

A PUBLIC POLICY PRACTICE NOTE

# Long-Term Care (LTC) Combination Product Valuation Practice Note

December 2019

Developed by the Long-Term Care Combination Product Valuation Work Group



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We welcome your comments and suggestions for additional questions to be addressed by this practice note. Please address all communications to the Academy's health policy analyst, at [health@actuary.org](mailto:health@actuary.org).



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# Long-Term Care Combination Product Valuation Practice Note

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## **Long-Term Care Combination Product Valuation Practice Note**

### **Introduction**

The purpose of this practice note is to provide information to actuaries on current and emerging practices in which their peers are engaged with respect to the considerations in the statutory, Generally Accepted Accounting Principles (GAAP) and tax valuation of long-term care combination products.

This practice note was prepared by a work group organized by the Health Practice Council of the American Academy of Actuaries (Academy). The work group was charged with creating the first practice note on long-term care combination product valuation.

This practice note is not an interpretation of actuarial standards of practice and is not a promulgation of the Actuarial Standards Board, is not an actuarial standard of practice and it is not binding upon any actuary. It is not a definitive statement as to what constitutes generally accepted practice in the area under discussion. Events occurring subsequent to this publication of the practice note may make the practices described in this practice note irrelevant or obsolete.

The purpose of practice notes is to provide information to actuaries on current or emerging practices in which their peers are engaged. They are intended to supplement the available actuarial literature, especially where the practices addressed are subject to evolving technology, recently adopted external requirements, or advances in actuarial science or other applicable disciplines (e.g., economics, statistics, or enterprise risk management). Practice notes are not interpretations of actuarial standards of practice nor are they meant to be a codification of generally accepted actuarial practice. Actuaries are not in any way bound to comply with practice notes or to conform their work to the practices described in practice notes.

### **Survey**

The work group, in conjunction with the Academy, conducted a survey of carriers completing Form 4 of the 2016 LTC Experience Exhibit. The survey addresses GAAP, statutory and tax valuation assumptions and methods. The survey and responses are included in the Appendix in their entirety. Individual company responses are not provided.

## Long-Term Care Combination Product Valuation Practice Note

### Statutory Reserves

#### **Question 1: Are statutory LTC rider reserves usually developed independent of life reserves, or as an integrated calculation?**

Reserve requirements from the LTC Model Regulation, the Universal Life Insurance Model Regulation, and VM20 are cited in this response. These are all National Association of Insurance Commissioners (NAIC) model regulations. None are presented as more significant than the others cited. (Note, however, the recent language added to the Valuation Manual via Amendment Proposal 2017-70 as adopted in late 2018 and as covered below.) The actuary might consider all three in developing a reserve methodology.

- A. LTC Model Regulation 641—Section 18A:
  - Discusses reserve standards for accelerated LTC benefits on life contracts, indicating that reserves “should be based on the multiple decrement model utilizing all relevant decrements except voluntary terminations. Single decrement approximations are acceptable if the calculation produces essentially similar reserves, if the reserve is clearly more conservative, or if the reserve is immaterial...”
  - However, in no event shall the reserves for the long-term care benefit and the life insurance benefit be less than the reserves for the life insurance benefit assuming no long-term care benefit.
- B. Based on practices reported in the survey, it is generally assumed that LTC reserve regulations apply to LTC Extension of Benefit (EOB) Riders, since those riders do not interact with the underlying base plan in terms of mechanics of the benefits.
- C. As reported in the survey, almost all companies in the combination market are using separate calculations for reserves on the life base plan and active life reserves on LTC Accelerated Benefit (AB) riders. An approach that has been in use in the market is to determine projected liabilities for AB benefits, reduced by the present value of reductions to future death benefits that occur as AB payments occur. That stream of liabilities is typically used in a traditional LTC reserve approach.

From the survey results, companies report using a separate reserve calculation individually for both AB and EOB riders using a 1-Year Preliminary Term basis. Such a reserve calculation would reflect the pattern of charges or separate premium for the LTC rider. Such patterns might include level, and duration based or attained age based limited-pay charges or premiums. One survey response reported using one-half the discounted cost of insurance for the current age ( $\frac{1}{2}$  cx) for the LTC AB rider reserve. Such a methodology would not be consistent with limited pay LTC rider charges or premiums. The actuary might consider the pattern of the LTC rider charges or premiums when establishing the LTC rider reserve methodology.

## Long-Term Care Combination Product Valuation Practice Note

D. Universal Life Insurance Model Regulation—The following sections contained references to riders:

- Section 3H identifies that a UL contract may provide for charges for riders.
- Section 5A addresses the valuation of riders on a UL contract:
  - The section discusses reserves for policies and riders for which premiums are not paid separately.
  - This section appears to direct that riders be valued along with the base policy if no separate premium is required for the rider. Some of the product designs for LTC AB and EOB riders fit this design.

