to show the sensitivity of applying the mortality improvement to 2020 and applying it indefinitely beyond 2020 for policies issued in 2020.

The following reserve amounts in Table 8 are for illustrative purposes only to provide an indication of how the mortality improvement might affect them. The interest rate used for discounting was 3.50%. The decrements are based on the recommendations in this report, assuming a Preferred premium rate class. The underlying incidence rates were based on the SOA 2015 LTC Experience Study's GLM model #2, without diagnosis. They were increased to account for the impact of the elimination period on the incidence. The claim terminations were calculated using the SOA 2015 LTC Experience Study's GLM model #2, applying the same continuance assumption during the elimination period as used to adjust the incidence. The recoveries were set at the difference between the total terminations and assumed disabled lives mortality. Mortality could not be higher than total terminations. The utilization was set at 100%.

Table 8. Sample Active Life Reserves

Sample Active Life Reserves					
Sample 1 =	Female, Issue Age 55, Unlimited Benefits with Automatic 5% Compound Increases in Maximums				
Sample 2 =	Female, Issue Age 55, Three Year Lifetime Benefit Maximum, with no increases in Maximums				
		Policy Year Fifteen (15)		Policy Year Thirty (30)	
		Reserve	Ratio relative to no improvement	Reserve	Ratio relative to no improvement
Sample 1	No Improvement Scenario	198,960		380,135	
	No Disabled Lives Mortality Improvement				
	Active Lives Improvement to 2020 Scenario	199,866	100%	393,799	104%
	Active Lives Indefinite Improvement Scenario	200,563	101%	417,195	110%
	Disabled Lives Mortality Improvement				
	Active Lives Improvement to 2020 Scenario	202,219	102%	399,149	105%
	Active Lives Indefinite Improvement Scenario	210,963	106%	437,879	115%
Sample 2	No Improvement Scenario	16,008		24,111	
	No Disabled Lives Mortality Improvement				
	Active Lives Improvement to 2020 Scenario	16,081	100%	24,999	104%
	Active Lives Indefinite Improvement Scenario	16,138	101%	26,524	110%
	Disabled Lives Mortality Improvement				
	Active Lives Improvement to 2020 Scenario	16,084	100%	25,186	104%
	Active Lives Indefinite Improvement Scenario	16,142	101%	27,086	112%

The Work Group offers the following additional observations with respect to mortality improvement for valuation:

1. There is currently no known industry study on LTC mortality trends. There is evidence of mortality improvement trends in both general and annuitant populations. Because mortality experience for Individual Annuitants and LTC policyholders appear to have similar shapes (see figures 4 and 5, below), it is reasonable to assume that mortality improvement exists in LTC as well.

Figure 4. Female Ultimate Mortality Rates, Age Last Birthday

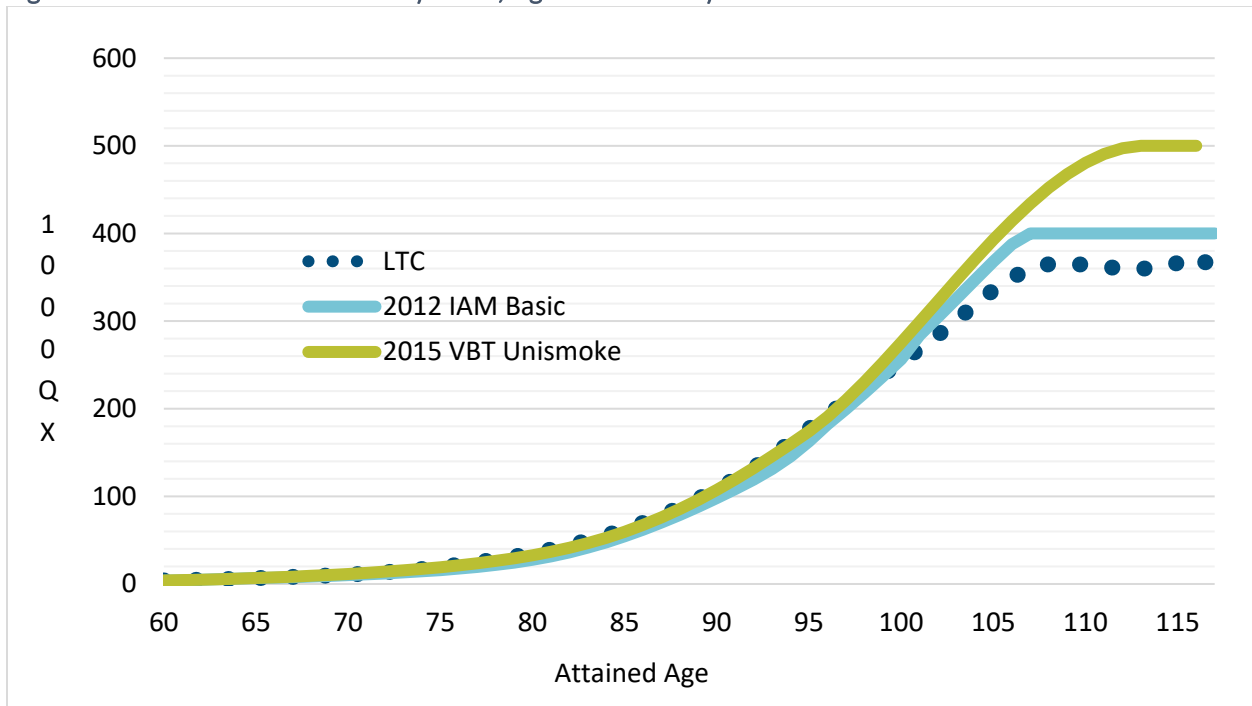
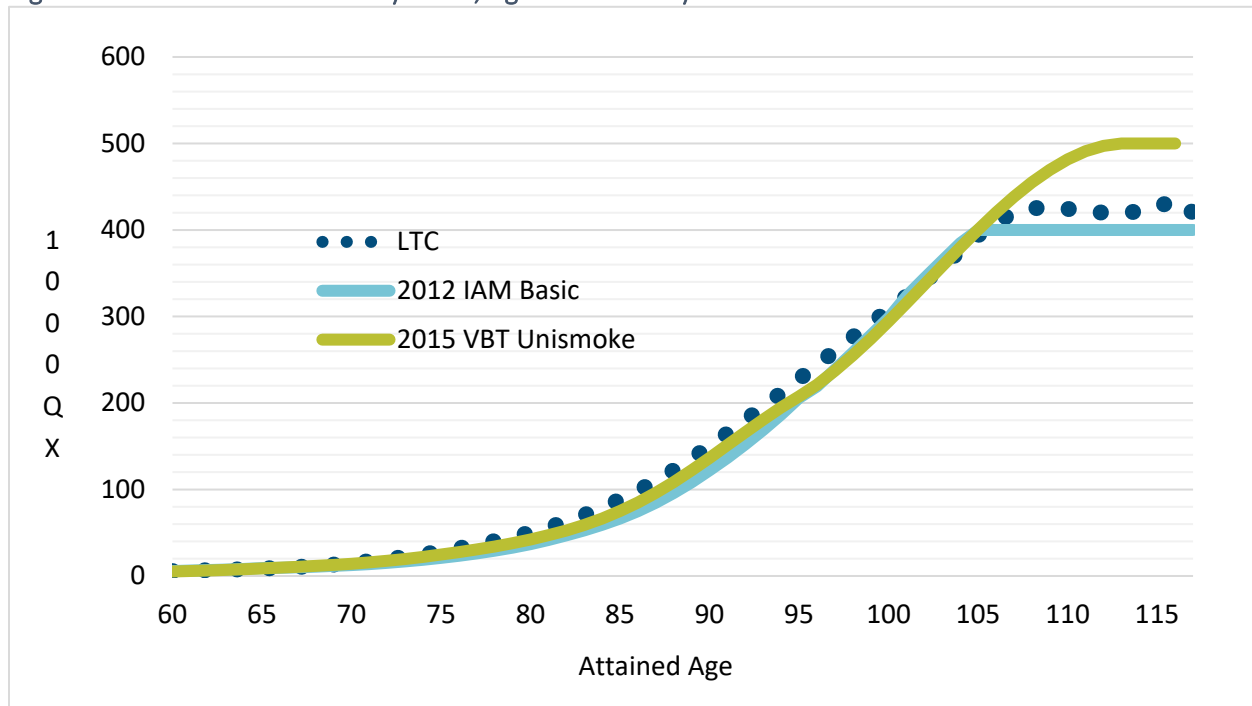


Figure 5. Male Ultimate Mortality Rates, Age Last Birthday



2. If no future mortality improvements are assumed in the valuation of liabilities, the valuation tables may be inadequate in the future if there is indeed future improvement and the built-in margin for conservatism is eroded. This may be an acceptable position if industry experience can be monitored in a timely manner.
3. With respect to the choice of G2 scale for LTC, there is a possibility that LTC policyholders have greater improvement than annuitants because they tend to have a higher socioeconomic status. Again, timely industry experience monitoring is necessary.
4. In a first-principle valuation method, active and disabled policyholders are modeled separately (disabled policyholders tend to have materially higher mortality than active policyholders). A decision needs to be made on whether mortality improvement applies to both active and disabled policyholders or to actives only.
 - a. There is evidence of disabled lives mortality improvement in Social Security disabled beneficiaries' data. There is also evidence of improvement in disabled retired persons' data (RP-2000 and RP-2014 tables). However, the definition of disability varies considerably among disabled populations.
 - b. From a comparison of five-year survival rates of disabled samples in the National Long-Term Care Surveys, there is no evidence of mortality improvement.¹⁵ Comparison of

¹⁵ "Disabled Mortality and the Impact on Life Expectancy: An LTC Perspective," 2017 SOA Annual Meeting, Session 83.

disabled mortality rates by calendar year using the 2000–2011 SOA LTC Inter-Company Study is inconclusive with respect to mortality improvement trends.

- c. Requiring mortality improvement on total lives may be inconsistent with not requiring improvement on disabled lives.
 - d. For financial projections and valuation under generally accepted accounting principles (GAAP), industry practice has been to assume mortality improvement on active policyholders only.
 - e. Disabled mortality improvement is an unresolved issue in LTC. A reasonable approach is to allow companies to choose disabled mortality improvement or not. AG51 may consider requiring sensitivity analysis with respect to this assumption.
5. Currently, there is no conclusive indication whether COVID-19 will have a permanent impact on future LTC mortality experience. The coronavirus may subside, and vaccines may be effective so that the impact on mortality is only temporary. On the other hand, herd immunity may be difficult to develop, so the impact may linger. Early data suggests that COVID-19 has a relatively flat excess percentage of mortality across ages above 60. It is, therefore, unclear how COVID-19 may affect future mortality improvement trends. If COVID-19's impact is permanent, then the recommended tables will likely have additional margins.

IV. LAPSE

Developmental Process

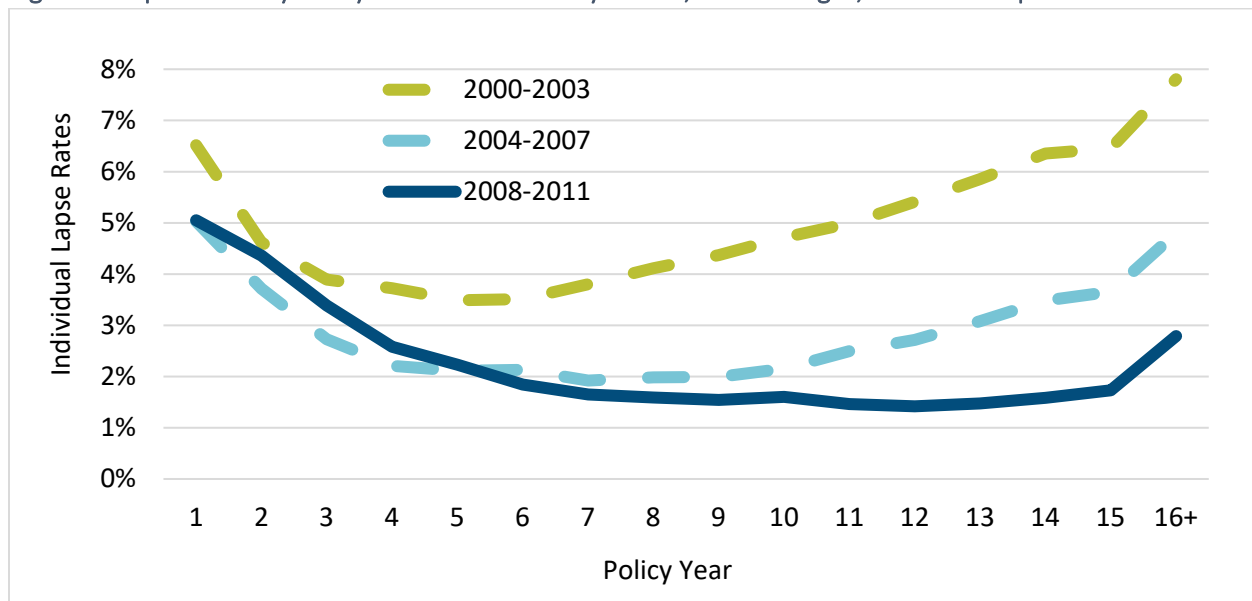
Similar to the mortality tables, the following general steps were taken to derive the recommended lapse tables:

- Check reasonableness of provided data using published SOA summary data.
- Determine predictive factors for lapse tables.
- Develop raw rates.
- Smooth rates.
- Develop factors.
- Calculate expected lapses based on preliminary proposed rates with factors.
- Compare actual lapses to expected lapses.

Study Period

As noted previously, lapse data from the DEFN 2 participating companies for the most recent four-year period (2008–2011) of the 2000–2011 SOA LTC Intercompany Study was used for the lapse tables. As suggested by Figure 6 below, there appears to be a declining trend in lapses, perhaps impacted by improved death coding over the SOA study period from 2000 to 2011, especially at the later policy durations beyond year 13.

Figure 6. Lapse Rates by Policy Duration and Study Period, All Issue Ages, DEFN 2 Companies



Lapse and Exposure Definitions

The recommended lapse tables to be developed pertain to voluntary lapses. Voluntary lapses are defined as policy terminations due to nonpayment of premium, group termination, policy conversion, and other terminations with unknown causes. Terminations due to benefit exhaustion were excluded. However, it is possible that certain companies might have classified benefit exhaustions as other terminations with unknown causes.

