

Actuarial Guideline LI

THE APPLICATION OF ASSET ADEQUACY TESTING TO LONG-TERM CARE INSURANCE RESERVES

Background

The *Health Insurance Reserves Model Regulation* (#010) and the *NAIC Valuation Manual* (VM-25) contain requirements for the calculation of long-term care insurance (LTC) reserves. Regulators have observed a lack of uniform practice in the implementation of tests of reserve adequacy and reasonableness of LTC reserves. The reserve adequacy testing required by Model #10 and VM-25 does not provide regulators comfort as to the reserve adequacy of companies with material blocks of LTC business. As such, regulators must rely upon asset adequacy analysis required by the NAIC Valuation Manual (VM-30) to evaluate the solvency position of companies with sizable blocks of LTC business. This Guideline is intended to provide uniform guidance and clarification of requirements for the appropriate support of certain assumptions for the asset adequacy testing applied to a company's LTC block of contracts. In particular, this Guideline:

- (1) Specifies that the appropriate form of asset adequacy analysis may be in the form of a gross premium valuation or in a more robust form, such as cash-flow testing, with Actuarial Standards of Practice providing guidance in this area;
- (2) Clarifies the type of adequacy testing methods that must be used for aggregation with other blocks of business to be allowed for asset adequacy analysis purposes;
- (3) Requires a uniform approach to supporting acceptable assumptions regarding future LTC premium rate increases;
- (4) Provides requirements for documentation of assumptions associated with all key LTC risks; and
- (5) Provides requirements for documentation of standalone LTC asset adequacy testing results.

Note: It is anticipated that the requirements contained in this Guideline will be incorporated into the *NAIC Valuation Manual* (VM-30) at a future date, effective for a future valuation year. This Guideline will cease to apply to annual statutory financial statements at the time the corresponding VM-30 requirements become effective.

Text

1. Effective Date

This Guideline shall be effective for reserves reported with the December 31, 2017 and subsequent annual statutory financial statements.

2. Authority

Pursuant to Section 1, paragraph 3, of VM-30 of the *NAIC Valuation Manual*, the commissioner shall have the authority to specify specific methods of actuarial analysis and actuarial assumptions when, in the commissioner's judgment, these specifications are necessary for an acceptable opinion to be rendered relative to the adequacy of reserves and related items.

3. Scope

This Guideline shall apply to a company with over 10,000 inforce lives covered by long-term care insurance contracts as of the valuation date. All long-term care insurance contracts, whether directly written or assumed through reinsurance are included. Accelerated death benefit products or other combination products where the substantial risk of the product is associated with life insurance or an annuity are not subject to this Guideline.

4. Asset Adequacy Analysis of LTC Business

- A. As stated in Actuarial Standard of Practice (ASOP) No. 22, multiple asset adequacy analysis methods, including cash-flow testing and gross premium valuation, are available to actuaries for this analysis.

The method of analysis used for LTC shall conform with ASOP No. 22 in recognition of the typical significant asset- and liability-related risks associated with LTC.

- B. Asset adequacy analysis specific to all inforce LTC business, and without consideration of results for other block of business within the company, must be performed for valuations associated with the December 31, 2017 and subsequent annual statutory financial statements. The analysis shall comply with applicable Actuarial Standards of Practice, including standards regarding identification of key risks. Material assumptions associated with the LTC business shall be determined testing moderately adverse deviations in actuarial assumptions.

- C. When determining whether additional reserves are necessary:

1. A reserve deficiency in the LTC block may be aggregated with sufficiencies in the company's other blocks of business for the purposes of developing an actuarial opinion, if cash-flow testing is used for both the LTC business and for all significant blocks of non-LTC business within a company. If a reserve deficiency in the LTC block is not offset with sufficiencies in the company's other blocks of business, then additional reserves shall be established as required by section 2.C.2. of *VM-30*.
2. If cash-flow testing is not used for testing of the LTC business, then a reserve deficiency revealed from another method, e.g., a gross premium valuation, utilized for purposes of asset adequacy analysis of the LTC block under this Guideline shall not be offset with sufficiencies in the company's other blocks of business. The additional reserves under this Guideline shall be established based only upon the adequacy of the reserves in the LTC block.

- D. When determining the effect of investment returns or the time value of money:

1. In the case where cash-flow testing is used, the company must allocate investment income to the LTC block of business consistently with the way investment income generated by the General Account is managed. If, however, a segment of the General Account is used to manage the investment risk for LTC business, the investment income generated by assets from that segment should be appropriately represented within the asset adequacy analysis.