E. VM20

- VM20 addresses holding adequate reserves.

Amendment Proposal 2017-70 to the Valuation Manual was adopted late in 2018. Several key sections are provided below:

- B. For supplemental benefits including Guaranteed Insurability, Accidental Death or Disability Benefits, Convertibility, or Disability Waiver of Premium Benefits, the supplemental benefit may be included with the base policy and follow the reserve requirements for the base policy under VM-20, VM-A, and/or VM-C as applicable.*
- C. ULSG and other secondary guarantee riders shall be valued with the base policy and follow the reserve requirements for ULSG policies under VM-20, VM-A, and/or VM-C as applicable.*
- D. If a rider or supplemental benefit to a life insurance policy that is not addressed in Paragraphs B or C above possesses any of the following attributes, the rider or supplemental benefit shall be included with the base policy and follow the reserve requirements for the base policy under VM-20, VM-A, and/or VM-C as applicable.*
  - 1. The rider or supplemental benefit does not have a separately identified premium or charge;*
  - 2. The rider or supplemental benefit premium, charge, value, or benefits are determined by reference to the base policy features or performance; or*
  - 3. The base policy value or benefits are determined by reference to the rider or supplemental benefit features or performance. The deduction of rider or benefit premium or charge from the contract value is not sufficient for a determination by reference.*
- E. If a term life insurance rider on the named insured[s] on the base life insurance policy does not meet the conditions of paragraph D above, and either (1) guarantees level or near level premiums until a specified duration followed by a material premium increase, or (2) for a rider for which level or near level premiums are expected for a period followed by a material premium increase, then the rider shall be separated from the base policy and follow the reserve requirements for term policies under VM-20, VM-A, and/or VM-C as applicable.*

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*F. For all other riders or supplemental benefits on life insurance policies not addressed in paragraphs B through E above, the riders or supplemental benefits may be included with the base policy and follow the reserve requirements for the base policy under VM-20, VM-A, and/or VM-C as applicable. For a given rider, the election to include riders or supplemental benefits with the base policy shall be determined at the policy form level, and not on a policy by policy basis.*

- Item D.3. The language above would appear to require the accelerated death benefit riders be valued on an integrated basis with the base plan, to the extent that the base plan is subject to VM-20.
  - This creates an open issue in that the prescribed (Net Premium Reserve) NPR reserve calculation in VM-20 does not address the inclusion of riders.
  - VM20 language raises some questions about EOB riders with separate charges, but where premiums are commingled. If base plan and rider charges are separately identified but premiums are commingled between the base plan and the rider, it is unclear what it means to have a separate calculation of base plan and rider reserves. Commingled premiums on a Universal Life policy imply a commingled account value, which would appear to create some challenges in the separate development of base plan and rider reserves.

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### Provision for Adverse Deviation

**Question 2: When are Provisions for Adverse Deviation (PADs) required in statutory reserve calculations for combination products, and how are they derived when PAD might increase reserves for the LTC rider and decrease the present value of the liabilities for the base plan?**

There are various reserve calculations that require the use of PADs to help assure adequacy of reserves. Examples include GAAP reserves prior to Long Duration Targeted Improvements, and VM-20 reserve calculations. With combination products coupling LTC riders with base plan coverage, it is not always obvious whether loading of a particular assumption will increase or decrease the overall reserve. For example, a life insurance reserve will be increased by the use of a mortality assumption that is increased by a PAD. However, higher mortality may have the effect of reducing the LTC liability on the rider, especially if the rider has level premiums or charges.

In the case of VM-20 requirements, there are specific rules prescribed for the derivation of mortality assumptions to be used based on credibility of a company's mortality experience, and weighting of those values with industry mortality. Some might view this as an inherent PAD if the company's experience is lower than industry mortality, in addition to other PADs requirements. On some life combination products this will have the effect of lowering the present value of liabilities for the LTC rider.

Additional PADs may be developed on assumptions pertaining to an LTC rider, such as LTC incidence rates. Although these may more than offset the impact of mortality PADs with respect to reserves for LTC, these would have the effect of reducing life liabilities when the rider is an AB LTC rider.

One principle established in the LTC Model Regulation 641, Section 18A, is that a reserve developed for life coupled with LTC AB riders should never be less than the standalone life reserve. In the spirit of that principle, the use of PADs could be problematic if they have the effect of reducing the overall life plus LTC AB reserves.