Annual lapse rates for the recommended tables are ratios of counts over exposures. Both counts and exposures are tabulated on a policy year basis. During any policy year, a policy contributed to a lapse count if the policy lapsed during the policy year. Because almost all LTC policies waive premiums during claim, we assumed that the lapse counts are the same on both total-lives and active-lives bases.

Exposures are also determined on a policy year basis. A full year of total-lives exposure for lapse (consistency with mortality) is assigned if a policy is in force at the beginning of the policy year and still in force at the end of the policy year or if the policyholder lapsed during the policy year. If the policy terminated for any other reasons, a partial year of exposure is assigned based on the month during which the policy terminated.

For active lives lapse exposures, the policy must not be on claim at the beginning of the policy year. If a policy becomes active during a policy year, partial exposure is assigned from the first month of being active.

Data Credibility

Based on the selected data, Figures 7 and 8 below summarize the lapse counts by issue age group and policy duration with respect to credibility, using 1,082 counts or more as a measure of full credibility.

Figure 7. Minimum of Number of Individual Lapses and 1,082 (Full Credibility) by Issue Age Group and Policy Duration

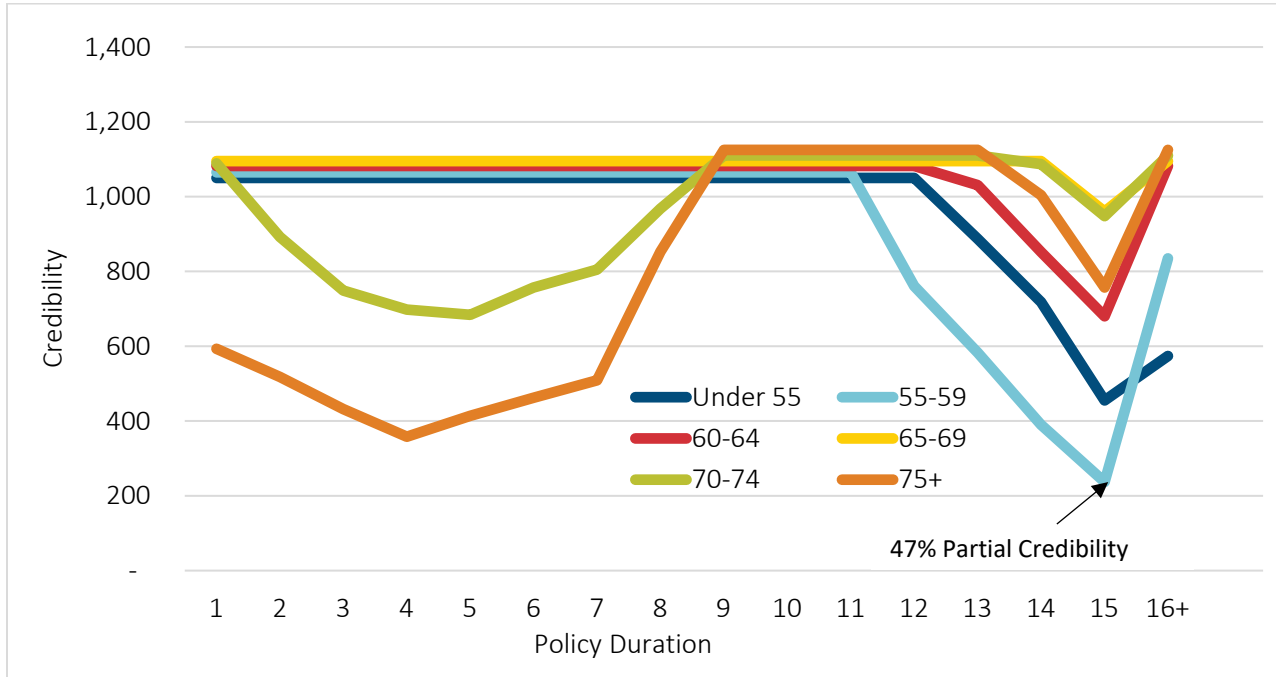
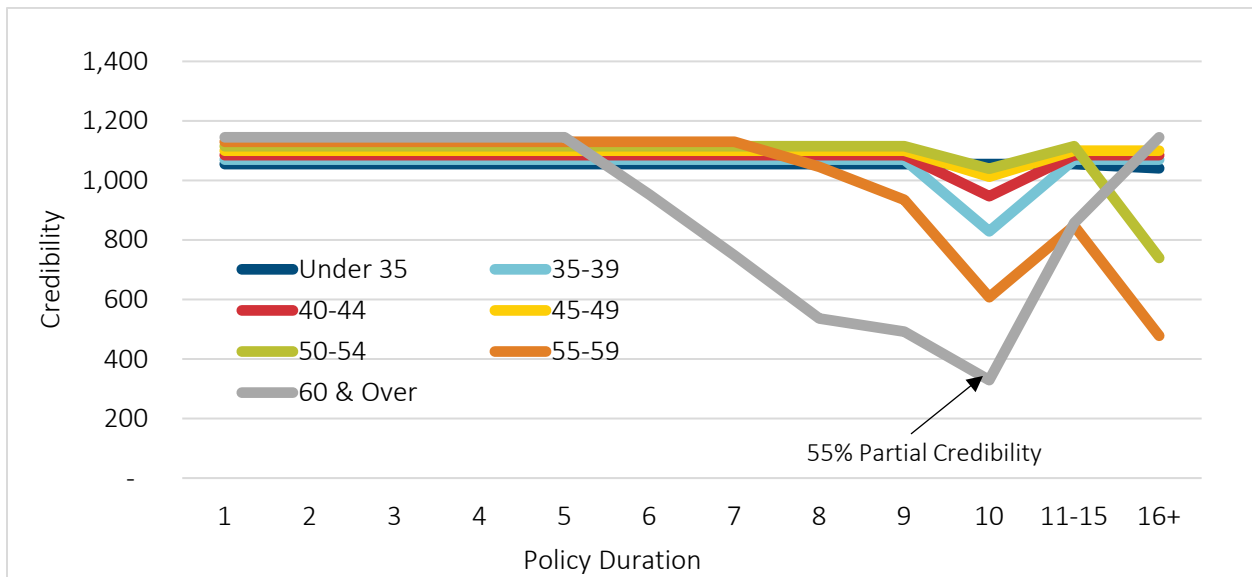


Figure 8. Minimum of Number of Group Lapses and 1,082 (Full Credibility) by Issue Age Group and Policy Duration



The graphs indicate that the majority of the developed rates in issue age and duration cells are fully credible, except for certain cells in the later policy durations.

As shown in the graph for individual lapses (Figure 7), lapse counts for policy duration 11 and over for the issue age group Under 55 are only partially credible. Thus, it is inadvisable to split the Under 55 issue age group further. This also holds for group lapses (Figure 8) in the issue age group 60 and over for policy duration beyond the sixth year. Any further subdivision would render the results not credible.

Predictive Variables

LIMRA, the statistical agent for the Study, performed a multivariate analysis of the tabulated lapse data. A logistic regression model with forward selection produced the following ranked results of factor significance based on Wald Chi-Square:

Table 9. Ranked Results of Significant Covariates (Wald Chi-Square)

Significant Covariates	
Factor	Wald Chi-Square
Policy Year	37,460
Premium Status	24,051
Attained Age	22,168
Underwriting Type	20,696
Periodic Premium Level	15,548
Marital Status	3,004
Premium Mode	2,348
Physician Statement	1,570
Marital Discount	917
Rate Increase Indicator	572

Policy year, attained age, underwriting type, premium level, and marital status appeared to be key factors for table development.

These findings are consistent with the results from the corresponding model for mortality. Accordingly, the Work Group decided that the factors for both mortality and lapse should be as identical as possible. That is, the lapse table will utilize policy year, attained age (in the form of issue age and policy duration), underwriting type, and marital status as factors.

For group LTC business, the vast majority of certificates are guaranteed issue and marital status is typically not known. Therefore, these factors would not apply to group business.

Development of Tables

As shown in Figures 9 and 10, raw individual and group lapse rates for total lives by issue age group and policy duration were determined as ratios of lapse counts over exposures.

Figure 9. Raw Lapse Rates by Issue Age, Group and Policy Duration, Individual, Total Lives

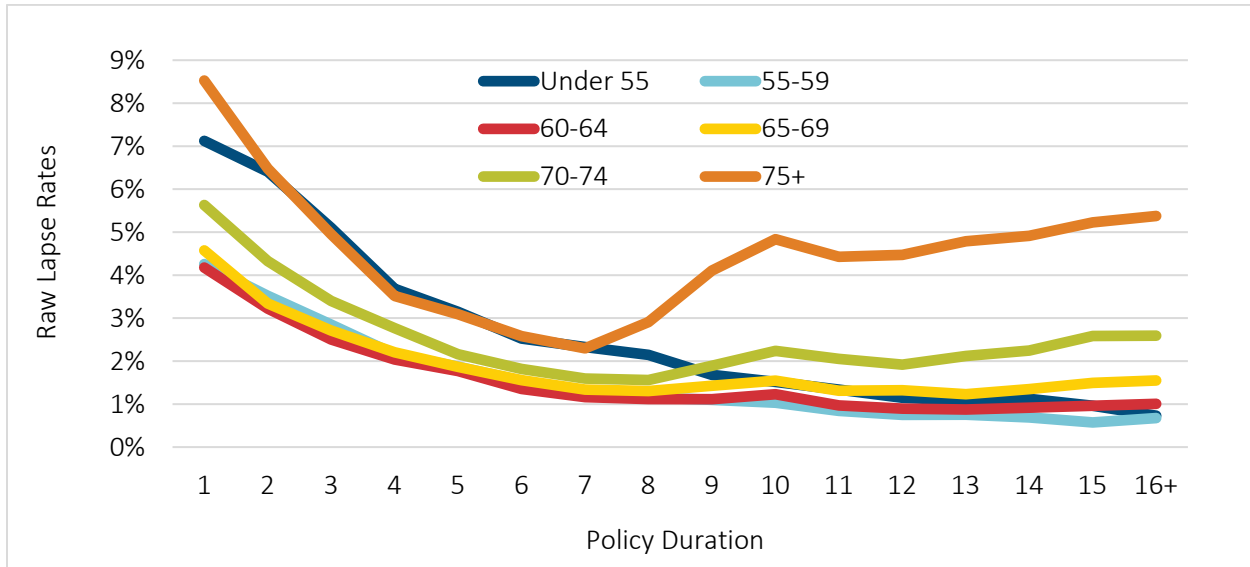
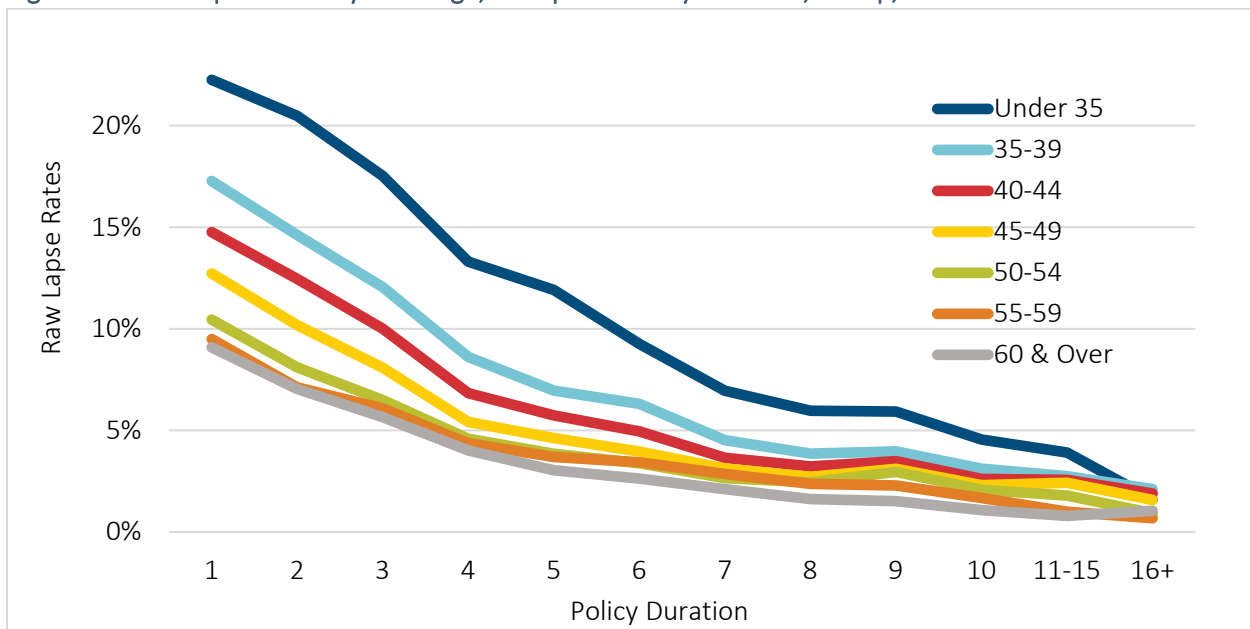


Figure 10. Raw Lapse Rates by Issue Age, Group and Policy Duration, Group, Total Lives



With respect to the raw individual lapse rates, we noted that later policy duration lapse rates tended to be increasing, especially at the older issue age groups. This phenomenon can at least be partially attributed to the under-reporting of deaths upon policy termination, which occurs more frequently at

later policy durations and older attained ages. Due to the declining trend by calendar year, the Work Group believes it is prudent to be conservative at the later policy durations. Accordingly, the raw lapse rates were adjusted to be non-increasing by policy duration.

Note that, for group lapse rates, policy durations from year 11 through 15 were aggregated in order to improve data credibility at these durations.

To derive the recommended lapse rates for total lives by issue age group and policy duration, the raw rates were smoothed by fitting them to either a 2-degree polynomial or a power function. A polynomial or power equation was chosen by visualizing the fit in an Excel graph. Figures 11 and 12 below display the recommended lapse rates.