To assure that this potential issue is addressed, some actuaries developing PADs for these products are conducting testing of PADs on multiple assumptions, with a review of results for reasonableness and with the principle of increasing total reserves over unpadding levels.

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### Mortality

#### Question 3: What mortality basis is used in the development of statutory LTC rider reserves?

- A. Standard Valuation Law (SVL)—no notable guidance is provided on combination products
- B. Valuation of Life Insurance Model Regulation—Riders are not specifically mentioned in this regulation.
- C. LTC Model Reg Section 18.A indicates that applicable morbidity tables must be certified.
- D. Per Health Insurance Reserve Model Reg Section 4.B, 1994 group annuity mortality table (GAM) is prescribed for valuation mortality for LTC.
- E. It is generally assumed that LTC reserve regulations would apply to LTC EOB riders, since those riders do not interact with the underlying base plan in terms of mechanics of the reserve calculation.
- F. Valuation mortality rates to be used for life insurance are 2001 commissioners standard ordinary (CSO) for issues through 12/31/2016, 2017 CSO for issues after 12/31/2019, and either table for dates in between.
- G. The survey indicates that most companies in the LTC combination product market are using separate calculations for reserves on the life base plan and active life (“contract”) reserves on LTC AB riders. A multi-decrement model would inherently use one valuation mortality table. If using a separate calculation for LTC AB reserves, it would be mechanically possible to use either the life valuation table or 94 GAM. Note also that if the LTC AB reserve is calculated using projected LTC benefits offset by the present value of death benefit reductions, disabled life mortality is inherently required to determine those death benefit reductions. There is no prescribed mortality table for LTC disabled life mortality. Practices observed for this step include best estimate disabled life mortality assumptions with appropriate PADs.
- H. For EOB reserves, traditional LTC reserve calculations would typically be used. If 94 GAM is used, this would create an inconsistency with the mortality assumption used for the life policy. Given that the underlying expected mortality is the same for the base plan and rider, it can be argued that it would be appropriate to use a common mortality basis for valuation. In fact, for many of these products, it has been observed that the use of 94 GAM can produce reserves that are insufficient to cover the liabilities in the tail. The use of a mortality table lower than 94 GAM seems consistent with the spirit of LTC reserving requirements, as it would increase reserves and, in this case, help assure adequacy of those reserves.

Note however that lowering reserve mortality for the underlying life product would generally have the effect of decreasing the life reserve. This is a good example of some of the synergistic

## **Long-Term Care Combination Product Valuation Practice Note**

characteristics of combination products, where changes in some experience factors can adversely impact base plan profits but improve rider profits. Such synergies can be positive as they can dampen the volatility of profits across a range of scenarios. For example, adverse mortality experience reduces the life insurance profits, but increases the LTC rider profits as fewer people will survive to claim LTC benefits. This is one of the key synergies of combination products. However, if the desire is to create PADs in the development of both the base plan and the rider reserves, that may not be possible to achieve under an integrated reserve calculation that uses one common set of factors such as mortality.

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### Lapses

#### Question 4: What issues arise when utilizing lapse assumptions in the development of statutory LTC rider reserves?

- A. LTC Model Regulation 641—Section 18A discusses reserve standards for accelerated LTC benefits on life contracts, indicating that reserves “should be based on the multiple decrement model utilizing all relevant decrements except voluntary terminations. Single decrement approximations are acceptable if the calculation produces essentially similar reserves, if the reserve is clearly more conservative, or if the reserve is immaterial....”
- B. LTC reserve regulations may apply to LTC EOB riders, since those riders do not interact with the underlying base plan in terms of the mechanics of the reserve calculation.
- C. Below is the key provision for lapse assumptions for LTC contract reserves from the Health Insurance Reserve Model Regulation.

#### Section 4. Contract Reserves

##### B (1) (c) (iii) Termination Rates

For long-term care individual policies or group certificates issued on or after January 1, [2005], the contract reserve shall be established on the basis of:

(I) Mortality (as specified in Appendix A); and

(II) Terminations other than mortality, where the terminations are not to exceed:

- For policy year one, the lesser of eighty percent (80%) of the voluntary lapse rate used in the calculation of gross premiums and six percent (6%);
- For policy years two (2) through four (4), the lesser of eighty percent (80%) of the voluntary lapse rate used in the calculation of gross premiums and four percent (4%); and
- For policy years five (5) and later, the lesser of one hundred percent (100%) of the voluntary lapse rate used in the calculation of gross premiums and two percent (2%), or three percent (3%) for group

Experience as indicated by the survey is that most companies in the LTC combination product market are using separate calculations for reserves on the life base plan and active life (“contract”) reserves on LTC AB riders. It is not clear in the regulations how to construct a multi-decrement model. An approach that has been in use in the market is to determine projected liabilities for AB, reduced by the present value of reductions to future death benefits that occur as AB payments occur. That stream of liabilities can be used in a traditional LTC reserve calculation. Some companies have used all elements of a traditional LTC reserve calculation, including the voluntary lapse assumptions listed above. This might be viewed as inconsistent

## **Long-Term Care Combination Product Valuation Practice Note**

with the language in LTC Model Regulation 641—Section 18A, which precludes voluntary terminations as a decrement.

It also should be noted that under Principles Based Reserving (PBR), lapses (usually with PADs) are inherently reflected in life insurance reserve calculations. LTC combination product reserves will be required to be developed under PBR due to the underlying guarantees within the base plans.

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### Tax Reserves

#### Question 5: What are the considerations in the development of tax basis reserves for LTC riders on life or annuities?

**NOTE:** No portion of this Practice Note is intended to be tax advice. For specific questions, you should address with your company's tax advisor.

- A. The Tax Cuts and Jobs Act (TCJA) was effective Jan. 1, 2018. This results in a significant change to methods and assumptions for tax reserves.
- B. Under TCJA, Section 807(d) of the Internal Revenue Code (IRC) prescribes the methodology as Commissioners Reserve Valuation Method (CRVM) for life insurance, Commissioners Annuity Reserve Valuation Method (CARVM) for annuities and the NAIC prescribed method for accident and health (A&H). The tax reserve for life insurance reserves (including life, annuity, and A&H as defined in IRC section 816) is 92.81% of the reserve using the prescribed method, regardless of the method used for the statutory reserve. The cap of the statutory reserve and floor of the net surrender value is unchanged for TCJA.
- C. Under TCJA, Section 811(a) of the IRC prescribes the assumptions used "for purposes of the annual statement approved by the National Association of Insurance Commissioners."
- D. Changes under TCJA are that there are no longer prescribed tables and interest other than those used for the statutory reserves. The method for LTC is either 2-Year Preliminary Term for issue years prior to 1992, or 1-Year Preliminary Term for issue years 1992 and subsequent. This is from Model 010, the Health Insurance Model Regulation, of the NAIC. Companies may have different statutory bases for LTC than that prescribed by NAIC Model 010. However, the bases in NAIC Model 010 are the IRS-prescribed bases for tax.
- E. The same considerations discussed in Question 3 regarding Integrated versus Independent reserve calculations apply here. From the survey, most companies are currently using an independent reserve calculation for the LTC rider(s).
- F. The Disabled Life Reserve (DLR) for LTC is a life insurance reserve and is calculated as 92.81% of the statutory reserve. Incurred But Not Reported (IBNR) for unaccrued LTC benefits is also a life insurance reserve as defined under IRC section 816(b). Section 816(b) defines life insurance reserves to include:

*future unaccrued claims arising from life insurance, annuity, and noncancellable accident and health insurance contracts (including life insurance or annuity contracts combined with noncancellable accident and health insurance) involving, at the time with respect to which the reserve is computed, life, accident, or health contingencies.*

IRC section 816(e) gives guaranteed renewable A&H insurance the same treatment as noncancellable A&H insurance.

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- G. Both IBNR for accrued benefits and In Course Of Settlement (ICOS) for the LTC benefit are not life insurance reserves, but are IRC section 807(c)(2) unpaid losses in total. The one-half year discounting required by IRC section 846(e)(6)(B) states:

*in all other cases, by using an assumption (in lieu of a loss payment pattern) that unpaid losses are paid in the middle of the year following the accident year.*

The IRS publishes the one-half year discount factor. A good reference for understanding this treatment is the Society of Actuaries text *U.S. Tax Reserves for Life Insurers*. See page 577 regarding the tax treatment of A&H unpaid losses.

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### GAAP Reserves

#### Question 6: What are the considerations in the GAAP valuation of LTC riders on life policies?

From the survey question on GAAP methodology, there were five responses that separate reserves were calculated for the LTC rider including both AB and EOB riders. Here, the valuation models for the life insurance and LTC benefits are separate, each with their own methods and assumptions. The actuary might choose such separate models and consider the methods and assumptions independently. Here, there is no interaction of the life and LTC benefits within the reserve models.

The survey also has questions about GAAP valuation assumptions used. With respect to morbidity and lapse assumptions, the majority of companies indicated that best estimate assumptions are used. With respect to mortality assumptions, three out of six responses indicated the use of GAAP reserve mortality. The other three responses are one each for Company Best Estimate, 2001 CSO ultimate, and 94 GAM. We presume this includes PAD. With respect to interest rate, three out of five responses indicated the use of a GAAP reserve interest rate. The other two responses are 3.5%.