Figure 11. Smoothed Lapse Rates by Issue Age Group and Policy Duration

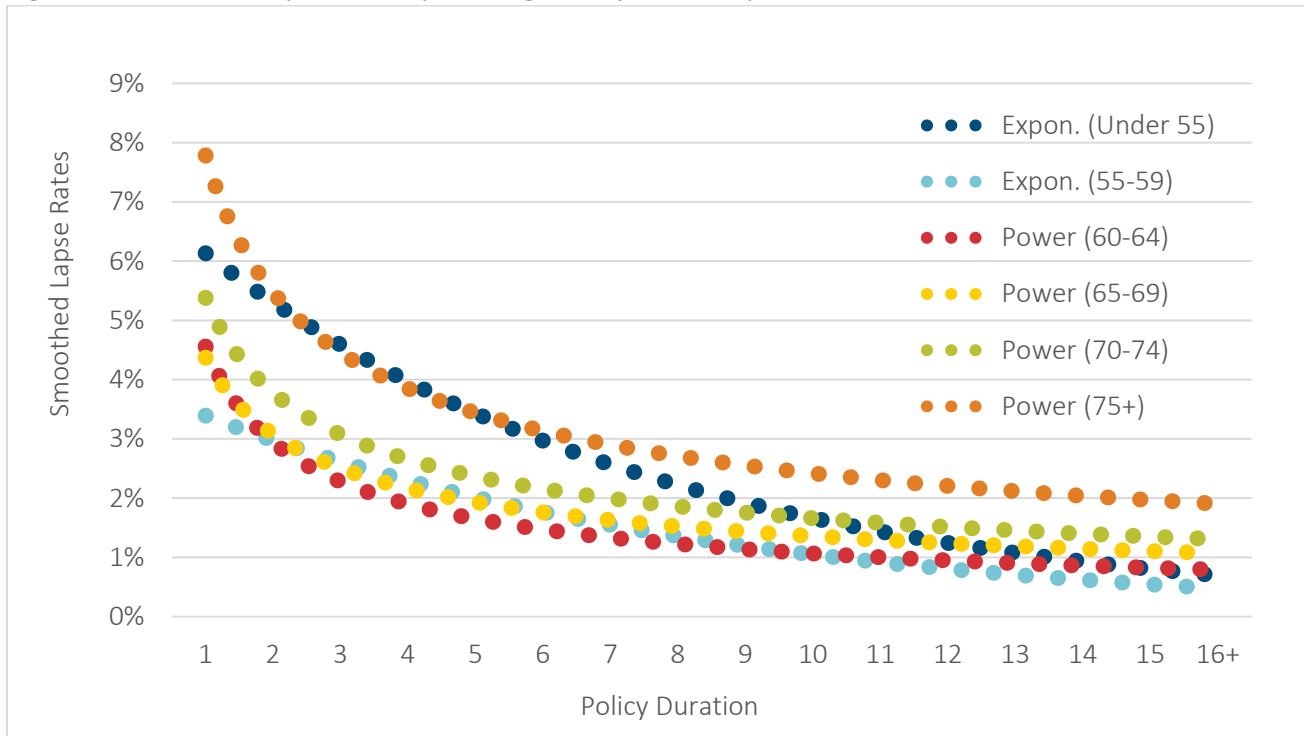
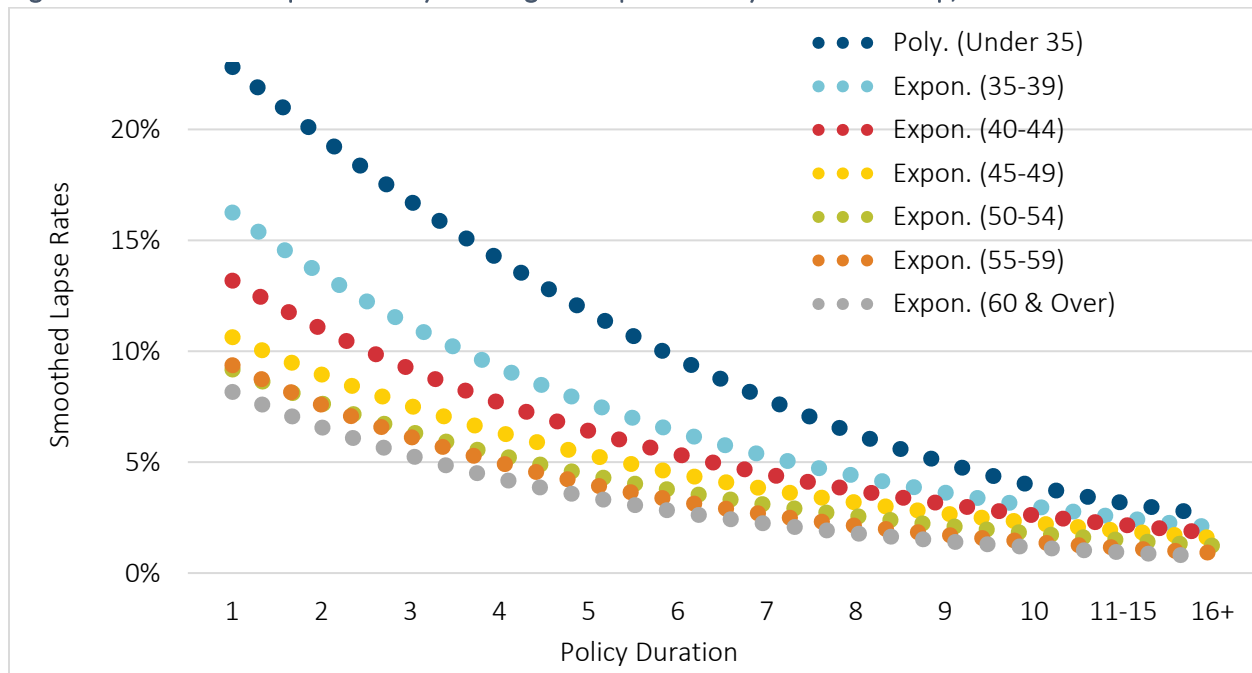


Figure 12. Smoothed Lapse Rates by Issue Age Group and Policy Duration Group, Total Lives



The recommended lapse tables for active lives were developed in a similar fashion by substituting active lives exposures for total lives exposures. The numerators of the ratios, the numbers of active lives lapses, are assumed to be the same as for total lives lapse rates. Because almost all long-term care policies have waiver of premium benefits, very few policies lapsed while the policyholders were on claim.

Underwriting Risk Class and Marital Status Factors for Individual Business

The underwriting risk class and marital factors for total lives individual lapses were determined by policy duration only with the same factors applying to all issue age groups. Lapse rates by policy duration for the three underwriting classes—preferred, standard, and substandard—were first calculated. The factors are the ratios of these lapse rates to the overall durational lapse rates without underwriting distinction. These factors for the three classes were smoothed to arrive at the final proposed factors. A similar process was also performed for marital status. Figures 13 and 14 below show the raw and the smoothed factors.

Figure 13. Raw and Smoothed Factors for Underwriting Class

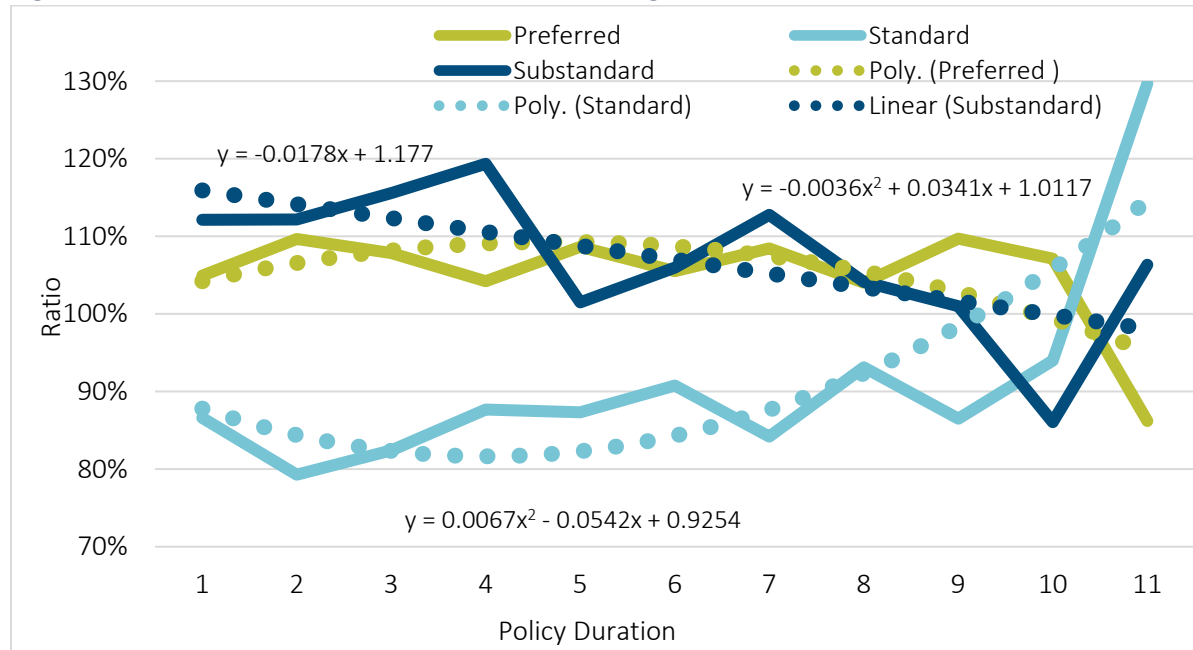
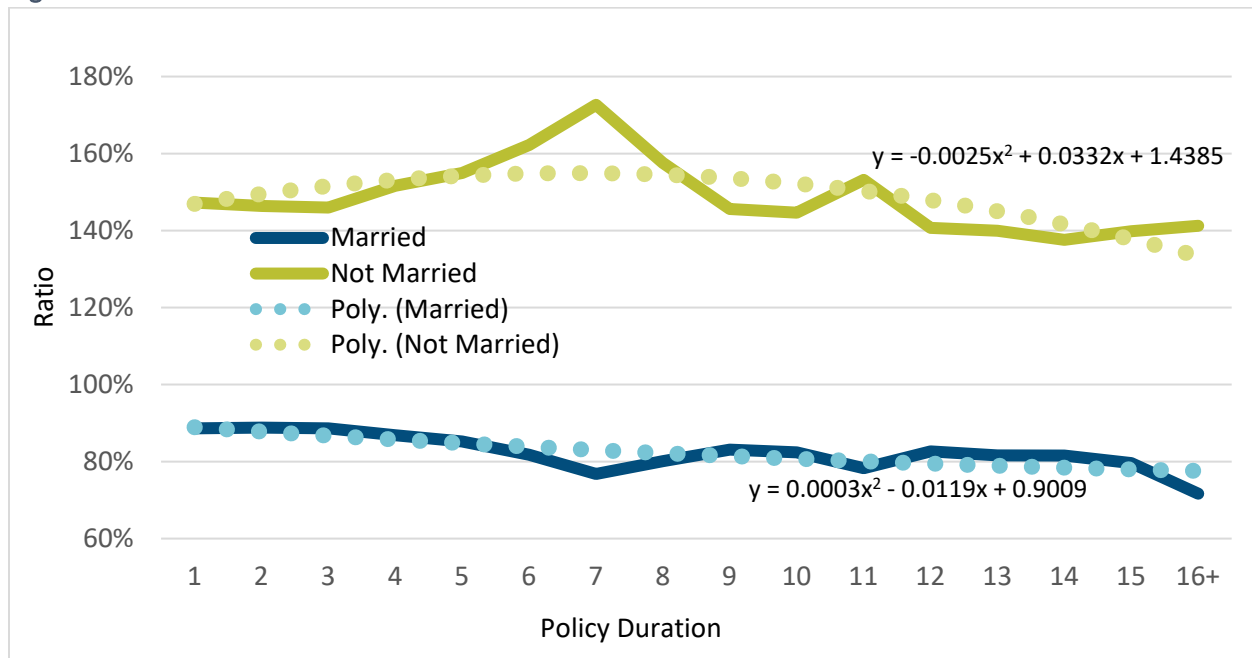


Figure 14. Raw and Smoothed Factors for Marital Status



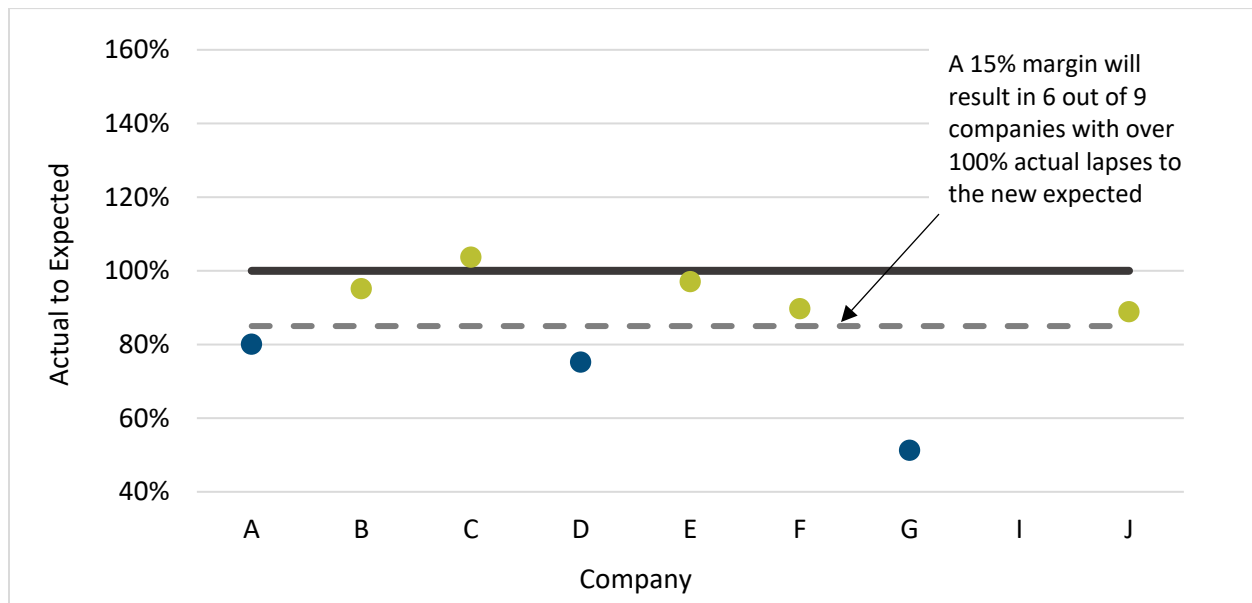
Because the lapse rates for active lives are not materially different than those of total lives, the recommended factors derived from total lives lapses can equally apply to active lives lapse rates.