There are also three responses from the survey that an integrated calculation with a multi-decrement approach was used. Also from the survey, the most common integrated calculation uses SOP 03-1. For clarification, SOP 03-1 precedes the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC). SOP 03-1 is included in ASC 944. For considerations on an integrated valuation, the actuary may consider the Academy [Practice Note on Anticipated Common Practices Relating to AICPA Statement of Position 03-1: Accounting and Reporting by Insurance Enterprises for Certain Nontraditional Long-Duration Contracts and for Separate Accounts](http://www.actuary.org/content/practice-notes). (April 2005. Available under the Life tab at [www.actuary.org/content/practice-notes](http://www.actuary.org/content/practice-notes).)

A significant consideration in using SOP 03-1 as the basis of an integrated model is whether insurance liabilities are required in addition to the account balance. SOP 03-1 requires a “profits followed by losses” test. The SOP states that an additional insurance liability should be established “if the amounts assessed against the contract holder each period for the insurance benefit feature are assessed in a manner that is expected to result in profits in earlier years and losses in subsequent years from the insurance benefit function.”

There is a range of practice among actuaries in performing the profits followed by losses test. The range includes performing the test for multiple scenarios to a single deterministic test using the best estimate assumptions.

The SOP indicates the profits followed by losses test is to be performed for each mortality and morbidity feature. However, there is a range of practice among actuaries as to whether the liability calculation is performed for each insurance benefit function. Some actuaries calculate the liability for each insurance benefit feature separately. Other actuaries calculate the liability for all insurance benefit features in the aggregate.

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The calculation of the additional liabilities for insurance benefits is described in the SOP. The first step is the calculation of the Benefit Ratio as the present value (PV) of cumulative actual plus future expected excess benefits to the PV of cumulative actual plus future expected total assessments. The SOP states that the Benefit Ratio is based on future expected experience over a full range of scenarios, rather than on a single set of best estimate assumptions. Also, the assumptions should be consistent with those used to calculate the Estimated Gross Profit for the amortization of the deferred acquisition cost (DAC). The Benefit Ratio might exceed 100%. The Additional Insurance Liability is calculated as the Benefit Ratio multiplied by the cumulative actual assessments minus cumulative actual excess payments, all accumulated with interest. The Additional Insurance Liability may not be less than zero.

This is not a comprehensive listing of the issues in using SOP 03-1 for integrated reserves of life insurance with LTC riders but is intended to make the actuary aware of the topic for further consideration. There are significant ranges of practice in the use of SOP 03-1 for an integrated valuation model. The Academy practice note cited above also provides additional references.

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### Disabled Life Reserves

#### Question 7: What are the considerations in the development of statutory disabled life reserves for LTC riders on life or annuities?

- A. LTC reserve regulations may apply to LTC (EOB) riders, since those riders do not interact with the underlying base plan in terms of the mechanics of the reserve calculation.
- B. LTC disabled life reserves are generally calculated using claim termination rate assumptions, benefit utilization, and valuation interest discount rates, with or without margins.
- C. Some companies reflect expected recoveries in the development of disabled life reserves, while others do not consider recoveries and reflect on-claim mortality as the only termination.
- D. For LTC accelerated benefit riders, the total claim benefit being paid may be viewed as coming from two components, the first being the surrender value of the base plan, and the second coming from the insurance company's assets. Since the surrender value serves as a floor to life and annuity reserves, many companies would likely not set up an additional disabled life reserve on those amounts, but rather establish disabled life reserves based on projected net amounts at risk projected to be paid out during the disability.
- E. Since every projected accelerated benefit claim payment from a life combination product in the future is accompanied by a reduction in the life insurance death benefit, some may believe that a reduction to the projected payments should be made in the disabled life reserve calculation to recognize that dynamic. This has not been observed in practice in our experience. Any overstatement of liabilities related to this is fairly quickly self-corrected as the death benefit and reserves are reduced with each payment for LTC accelerated benefits.
- F. As is true for stand-alone LTC, some companies base disabled life reserves for LTC riders on the current situs of care (e.g., institutional vs. home health care), reflecting the projected level of payouts for that situs, transition probabilities to other situses, and the corresponding projections in those situses. Alternatively, the original situs might be used with the transitions reflected in the termination experience used. Other companies use aggregate factors that do not recognize the situs of care, but rather use overall average factors in their projected payments, claim termination rates, and other factors.

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### Yearly Renewable Term Long-Term Care Rider

**Question 8: What are the considerations in the development of the active life reserve methodology for an LTC AB rider with Yearly Renewable Term (YRT) premiums or charges?**

- A. The first consideration is the type of reserve model being used, those being separate models or an integrated model. From the survey results, most companies use separate models for the base policy and the LTC rider.
- B. For a valuation using separate models, the actuary might consider the slope and structure of the YRT LTC premium scale. If the slope is materially the same as the LTC claim costs,  $\frac{1}{2} cx$  might be considered appropriate. Other considerations would be a premium structure that becomes level or ceases at an attained age. For such premium or charge structures, pre-funding the claims at those attained ages through the active life reserve might be considered.
- C. For a valuation using an integrated model for the base and LTC rider, the reserve is based on the combined cash flows.

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## Appendix

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SURVEY OF INDUSTRY PRACTICE

Reserving for LTC Combo Riders:  
Results from a Survey of Life Insurance Companies

November 10, 2017

Report by: Steve Jackson, Assistant Director for Research (Public Policy)

To: Warren Jones, Chair, and members of the LTC Combo Valuations Work Group, of the Long Term Care/Disability Committee, Health Practice Council

Relevant Pool of Companies: 24 life insurance companies filed Form 4 with their LTC Experience Reports, indicating they had LTC Combo riders in their inforce book of business either on December 31, 2015 or December 31, 2016. See Appendix 1 for the list of the 24 companies.

Sample: We contacted Academy members at 22 of the 24 companies, requesting their participation in the survey.

Survey Time Period: 7/6/2017 – 8/11/2017.

Response: We received completed surveys from 8 of the 22 companies (36%). Of those 8, two indicated they did not have LTC Combo riders in their inforce book of business as of December 31, 2016. The six companies with relevant riders reported on 11 such products. Of the 11, one reported a deferred annuity as a base plan.

Based on 2015 data from the NAIC, the top 20 life insurers accounted for 64% of total direct premiums. Of those 20, 6 offered LTC riders in 2015 or 2016, with those companies accounting for 26% of all life insurance premiums. Four of the six respondents to our survey are among the top 20 life insurers, accounting for 19% of direct premiums in 2015. While we do not have data available on premiums only for LTC combo products, the four respondents who were among the top 20 life insurers based on all direct premiums accounted for 73% of the premiums of the six of the top 20 companies which offered LTC combo products.

Note: Because only one company reported a deferred annuity as a base plan, we will not report the answers to questions by that company (since their answers might be traceable to the particular company). We will report the results for the ten products from five companies which offered UL, WL, IUL, VUL or Term products.

On the following pages, results for the twenty-one questions which did not refer specifically to deferred annuities are presented. For each question, all responses which generated at least one response is reported exactly as written. The raw number of responses is reported, with the percent of those responding to the particular question in parentheses. These are results for: all respondents (ALL); those offering a Universal Life policy (UL-ALL); those offering a Universal Life policy with an Accelerated Benefit Rider (UL-ABR); those offering a Universal Life policy with an Extension of Benefits (UL-EXT); and those offering a Whole Life or Term policy with an Accelerated Benefit Rider (WL/Term0ABR). Note: column counts for ALL = UL-ALL + WL/Term-ABR; and UL-ALL = UL-EXT + UL-ABR.

	ALL	UL-ALL	UL-EXT	UL-ABR	WL/Term-ABR
1) For your LTC combination product, is it an:					
a. LTC extension of benefits, inflation benefit, and/or Paid-up nonforfeiture benefits (presumed to have level or one-time charges or premium).	4 (40%)	4 (50%)	4 (100%)		
b. LTC ABR to life insurance, with level charges or premium.	5 (50%)	3 (38%)		3 (75%)	2 (100%)
c. LTC accelerated benefit rider (ABR) to life insurance, with YRT charges or premium.	1 (10%)	1 (12%)		1 (25%)	
2) For this LTC combination product, what is the type of base plan?					
a. UL	7 (70%)	7 (88%)	4 (100%)	3 (50%)	
b. Can be UL, IUL or VUL	1 (10%)	1 (12%)		1 (17%)	
c. WL	1 (10%)				1 (50%)
d. Term	1 (10%)				1 (50%)
3) Are there guaranteed charges?					
a. Yes	9 (90%)	8 (100%)	4 (100%)	4 (100%)	1 (50%)
b. No	1 (10%)				1 (50%)