The underwriting risk class and marital status factors are not applicable to the recommended group lapse rates because most of the group business was guaranteed issue and marital status is generally unknown.

Development of Margin Recommendation

The recommended lapse tables and factors represent best estimates of future long-term care lapse events based on past experience. In order to use these tables for valuation purposes, a margin of conservatism should be added to cover a company's variation from industry experience. The Work Group was able to obtain lapse data from individual participating companies that made up the aggregate data for the recommended lapse table construction. A ratio of actual lapses to expected lapses based on the recommended lapse tables was calculated for each company. The results are shown in Figure 15:

Figure 15. Actual-to-Expected Lapses, Individual Total Lives, by Company, Without Margins, Policy Years 11 & Over



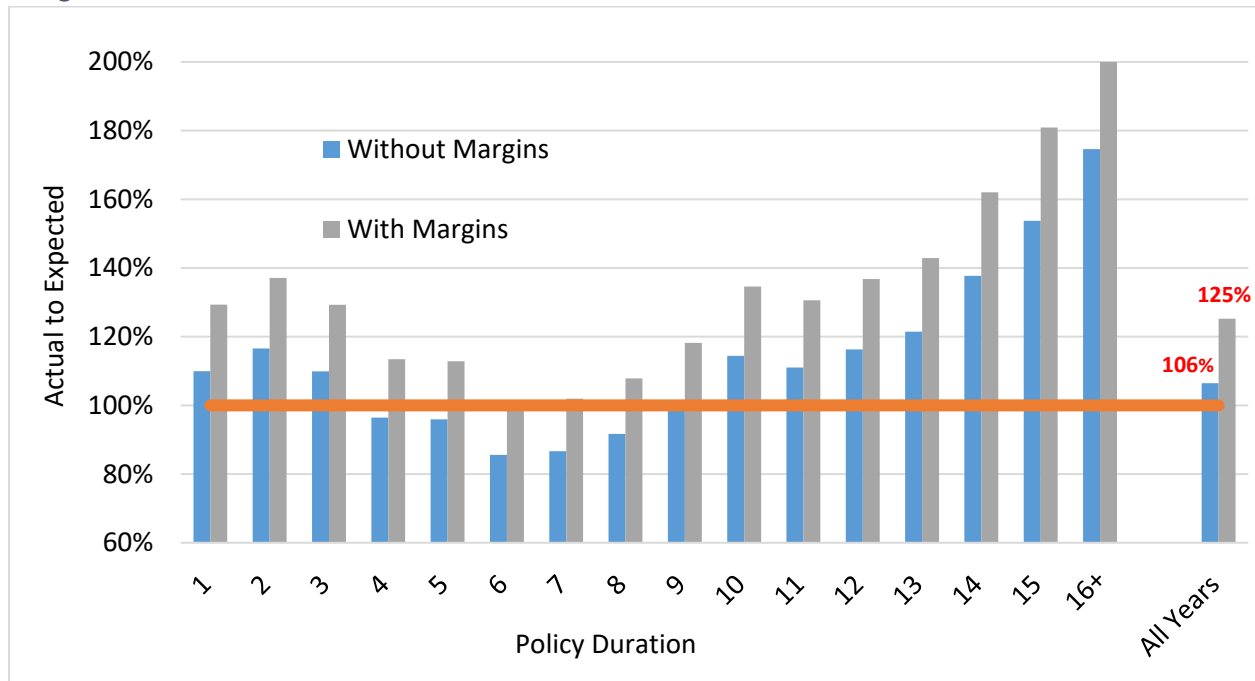
One company with an abnormally high actual-to-expected ratio was excluded in the comparison. The actual-to-expected ratio for two out of nine companies was above 100%. However, a 15% margin on the recommended lapse tables would result in six out of nine companies' actual lapses exceeding the newly expected number of lapses based on the more conservative lapse tables. Accordingly, the Work Group recommends a 15% margin.

Comparison of Recommended Lapse Tables With Actual Experience

In order to assess the reasonableness of the recommended lapse tables relative to past experience, the Work Group performed a series of comparisons.

Figure 16 compares the actual total lives Individual lapses by policy duration to the expected number of lapses based on the recommended lapse tables.

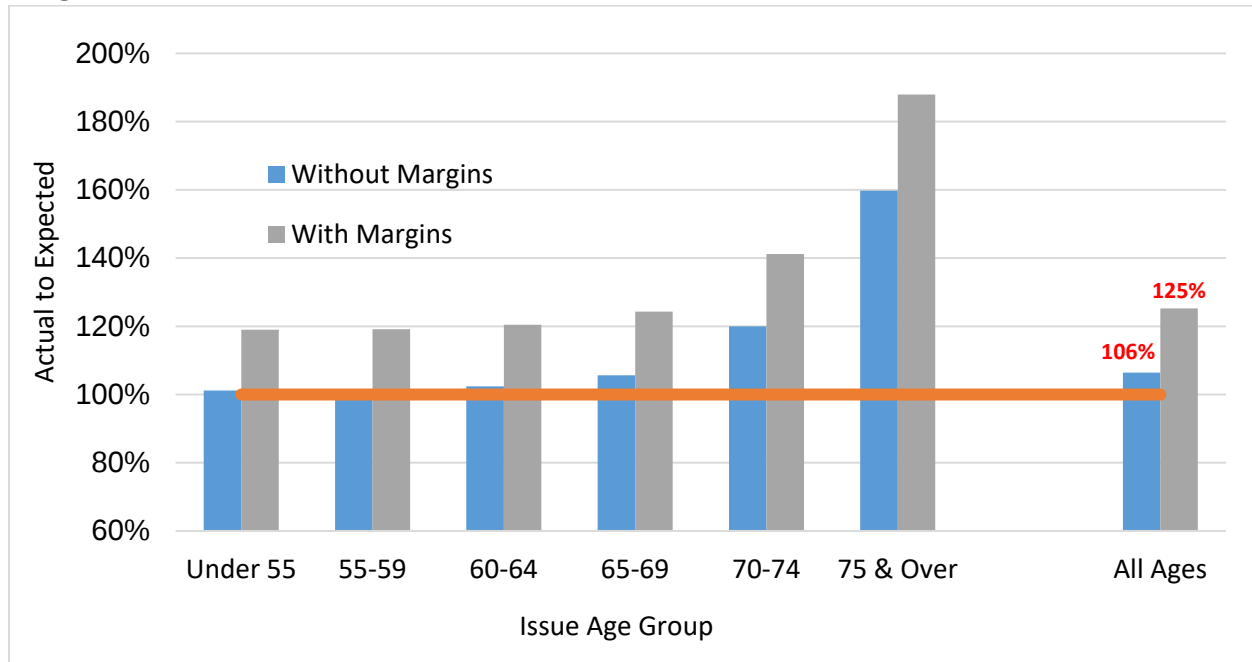
Figure 16. Actual-to-Expected Lapses, Individual Total Lives, by Policy Duration, With and Without Margins



The greater-than-100% actual-to-expected ratio beyond the ninth duration is due to the restriction of non-increasing lapse rates by policy duration. The overall actual-to-expected is 106%. With the margin, the overall actual-to-expected is 125%. The Work Group believes the recommended lapse rates by policy durations relative to actual experience are reasonable in light of the declining trends in recent experience years.

The Individual total lives actual lapses to expected by issue age group are shown in Figure 17.

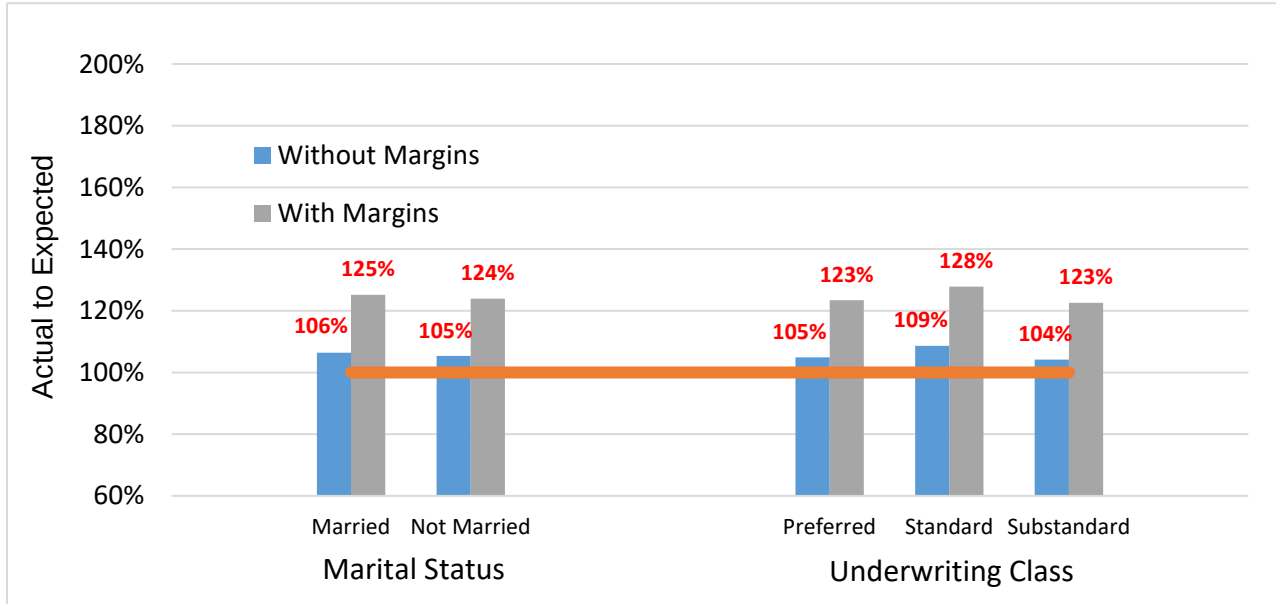
Figure 17. Actual-to-Expected Lapses, Individual Total Lives, by Issue Age Group, With and Without Margins



The non-increasing limitation by policy duration has the greatest impact on issue ages 70 and over.

Figure 18 shows the total lives individual actual-to-expected ratios by marital status and underwriting risk class.

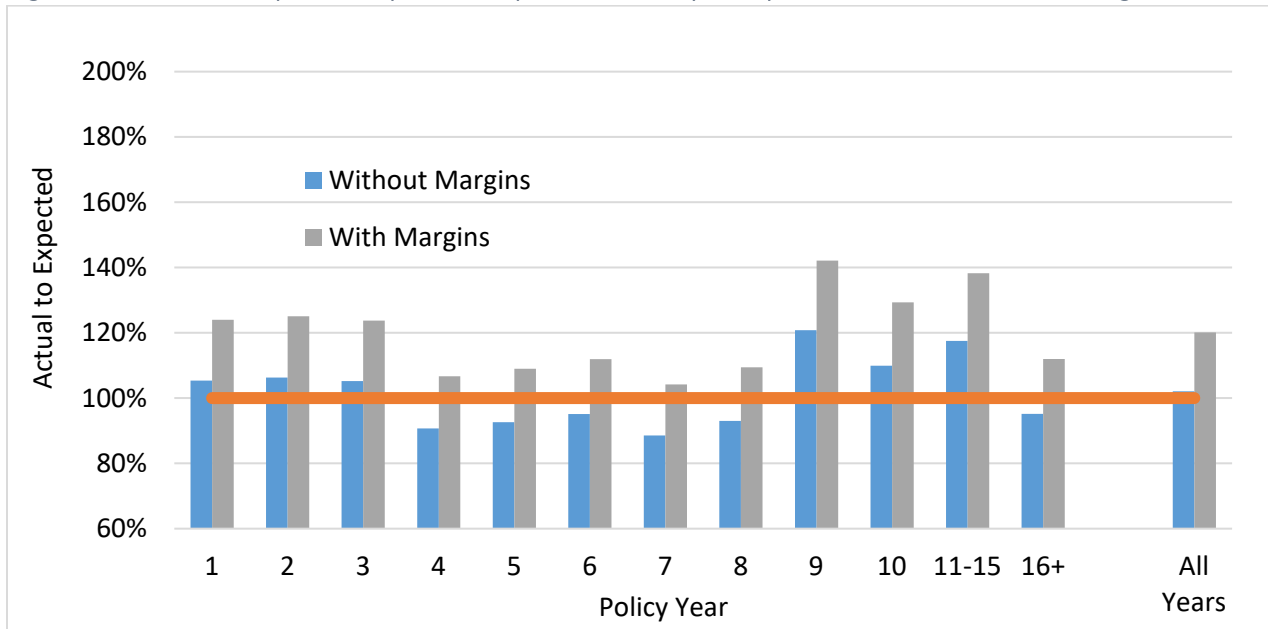
Figure 18. Actual-to-Expected Lapses, Individual Total Lives, by Marital Status and Underwriting Class, With and Without Margins



The actual-to-expected ratios are relatively close to the overall actual-to-expected without the margin.