	ALL	UL-ALL	UL-EXT	UL-ABR	WL/Term-ABR
4) What kind of statutory reserve methodology is used for this LTC rider?					
a. Separate reserves generated for the rider.	9 (90%)	8 (100%)	4 (100%)	4 (100%)	1 (50%)
b. Integrated calculation with the base plan, using a multi-decrement approach	1 (10%)				1 (50%)
5) For the statutory reserves, what mortality assumption is used?					
a. 1994 GAM Table	3 (33%)	2 (25%)	2 (50%)		1 (100%)
b. 2001 CSO Ultimate mortality table	2 (22%)	2 (25%)		2 (50%)	
c. Required statutory reserve mortality table	3 (33%)	3 (38%)	1 (25%)	2 (50%)	
d. For the extension rider, reserves are calculated using experience mortality and 1994 GAM. The greater of the two reserves at each duration is held.	1 (11%)	1 (12%)	1 (25%)		
6) For the statutory reserves, what interest rate assumption is used?					
a. 3.5%	4 (44%)	3 (38%)	2 (50%)	1 (25%)	1 (100%)
b. the maximum valuation interest rate permitted by law for Whole life policies issued on the same date (currently 3.50% interest per year)	2 (22%)	2 (25%)	1 (25%)	1 (25%)	
c. Statutory reserve interest rate	3 (33%)	3 (38%)	1 (25%)	2 (50%)	

	ALL	UL-ALL	UL-EXT	UL-ABR	WL/Term-ABR
7) For the statutory reserves, what reserve methodology is used?					
a. One year FPT	6 (60%)	6 (75%)	3 (75%)	3 (75%)	
b. 1/2 cx	1 (10%)	1 (12%)		1 (25%)	
c. First Principles approach for both base and CAE reserve components	1 (10%)				1 (50%)
d. AG38 for base plus rider combined	1 (10%)				1 (50%)
e. AG38 for the base life policy. ALR and DLR are held for the acceleration rider based on the NAAR. ALR and DLR are held for the extension rider. Claim expense reserves are held for both riders.	1 (10%)	1 (12%)	1 (25%)		
8) For the statutory reserves, what morbidity assumptions are used?					
a. best estimate offset by PV life benefit reductions	3 (33%)	2 (29%)	1 (25%)	1 (33%)	1 (50%)
b. best estimate	5 (55%)	4 (57%)	2 (50%)	2 (67%)	1 (50%)
c. Best Estimate with benefits multiplied by (1-NAAR/DB)	1 (11%)	1 (14%)	1 (25%)		

	ALL	UL-ALL	UL-EXT	UL-ABR	WL/Term-ABR
9) For the statutory reserves, what lapse assumption is used?					
a. 0% for Base and Best Estimate for CAE	1 (20%)				1 (100%)
b. No lapses for acceleration rider. Best estimate lapses capped at Statutory maximums for the extension rider.	1 (20%)	1 (25%)	1 (33%)		
c. Voluntary lapse assumptions are included as stated in the 2003 NAIC Health Insurance Reserves Model Regulation	1 (20%)	1 (25%)	1 (33%)		
d. No lapses	1 (20%)	1 (25%)		1 (100%)	
e. Best estimate lapse assumptions subject to valuation law constraints.	1 (20%)	1 (25%)	1 (33%)		
10) What kind of tax reserve methodology is used for this LTC rider?					
a. Separate reserves generated for the rider.	9 (90%)	8 (100%)	4 (100%)	4 (100%)	1 (50%)
b. Integrated calculation with the base plan, using a multi-decrement approach	1 (10%)				1 (50%)
11) For the tax reserves, what mortality assumption is used?					
a. 94 GAM	3 (33%)	2 (25%)	2 (50%)		1 (100%)
b. 2001 CSO Ultimate mortality table	2 (22%)	2 (25%)		2 (50%)	
c. Tax reserve mortality table	3 (33%)	3 (38%)	1 (25%)	2 (50%)	
d. For the extension rider, reserves are calculated using experience mortality and 1994 GAM. The greater of the two reserves at each duration is held.	1 (11%)	1 (12%)	1 (25%)		

	ALL	UL-ALL	UL-EXT	UL-ABR	WL/Term-ABR
12) For the tax reserves, what interest rate assumption is used?					
a. 3.5%	5 (55%)	5 (62%)	3 (75%)	2 (50%)	
b. Tax reserve interest rate	3 (33%)	3 (38%)	1 (25%)	2 (50%)	
c. Greater of Prevailing State Assumed Rate and AFR	1 (11%)				1 (100%)
13) For the tax reserves, what reserve methodology is used?					
a. One year FPT	6 (60%)	6 (75%)	3 (75%)	3 (75%)	
b. 1/2 cx	1 (10%)	1 (12%)		1 (25%)	
c. First Principles approach for base reserve component	1 (10%)				1 (50%)
d. Ag38 for base plus rider combined	1 (10%)				1 (50%)
e. AG38 for the base life policy. ALR and DLR are held for the acceleration rider based on the NAAR. ALR and DLR are held for the extension rider.	1 (10%)	1 (12%)	1 (25%)		
14) For the tax reserves, what morbidity assumptions are used?					
a. best estimate offset by PV life benefit reductions	3 (33%)	2 (29%)	1 (25%)	1 (33%)	1 (50%)
b. best estimate	4 (44%)	4 (57%)	2 (50%)	2 (67%)	
c. Milliman Data offset by PV life benefit reductions	1 (11%)				1 (50%)
d. Best Estimate with benefits multiplied by (1-NAAR/DB)	1 (11%)	1 (14%)	1 (25%)		