The total lives group actual lapses to expected by policy duration are provided in Figure 19:

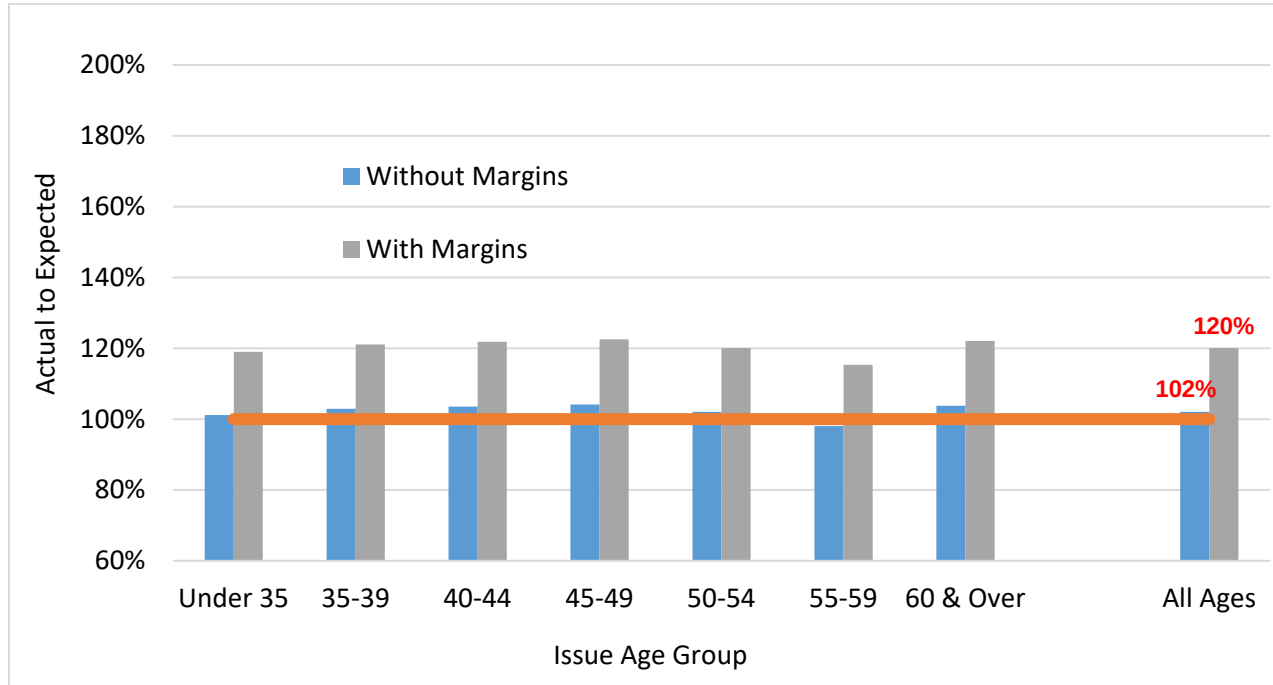
Figure 19. Actual-to-Expected Lapses, Group Total Lives, by Policy Year, With and Without Margins



Without margin, the actual-to-expected ratios are relatively stable during the first eight policy durations but slightly exceed 100% thereafter. The Work Group believes the slight conservatism is justified due to the significance of the lapse rates at higher durations for valuation purposes.

The total lives group actual lapses to expected by issue age group are shown in Figure 20:

Figure 20. Actual-to-Expected Lapses, Group Total Lives, by Issue Age Group, With and Without Margins



The corresponding comparisons for actives lives lapses produced similar results as for total lives lapses. These comparisons are presented in Appendix 2.

Recommended Lapse Tables

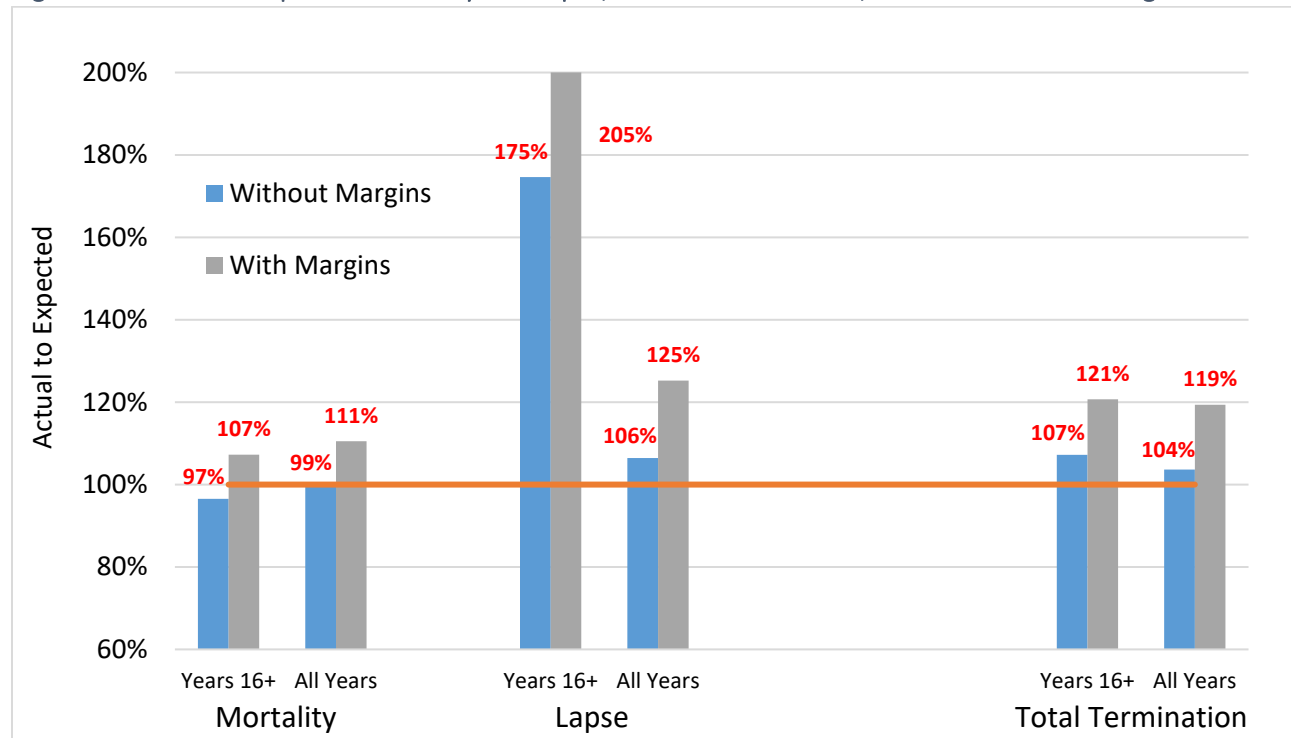
The recommended lapse tables for total lives and active lives are shown in Appendix 3. The individual lapse rates vary by issue age group, policy duration, marital status and underwriting class. The group lapses rates vary by issue age group and policy duration.

V. TOTAL TERMINATION

A policy may lapse because the policyholder died. Verification of death is not always possible, and results vary from company to company. Accordingly, the delineation between voluntary lapse and death is not precise for long-term care insurance. The Work Group performed a check on total terminations (i.e., combining lapses and deaths) to ensure that the recommended lapse and mortality tables reasonably represent actual combined experience.

The lapse and death components that made up the total lives individual actual-to-expected are shown in Figure 21:

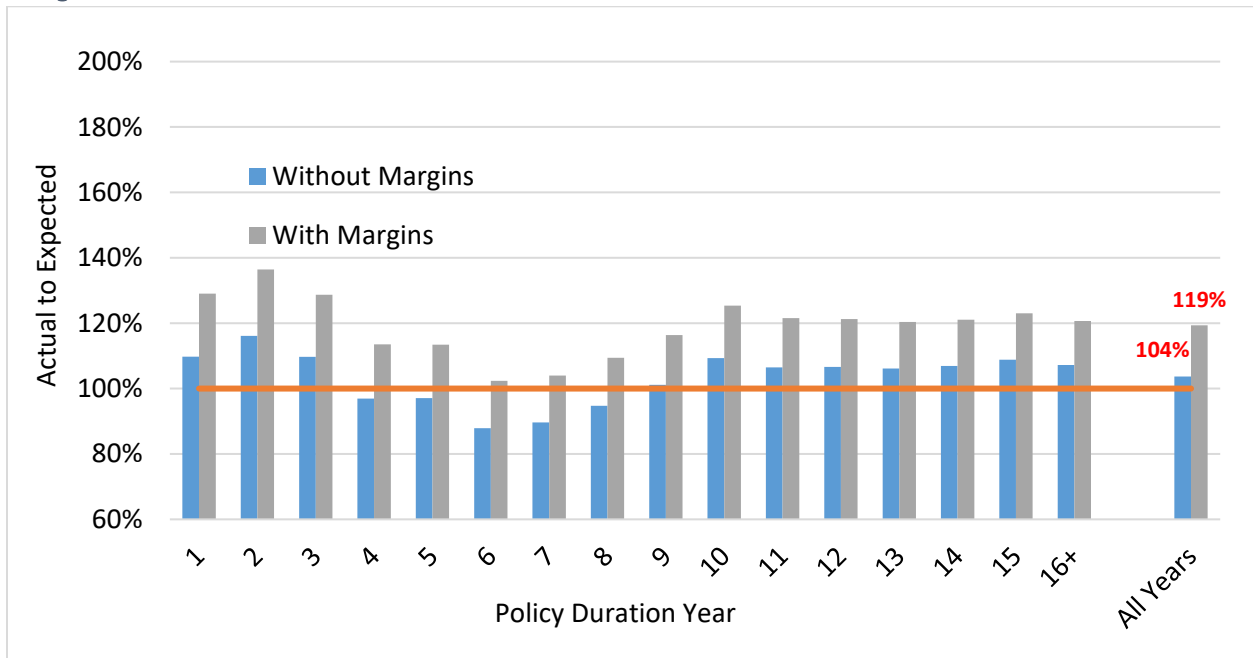
Figure 21. Actual-to-Expected Mortality and Lapse, Individual Total Lives, With and Without Margins



During the study period 2008–2011, there were approximately 79,000 deaths and 200,000 lapses. The slightly aggressive actual-to-expected deaths are more than offset by the conservatism from that for lapses. For terminations that occurred beyond policy year 15, there were 11,000 deaths and only 8,800 lapses.

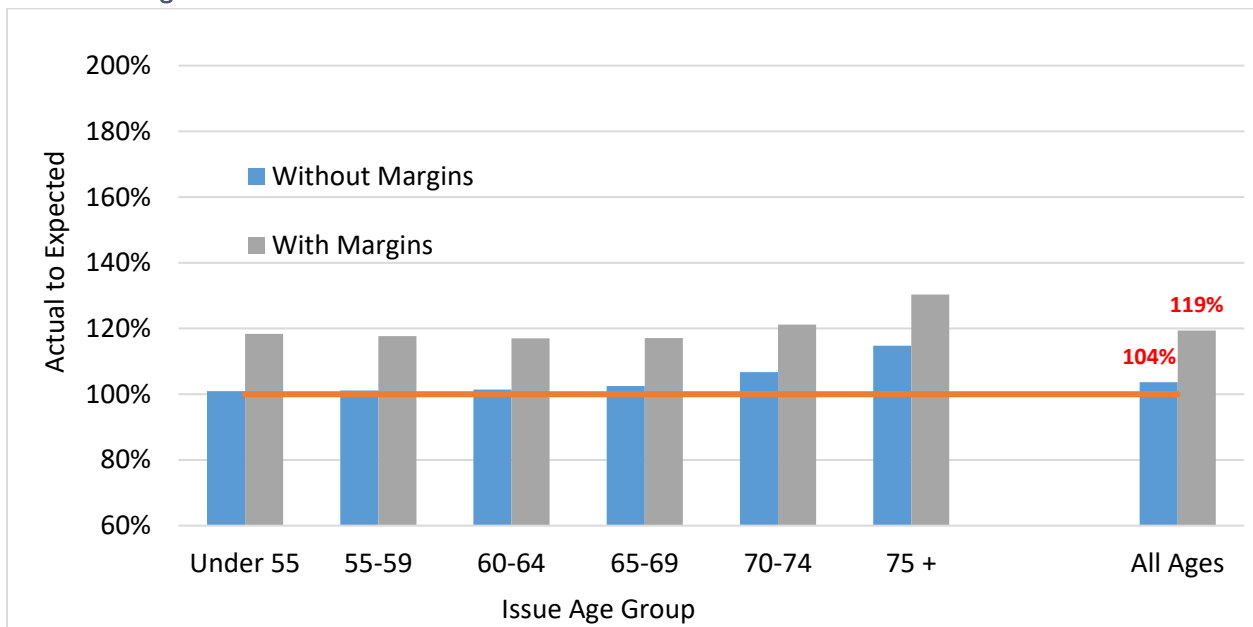
The individual total lives actual total terminations are slightly greater than the expected with and without margins beyond the 10th policy duration, as seen in Figure 22:

Figure 22. Actual-to-Expected Total Terminations, Individual Total Lives, by Policy Year, With and Without Margins



As shown in Figure 23 below, the actual-to-expected is slightly increasing by issue age group:

Figure 23. Actual-to-Expected Total Terminations, Individual Total Lives, by Issue Age Group, With and Without Margins



For group business, the actual total terminations are slightly less than the expected without margins beyond the 15th policy year, as shown in Figures 24 and 25 below:

Figure 24. Actual-to-Expected Mortality and Lapse, Group Total Lives, With and Without Margins

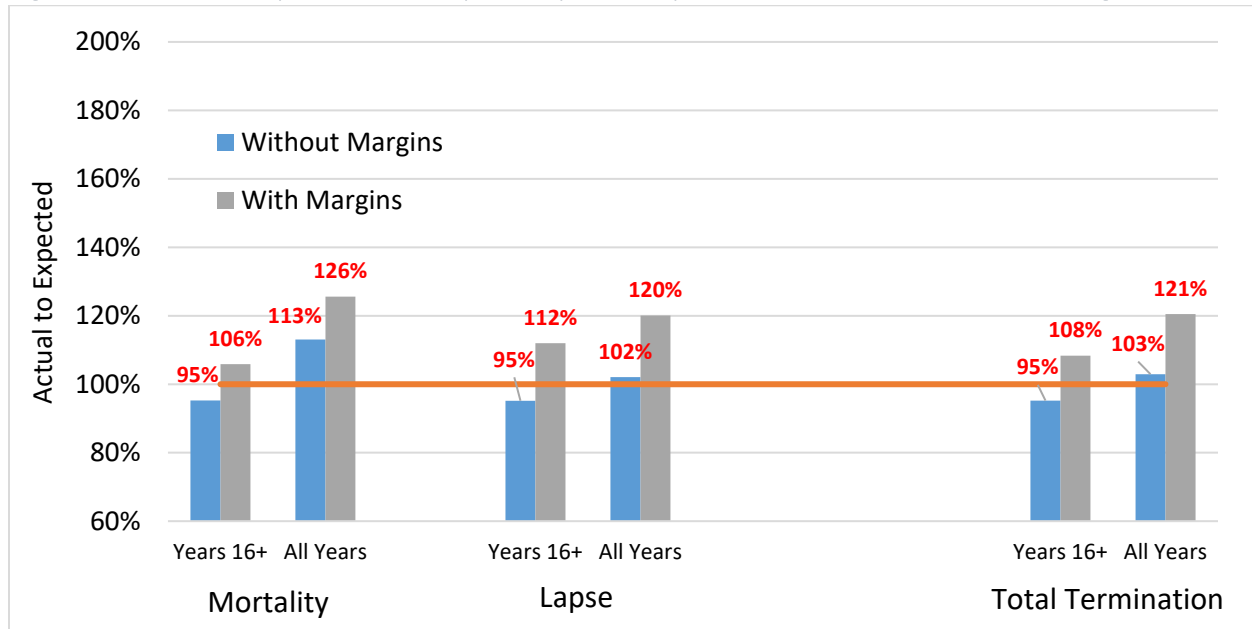
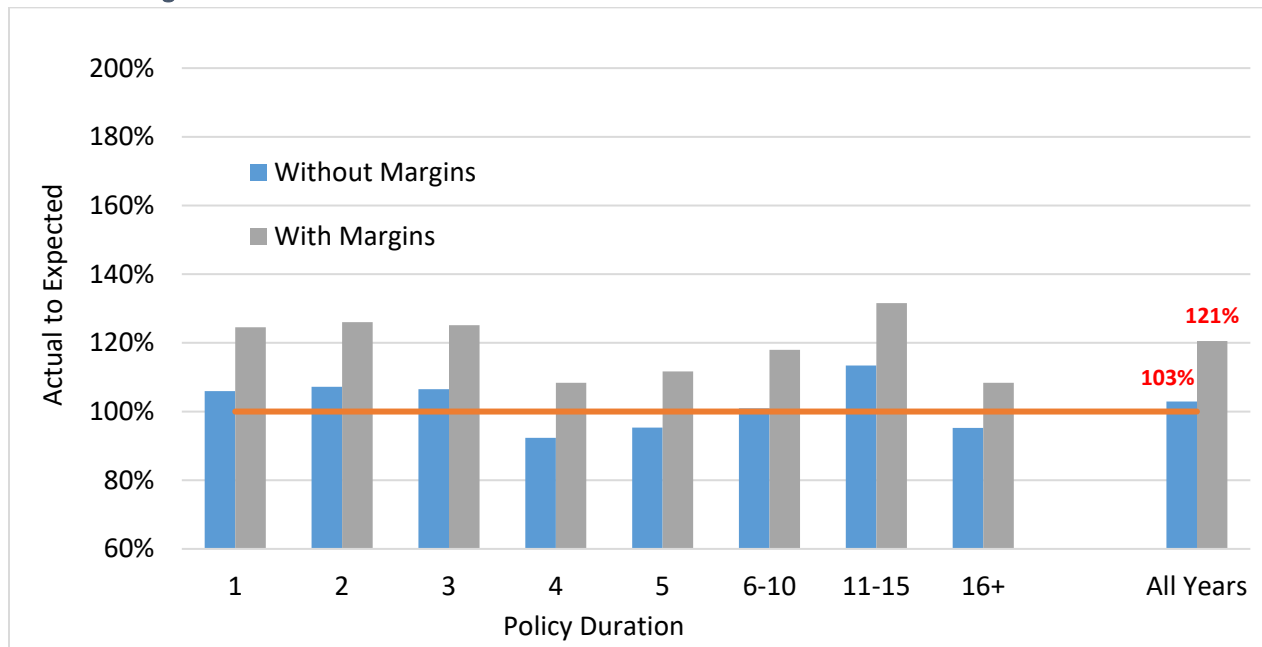


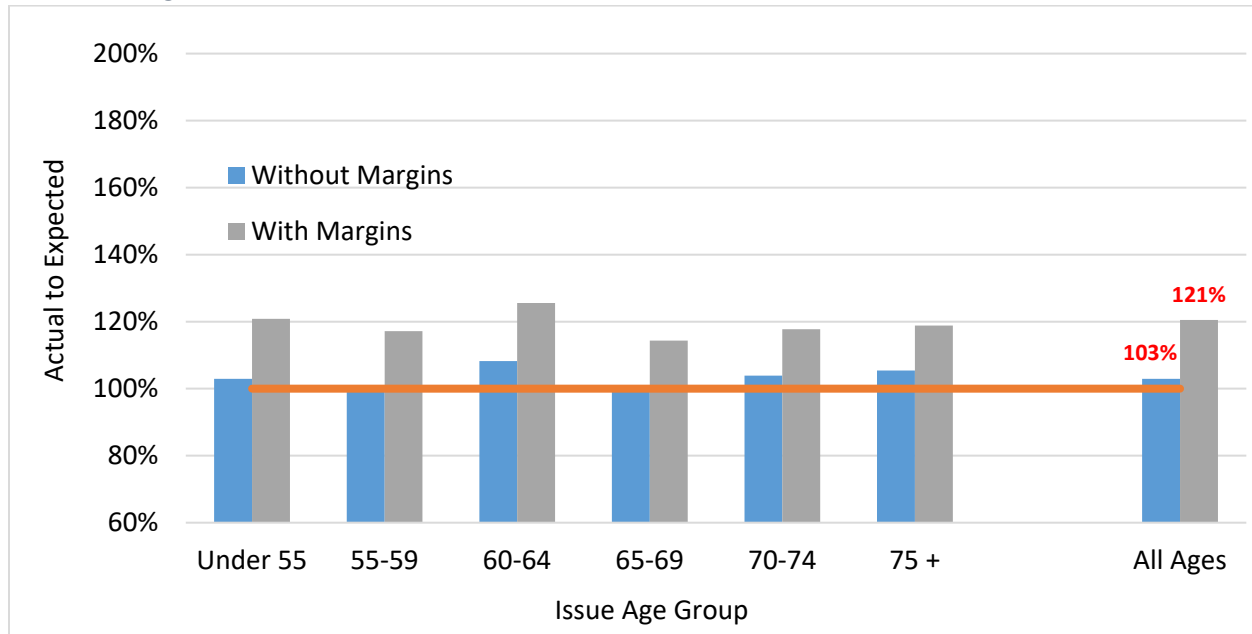
Figure 25. Actual-to-Expected Total Terminations, Group Total Lives, by Policy Duration, With and Without Margins



The actual total terminations are greater than the expected with margins for all policy durations.

By issue age group, the group total lives actual total terminations are equal to or slightly greater than the expected without margins for all issue age groups. As seen in Figure 26, actual total terminations are greater than the expected with margins for all issue age groups.

Figure 26. Actual-to-Expected Total Terminations, Group Total Lives, by Issue Age Group, With and Without Margins



The relationship of actual-to-expected total terminations for actives lives is very similar to that for total lives.

In conclusion, the Work Group is satisfied with the recommended tables in that the implied total terminations are consistent with actual experience.

VI. APPENDICES

Appendix 1—LTCAWG Request

5/5/16

The Long-Term Care Valuation (B) Work Group of the NAIC Health Actuarial (B) Task Force's Long-Term Care Actuarial (B) Working Group requests assistance from the American Academy of Actuaries (Academy) and the Society of Actuaries (SOA) with the following:

- 1) Develop a replacement mortality table for the current statutorily prescribed long-term care (LTC) mortality basis for active life reserves (ALR), the 1994 Group Annuity Mortality Static Table. The replacement mortality table is to be based on the 2012 Individual Annuity Mortality Table, and should vary, where appropriate, by issue age, gender, and individual versus group policy. Consider whether it would be prudent to develop a margin for conservatism to be applied to the table for ALR. Such a margin may be in the form of select and ultimate factors reflective of data studied in the recent SOA/Life Insurance Research Marketing Association (LIMRA) LTC Voluntary Lapse and Mortality Experience Study.
- 2) Develop a proposal to replace the current statutorily prescribed LTC voluntary lapse parameters. The proposal is to be developed using data from the recent SOA/Life Insurance Research Marketing Association (LIMRA) LTC Voluntary Lapse and Mortality Experience Study, and should vary, where appropriate, by issue age, gender, policy duration, individual versus group policy as well as by the presence of specific benefits features that show evidence of producing different lapse experience historically than others.
- 3) For both items above, consider whether the required assumptions used for determining ALR should be modified depending upon whether the morbidity tables used in determining ALR are based on an active lives only or an all lives approach.

Please provide updates on progress as, available, and provide final results for mortality and lapses separately if they are completed at different times.

Thank You,

Perry Kupferman, Chair, Long-Term Care Actuarial (B) Working Group

Appendix 2—Active Lives Actual Lapses to Expected Comparisons

Figure 27. Actual-to-Expected Lapses, Individual Active Lives, by Policy Duration, With and Without Margins

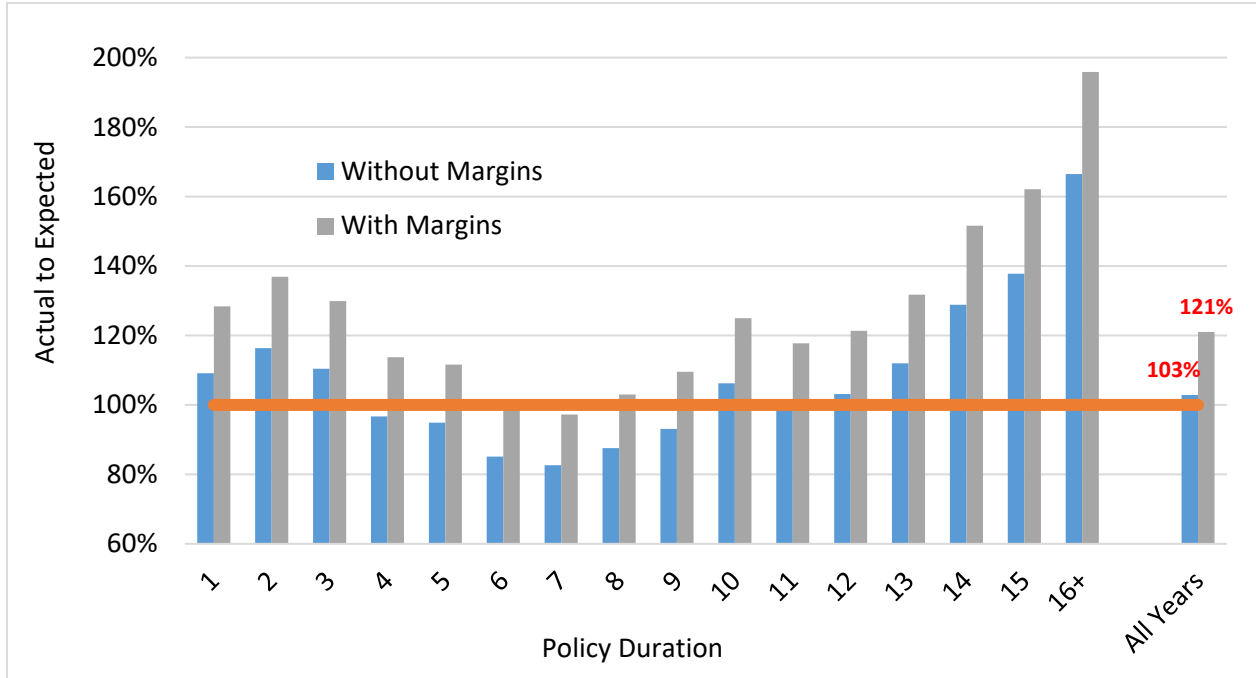


Figure 28. Actual-to-Expected Lapses, Individual Active Lives, by Issue Age Group, With and Without Margins

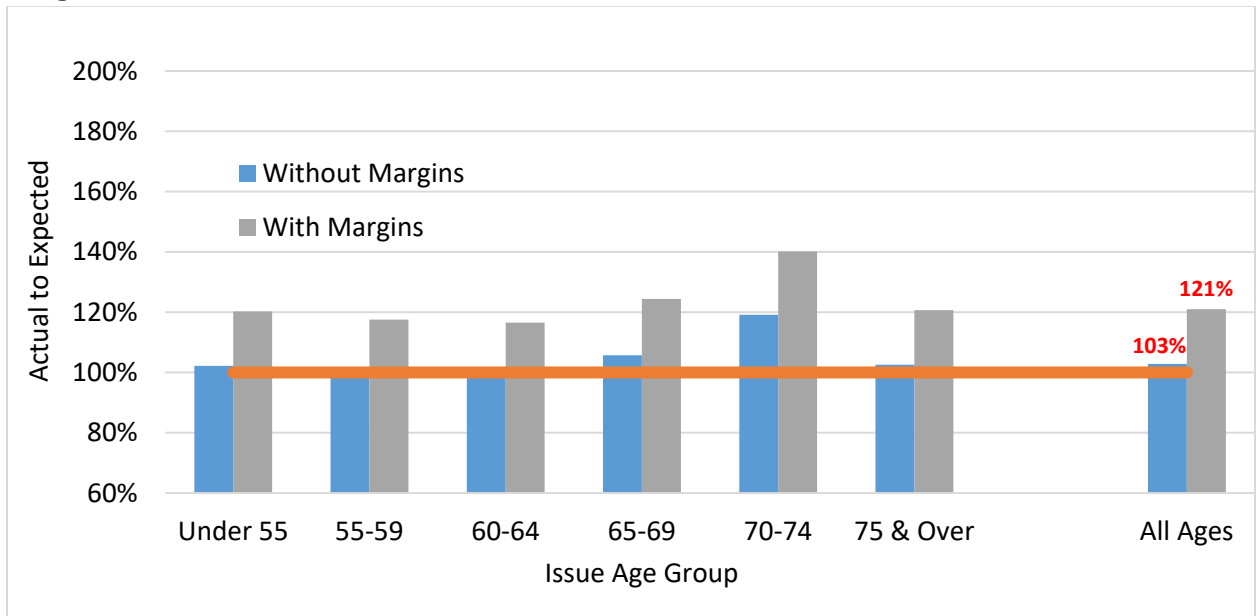


Figure 29. Actual-to-Expected Lapses, Individual Active Lives, by Marital Status and Underwriting Class, With and Without Margins