	ALL	UL-ALL	UL-EXT	UL-ABR	WL/Term-ABR
15) For the tax reserves, what lapse assumption is used?					
a. No lapses	2 (50%)	1 (33%)		1 (100%)	1 (100%)
b. No lapses for acceleration rider. Best estimate lapses capped at Statutory maximums for the extension rider.	1 (25%)	1 (33%)	1 (50%)		
c. Best estimate lapse rates subject to valuation law constraints.	1 (25%)	1 (33%)	1 (50%)		
16) What kind of GAAP reserve methodology is used for this LTC rider?					
a. Separate reserves generated for the rider.	5 (55%)	4 (57%)	1 (33%)	3 (75%)	1 (50%)
b. Integrated calculation with the base plan, using a multi-decrement approach	3 (33%)	3 (43%)	2 (67%)	1 (25%)	
c. NA do not calculate GAAP	1 (11%)				1 (50%)
17) For the GAAP reserves, what mortality assumption is used?					
a. Company Best Estimate	1 (17%)	1 (17%)	1 (33%)		
b. 2001 CSO Ultimate mortality table	1 (17%)	1 (17%)		1 (33%)	
c. GAAP reserve mortality table	3 (50%)	3 (50%)	1 (33%)	2 (67%)	
d. 1994 GAM	1 (17%)	1 (17%)	1 (33%)		
18) For the GAAP reserves, what interest rate assumption is used?					
a. 3.5%	2 (40%)	2 (40%)	1 (50%)	1 (33%)	
b. GAAP reserve interest rate	3 (60%)	3 (60%)	1 (50%)	2 (67%)	

	ALL	UL-ALL	UL-EXT	UL-ABR	WL/Term-ABR
19) For the GAAP reserves, what reserve methodology is used?					
a. SOP 03-1 reserve	4 (57%)	4 (67%)	2 (67%)	2 (67%)	
b. FAS97	1 (14%)	1 (17%)		1 (33%)	
c. GAAP Reserve = Highest CSV + max(0, CV+LTC/EOB reserve – Highest CSV) where Highest CSV is (max, AB, ROP,MGCV), AB is the Account Balance before reduction for surrender charges, and MGCV is the tabular guaranteed cash value.	1 (14%)	1 (17%)	1 (33%)		
d. do not calculate GAAP	1 (14%)				1 (100%)
20) For the GAAP reserves, what morbidity assumptions are used?					
a. best estimate	5 (83%)	5 (100%)	3 (100%)	2 (100%)	
b. best estimate offset by PV life benefit reductions	1 (17%)				1 (100%)
21) For the GAAP reserves, what lapse assumption is used?					
a. none	1 (20%)	1 (20%)		1 (50%)	
b. Best Estimate	3 (60%)	3 (60%)	2 (67%)	1 (50%)	
c. pricing lapse assumption	1 (20%)	1 (20%)	1 (33%)		

## Appendix 1

Life Insurance Companies Filing Form 4 with their Life Experience Reports,  
December 31, 2015 and/or December 31, 2016

Allianz Life Ins Co Of N Amer  
Bankers Life & Cas Co  
Colonial Life & Accident Ins Co  
Continental Gen Ins Co  
Country Life Ins Co  
First Penn Pacific Life Ins Co  
Forethought Life Ins Co  
Genworth Life Ins Co  
Guaranty Income Life Ins Co  
John Hancock Life Ins Co USA  
Kanawha Ins Co  
Kansas City Life Ins Co  
Lincoln Natl Life Ins Co  
Massachusetts Mut Life Ins Co  
National Life Ins Co  
Nationwide Life Ins Co  
New York Life Ins & Ann Corp  
Northwestern Mut Life Ins Co  
Provident Life & Accident Ins Co  
RiverSource Life Ins Co  
Standard Life & Accident Ins Co  
Sunset Life Ins Co Of Amer  
Transamerica Premier Life Ins Co  
Trustmark Ins Co