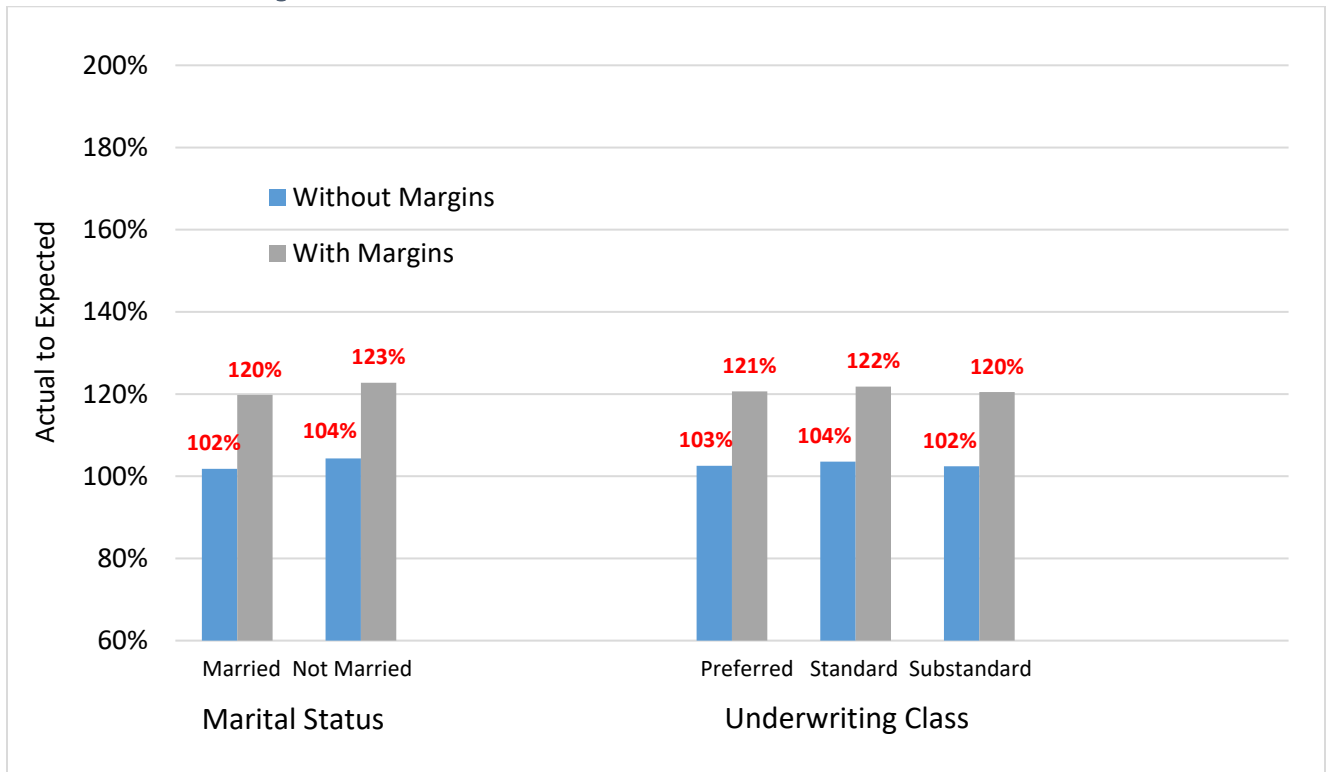


Figure 30. Actual-to-Expected Lapses, Group Active Lives, by Policy Duration, With and Without Margins

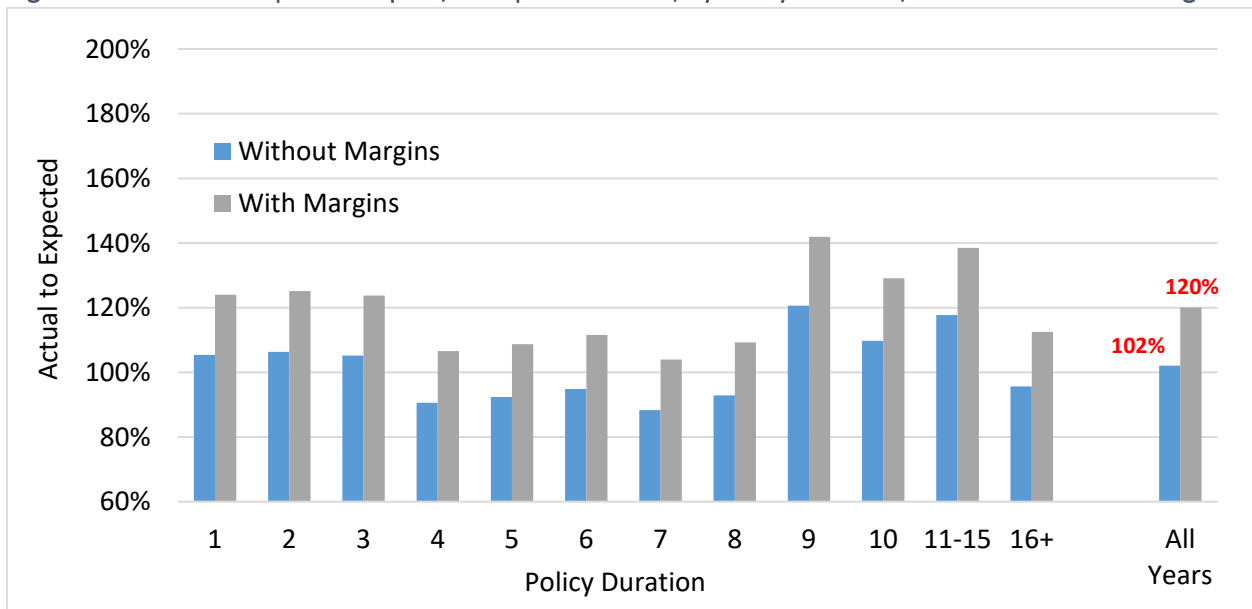
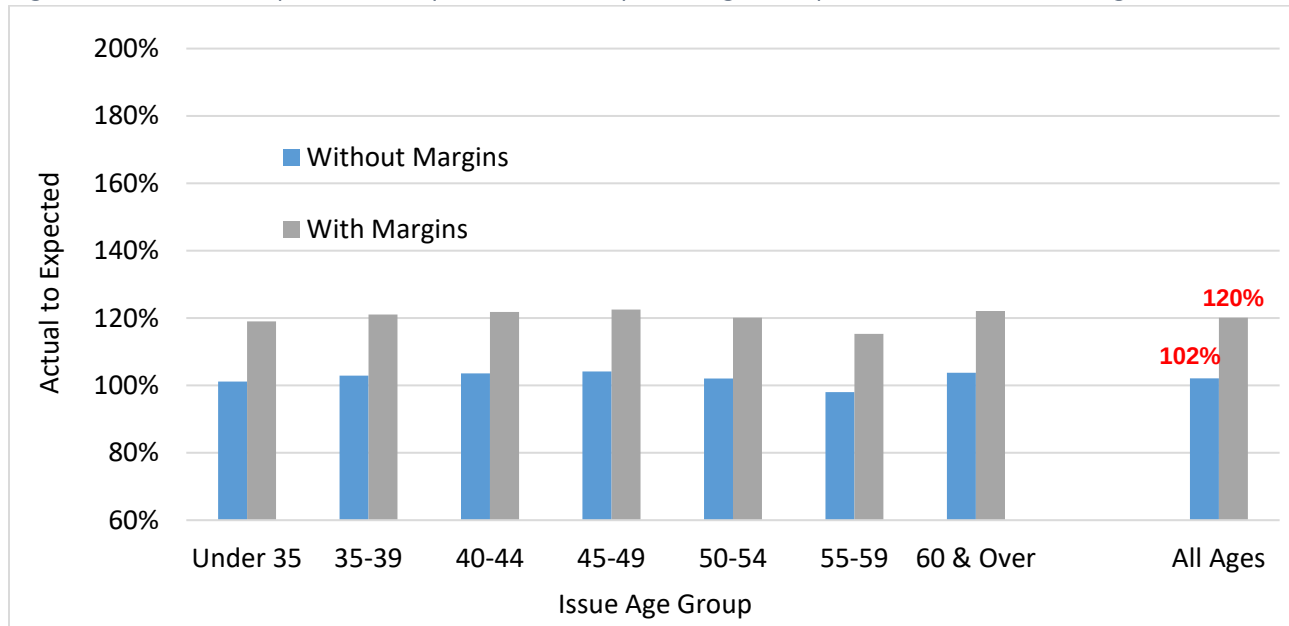


Figure 31. Actual-to-Expected, Group Active Lives, by Issue Age Group, With and Without Margins



Appendix 3—Recommended Lapse Tables

Double-click this icon to download an Excel version of these recommended individual and group lapse tables:



LTC Lapse Tables.xlsx

Table 10. Recommended Individual Lapse Rates—Total Lives (With Margins)

Issue Age Group								Marital Status Adjustment Factor			Underwriting Class Adjustment Factor		
Policy Year		Under 55	55-59	60-64	65-69	70-74	75 & Over	Married	Single	Unknown	Preferred	Standard	Sub-standard
1		5.2%	2.9%	3.9%	3.7%	4.6%	6.6%	0.89	1.47	1.00	1.04	0.88	1.16
2		4.5%	2.6%	2.5%	2.6%	3.2%	4.8%	0.88	1.49	1.00	1.07	0.84	1.14
3		3.9%	2.2%	2.0%	2.1%	2.6%	4.1%	0.87	1.52	1.00	1.08	0.82	1.12
4		3.4%	2.0%	1.6%	1.9%	2.3%	3.6%	0.86	1.53	1.00	1.09	0.82	1.11
5		2.9%	1.7%	1.4%	1.7%	2.1%	3.2%	0.85	1.54	1.00	1.09	0.82	1.09
6		2.6%	1.5%	1.3%	1.5%	2.0%	3.0%	0.84	1.55	1.00	1.09	0.84	1.07
7		2.2%	1.4%	1.2%	1.4%	1.8%	2.8%	0.83	1.55	1.00	1.07	0.88	1.05
8		1.9%	1.2%	1.1%	1.4%	1.7%	2.6%	0.82	1.54	1.00	1.05	0.92	1.03
9		1.6%	1.0%	1.0%	1.3%	1.6%	2.6%	0.82	1.53	1.00	1.03	0.98	1.02
10		1.4%	0.9%	0.9%	1.2%	1.5%	2.4%	0.81	1.52	1.00	0.99	1.06	1.00
11		1.3%	0.8%	0.9%	1.2%	1.4%	2.3%	0.81	1.50	1.00	0.95	1.14	0.98
12		1.1%	0.7%	0.9%	1.1%	1.4%	2.2%	0.80	1.48	1.00	0.95	1.14	0.98
13		0.9%	0.6%	0.8%	1.1%	1.4%	2.1%	0.80	1.45	1.00	0.95	1.14	0.98
14		0.8%	0.5%	0.8%	1.0%	1.3%	2.0%	0.79	1.41	1.00	0.95	1.14	0.98
15		0.7%	0.5%	0.8%	1.0%	1.3%	2.0%	0.79	1.37	1.00	0.95	1.14	0.98
16 & Over		0.6%	0.4%	0.7%	0.9%	1.2%	2.0%	0.79	1.33	1.00	0.95	1.14	0.98

Table 11. Recommended Group Lapse Rates—Total Lives (With Margins)

Policy Year	Issue Age Group						
	Under 35	35-39	40-44	45-49	50-54	55-59	60 & Over
1	19.4%	13.8%	11.2%	9.0%	7.8%	8.0%	6.9%
2	16.7%	11.4%	9.4%	7.6%	6.5%	6.5%	5.6%
3	14.2%	9.5%	7.8%	6.4%	5.4%	5.2%	4.5%
4	12.0%	7.9%	6.5%	5.4%	4.5%	4.2%	3.6%
5	9.9%	6.5%	5.5%	4.5%	3.8%	3.4%	2.9%
6	8.1%	5.4%	4.6%	3.8%	3.1%	2.8%	2.3%
7	6.5%	4.5%	3.8%	3.2%	2.6%	2.2%	1.9%
8	5.2%	3.7%	3.2%	2.7%	2.2%	1.8%	1.5%
9	4.0%	3.1%	2.7%	2.3%	1.8%	1.5%	1.2%
10	3.1%	2.5%	2.2%	1.9%	1.5%	1.2%	1.0%
11	2.4%	2.1%	1.9%	1.6%	1.3%	1.0%	0.8%
12	2.4%	2.1%	1.9%	1.6%	1.3%	1.0%	0.8%
13	2.4%	2.1%	1.9%	1.6%	1.3%	1.0%	0.8%
14	2.4%	2.1%	1.9%	1.6%	1.3%	1.0%	0.8%
15	2.4%	2.1%	1.9%	1.6%	1.3%	1.0%	0.8%
16 & Over	1.9%	1.7%	1.5%	1.4%	1.1%	0.8%	0.6%

Table 12. Proposed Individual Lapse Rates—Active Lives (No Margins)

Policy Year	Issue Age Group						Marital Status Adjustment Factor			Underwriting Class Adjustment Factor		
	Under 55	55-59	60-64	65-69	70-74	75 & Over	Married	Single	Unknown	Preferred	Standard	Sub-standard
1	6.1%	3.4%	4.6%	4.4%	5.4%	7.8%	0.89	1.47	1.00	1.04	0.88	1.16
2	5.3%	3.0%	2.9%	3.1%	3.8%	5.7%	0.88	1.49	1.00	1.07	0.84	1.14
3	4.6%	2.6%	2.3%	2.5%	3.1%	4.8%	0.87	1.52	1.00	1.08	0.82	1.12
4	4.0%	2.3%	1.9%	2.2%	2.7%	4.2%	0.86	1.53	1.00	1.09	0.82	1.11
5	3.4%	2.0%	1.7%	2.0%	2.5%	3.8%	0.85	1.54	1.00	1.09	0.82	1.09
6	3.0%	1.8%	1.5%	1.8%	2.3%	3.5%	0.84	1.55	1.00	1.09	0.84	1.07
7	2.6%	1.6%	1.4%	1.7%	2.1%	3.3%	0.83	1.55	1.00	1.07	0.88	1.05
8	2.2%	1.4%	1.3%	1.6%	2.0%	3.1%	0.82	1.54	1.00	1.05	0.92	1.03
9	1.9%	1.2%	1.2%	1.5%	1.9%	3.0%	0.82	1.53	1.00	1.03	0.98	1.02
10	1.7%	1.1%	1.1%	1.4%	1.8%	2.8%	0.81	1.52	1.00	0.99	1.06	1.00
11	1.5%	0.9%	1.0%	1.4%	1.7%	2.7%	0.81	1.50	1.00	0.95	1.14	0.98
12	1.3%	0.8%	1.0%	1.3%	1.6%	2.6%	0.80	1.48	1.00	0.95	1.14	0.98
13	1.1%	0.7%	0.9%	1.3%	1.6%	2.5%	0.80	1.45	1.00	0.95	1.14	0.98
14	0.9%	0.6%	0.9%	1.2%	1.5%	2.4%	0.79	1.41	1.00	0.95	1.14	0.98
15	0.8%	0.6%	0.9%	1.2%	1.5%	2.4%	0.79	1.37	1.00	0.95	1.14	0.98
16 & Over	0.7%	0.5%	0.8%	1.1%	1.4%	2.3%	0.79	1.33	1.00	0.95	1.14	0.98

Table 13. Recommended Group Lapse Rates—Active Lives (With Margins)

Policy Year	Issue Age Group						
	Under 35	35-39	40-44	45-49	50-54	55-59	60 & Over
1	19.4%	13.8%	11.2%	9.0%	7.8%	8.0%	6.9%
2	16.7%	11.5%	9.4%	7.6%	6.5%	6.5%	5.6%
3	14.2%	9.5%	7.8%	6.4%	5.4%	5.2%	4.5%
4	12.0%	7.9%	6.5%	5.4%	4.5%	4.3%	3.7%
5	9.9%	6.5%	5.5%	4.5%	3.8%	3.5%	3.0%
6	8.1%	5.4%	4.6%	3.8%	3.2%	2.8%	2.5%
7	6.5%	4.5%	3.8%	3.2%	2.6%	2.3%	2.0%
8	5.2%	3.7%	3.2%	2.7%	2.2%	1.9%	1.7%
9	4.0%	3.1%	2.7%	2.3%	1.8%	1.5%	1.4%
10	3.1%	2.6%	2.2%	1.9%	1.5%	1.3%	1.1%
11	2.4%	2.1%	1.9%	1.6%	1.3%	1.0%	0.9%
12	2.4%	2.1%	1.9%	1.6%	1.3%	1.0%	0.9%
13	2.4%	2.1%	1.9%	1.6%	1.3%	1.0%	0.9%
14	2.4%	2.1%	1.9%	1.6%	1.3%	1.0%	0.9%
15	2.4%	2.1%	1.9%	1.6%	1.3%	1.0%	0.9%
16 & Over	1.9%	1.8%	1.5%	1.4%	1.1%	0.8%	0.7%

Appendix 4—Recommended Mortality Tables

Please double-click this icon to download an Excel version of the recommended mortality tables:



LTC Mortality
Tables.xlsx

Academy Professionalism Update

NAIC Summer National Meeting
Health Actuarial (B) Task Force
Aug. 11, 2026

Housed in the Academy: The Professionalism Structure

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- U.S. Code of Professional Conduct
- U.S. Qualification Standards (USQS)
- Actuarial Standards Board & Actuarial Standards of Practice (ASOPs)
- Actuarial Board for Counseling and Discipline (ABCD)

All of these are accessible via the Academy's professionalism page, actuary.org/professionalism, along with Discussion Papers, the Applicability Guidelines, and Professionalism Counts (in Actuarial Update). Up to Code (in *Contingencies*) columns may be found on the ABCD's website (abcdboard.org).

Committee on Qualifications

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The Committee on Qualifications (COQ)

- Recommends to the Academy's Board of Directors the minimum qualification standards, including continuing education requirements, necessary to qualify credentialed actuaries to issue statements of actuarial opinion in the United States.
- Answers questions relating to qualifications.
 - As of mid-July, the COQ received 14 questions in 2026, covering qualifications for non-US actuaries to issue SAOs, specific qualifications, CE, and documentation requirements.

The most recent U.S. Qualification Standards took effect Jan. 1, 2022.

Actuarial Standards Board (ASB)



ACTUARIAL STANDARDS BOARD

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General ASOPs under revision

- ASOP No. 1, *Introductory Standard of Practice*
- ASOP No. 12, *Risk Classification (for All Practice Areas)*
- ASOP No. 41, *Actuarial Communications*

Learn more at: www.actuarialstandardsboard.org



Actuarial Standards Board (ASB)



ACTUARIAL STANDARDS BOARD

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Health ASOPs under revision or development

- ASOP No. 8, *Regulatory Filings for Health Benefits, Accident and Health Insurance, and Entities Providing Health Benefits*
- ASOP No. 45, *The Use of Health Status Based Risk Adjustment Methodologies*
- ASOP No. 49, *Medicaid Managed Care Capitation Rate Development and Certification*
- ASOP No. 50, *Determining Minimum Value and Actuarial Value under the Affordable Care Act*
- *Pricing Reinsurance or Similar Risk Transfer Transactions Involving Life Insurance, Annuities, or Long-Duration Health Benefit Plans (new)*

Recently approved

- ASOP No. 7, *Life or Health Cash Flow Analysis* (Effective June 1, 2026)



Actuarial Board for Counseling and Discipline (ABCD)

Recent ABCD activities

- In the first half of 2026, the ABCD handled a total of 83 cases, consisting of 55 requests for guidance (RFGs) and 28 inquiry cases.
- In addition, the ABCD conducted nine outreach presentations, both virtually and in person, for actuarial organizations, regulators, and actuarial clubs and firms across all major regions of the United States.



In *Contingencies* magazine

- July/August 2026 Up to Code article, Don't Be 'That Actuary'
- May/June 2026 Up to Code article, Are You Offside?
- March/April 2026 Up to Code article, A Show of Hands

Questions?

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For more information, or to send suggestions/comments on the
U.S. Qualification Standards, please contact
Virginia Hulme, Assistant Director, Professionalism
professionalism@actuary.org

Academy Health Practice Council Update

Health Actuarial (B) Task Force (HATF)

Aug. 11, 2026

About the Academy

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Mission:

To serve the public and the U.S. actuarial profession



Community:

Serving over 20K MAAs & public stakeholders for 60 years



Standards:

Setting qualification, practice, and professionalism standards



Impact:

Delivering over 300 insight-driven publications & resources annually

Visit actuary.org to learn more.



Academy Hires New Senior Actuary, Health

Julia Lerche joins the Academy as the Senior Actuary, Health, bringing over 25 years of diverse actuarial experience spanning Medicaid, large employer benefits, the Affordable Care Act (ACA) commercial market, and the healthcare safety net.

This new full-time role with the Academy will further enhance our ability to engage strategically with key stakeholders, deepen actuarial expertise and enhance work products, and support the Academy's mission of serving the public and the U.S. actuarial profession.



Agenda

- Current Priorities and Cross-Practice Updates
- Broadening the Focus Update
- Long-Term Care Activity
- Other Academy Updates and Resources

Health Practice Council Updates

Recent Work

- Federal Comment Letters, including [2027 NBPP](#) and [Medicaid managed care state directed payments](#)
- [Testimony to Texas House Select Committee on Health Care Affordability](#)
- [Medicaid Risk Adjustment](#) Practice Note

Health Practice Council Updates

Cross Practice Areas of Interest

- Retirement Symposium
- Behavioral Economics Survey
- [AI Use Cases in Insurance and Pensions](#)
- Climate Change Activities (Insurance Affordability, AI Data Center Impact, Emerging Climate Products)
- RBC Model Governance (EX) Task Force

Health Practice Council Updates

Upcoming Activities

- GLP-1 Policy Paper
- Premium Drivers Issue Brief and Webinar
- LTC Combo Products Paper
- Medicare Trustees Report Paper and Webinar
- Active Benefits Committee *Funding Arrangements for Employer Health Plans* Paper

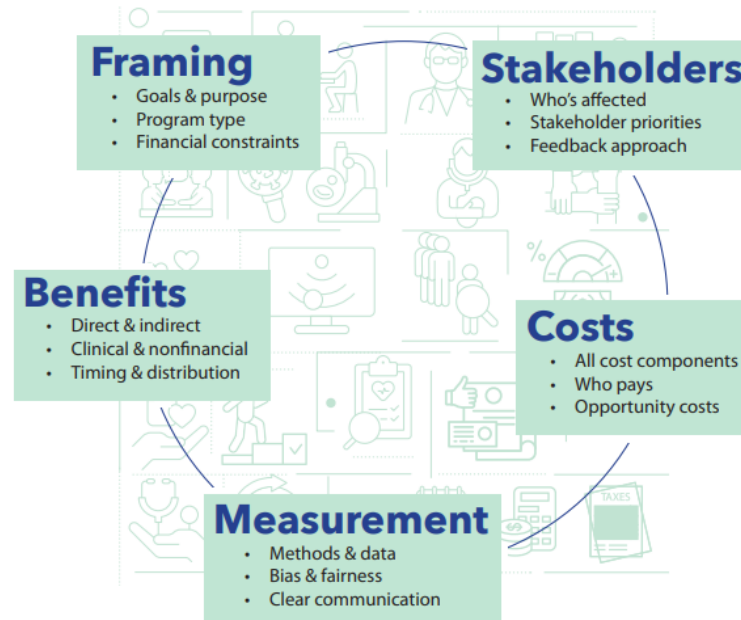
Broadening the Focus Update

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- A project exploring alternatives to traditional ROI measures.
- We introduced the [holistic, principles-based framework](#) that complements financial metrics and supports health care decision-making, which followed prior issue briefs.
- The April [Health Summit](#) highlighted real-world applications of the framework, including Medicaid waivers and commercial benefit design.
- Engagement since has included presentations at the [Food is Medicine Conference](#) (FIMCON), as well as a health equity presentation at [SOA Health](#).

Broadening the Focus Framework

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Long-Term Care (LTC) Activities

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- Creating a Joint Life and Health LTC Combo Products Committee
 - Bringing together health and life actuaries to support innovation while analyzing risks and opportunities related to combo products
 - Looking for regulatory insights and suggestions on potential issues to consider

Other Relevant Health Practice Council Resources

Health Insurance Market Dynamics

- [Health Insurance Marketplace Stability Considerations for States](#)
- [The Interconnectedness of Health Coverage Sources](#)

2026 Academy Award for Research

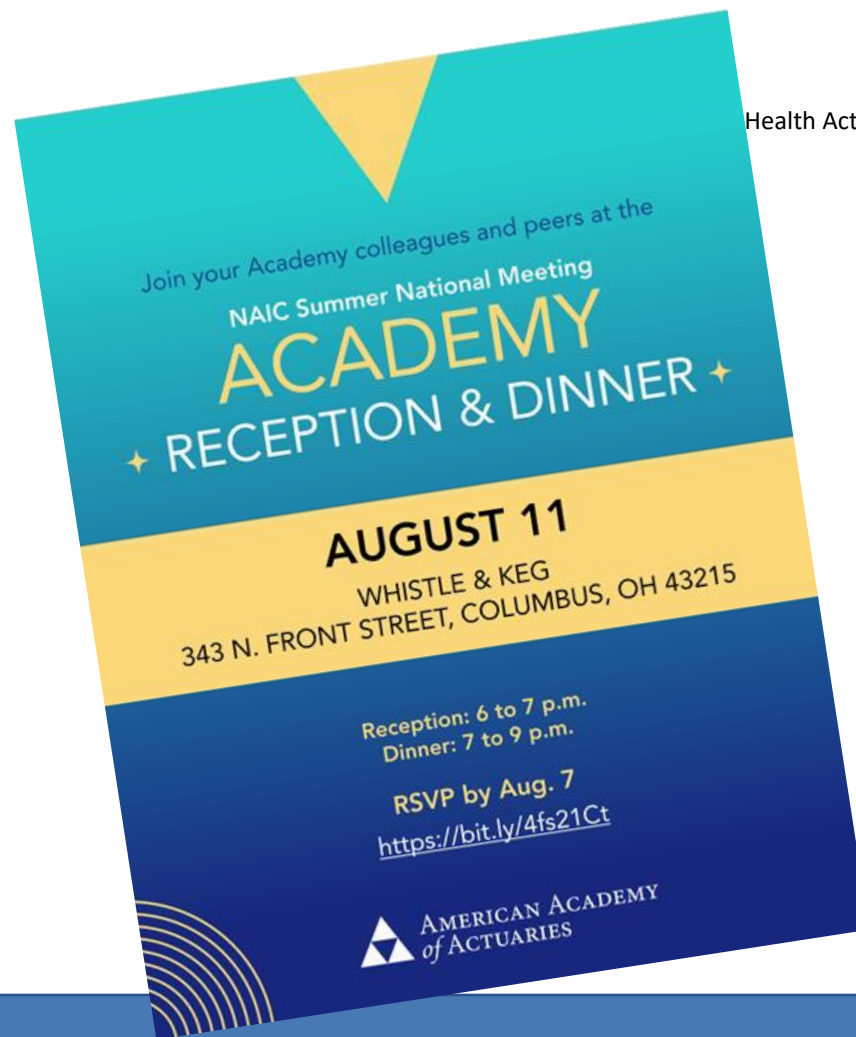
Theme: Access, Affordability, and The Protection Gap

2026 Winner: *A Scalable Toolbox for Exposing Indirect Discrimination in Insurance Rates*,
by Olivier Côté, Marie-Pier Côté, Arthur Charpentier

- How can insurance companies identify and quantify proxy discrimination without compromising predictive accuracy or market viability?

Public Policy connection: Suggests actionable tools actuaries can use to navigate evolving regulatory expectations surrounding fairness, rating equity, and consumer protection while addressing how unmitigated rating disparities can inadvertently exacerbate coverage gaps and restrict access for underserved risk pools.

Join us
Tonight!



Attachment Four
Health Actuarial (B) Task Force
8/11/2026

Questions?

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For more information, please contact

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Upcoming Events

- **Call for Volunteers**, Aug 17, 2026
- **VM-22 Forum**, Aug. 26, 2026
- **Retirement Symposium, D.C.**, September 2026
- **Casualty Loss Reserve Seminar (CLRS) with CAS, Las Vegas**, Sept. 14-16, 2026
- **Life and Health Qualifications Seminar, Arlington**, Sept. 28-Oct. 1, 2026
- **Seminar on Effective P/C Loss Reserve Opinions, Nashville**, Dec. 7-8, 2026

Other Academy Resources

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Follow the Academy on [LinkedIn](#)

Access the Following Resources:



[Contingencies Magazine](#)



[Policy Forum](#)



[Actuarially Sound Blog](#)



[Actuary Voices Podcast](#)



[Academy Insights](#)