2. In the case where a gross premium valuation method is used or asset cash flows are not explicitly modeled, the discount rate used by the actuary must reflect consideration of the yield on current assets held to support the liability as well as future yields on assets purchased with future premium income and reinvestments or anticipated divestiture of existing assets.
- E. The analysis shall only anticipate premium rate increases based upon a rate increase plan that is documented, is supported by and has been approved by management, is highly likely to be undertaken, and contains rate increase requests and timelines by jurisdiction. The assumptions used in the analysis should reflect a reasonable estimate of regulatory approved amounts and implementation timelines.

5. Documentation Required

The documentation requirements below are to be incorporated as a separate section of the appointed actuary's Actuarial Memorandum required by the *VM-30* or in a special Actuarial Memorandum containing LTC-specific information and shall be submitted to the commissioner of the company's state of domicile. The separate section of the companywide Actuarial Memorandum or the special Actuarial Memorandum shall be available to other state insurance commissioners in which the company is licensed upon request to the company. The confidentiality provisions regarding the Actuarial Memorandum contained in *VM-30* are applicable to the separate section of the Actuarial Memorandum and to the special Memorandum.

- A. Results of the asset adequacy analysis of the LTC business shall be reported and documented in the separate section of the Actuarial Memorandum or the special Memorandum, as appropriate.
- B. Assumptions on mortality shall be documented to state the reference standard valuation table, if applicable, and explicitly cite adjustments, select factors, and mortality improvement factors, where applicable. If a reference standard valuation table is not used in setting the mortality assumption, then a table of rates and comparison of the applied rates to rates from an unmodified standard mortality table for sample issue ages shall be provided. A summary of experience or other actuarial support of assumptions used shall be documented.
- C. Assumptions on voluntary lapse shall be documented in table format by duration band and by other factors such as gender, marital status, with versus without inflation rider, and length of benefit period impacting the lapse assumption, where applicable. A summary of experience or other support of assumptions shall be documented.
- D. Assumptions on morbidity shall be documented and actuarial support of the assumption shall be provided. If an outside source is used as the basis for morbidity assumptions, then the rationale for the applicability of that source and any adjustments to the factors from that source shall be documented.
- E. Assumptions on investment returns and interest rates shall be documented. If a simplified approach is applied, such as implicit reflection of projected investment returns through the use of discount rates in a gross premium valuation as contemplated in Section 4.D.2., then justification shall be provided.
- F. Any rate increases already approved shall be documented by jurisdiction with approved implementation timelines. Assumptions on future rate increases shall be documented by policy form or policy grouping. Such documentation should adequately describe the way in which future rate increase assumptions are developed. Unless the appointed actuary

has operational responsibility for carrying out the rate increase plan specified in Section 4.E., the Memorandum shall contain a signed and dated reliance statement from the person with operational responsibility for carrying out such actions that the rate increase plan(s) provided to the appointed actuary appropriately reflects management's plan.

- G. Documentation of any other material assumptions shall be provided.
- H. Documentation shall be provided for assumptions that have significantly changed from the prior year's analysis.

AG 51 GUIDANCE DOCUMENT – YEAR-END 2018 [with 1/9/2019 CLARIFICATION – see II.i.]

Below is a request for information related to companies' long-term care insurance (LTC) asset adequacy testing that is being sent to each company filing an Actuarial Guideline 51 (AG 51) Memorandum. The request is related to a Valuation Analysis Review Group of the National Association of Insurance Commissioners project to review AG 51 reserve analysis. For each of the items below, please provide an answer or point to the section and page in the AG 51 filing where the item is addressed. The same confidentiality standards will apply to this information as applied to the AG 51 memorandum.ⁱ The response should be sent as separate section of the AG 51 filing on the AG 51 filing due date.

I. Inforce

a. Provide charts containing the distribution of business (number of lives) by issue age band, issue year, coverage type, inflation protection, benefit period, and premium payment period. For premium payment period, distinguish between inforce policyholders with lifetime premium periods, inforce policyholders with limited-pay premium periods but still paying premiums, and inforce policyholders no longer paying premiums. In these charts, please exclude policyholders on claim.

II. Morbidity

In this context, morbidity refers to claim incidence rates, length of claim, and claim utilization.

- a. Provide the year of the most recent morbidity study applied to support the company's morbidity assumptions and provide the data period covered in the study.
- b. Discuss the general trend in morbidity experience and expectations over the past year and past several years at the company.
- c. Discuss the relevance of outside morbidity data applied to support the company's morbidity assumptions, along with how that data was adjusted to fit the company's circumstance and how the fit was determined to be appropriate. Explain how validation to historical company experience was performed.
- d. Discuss whether and how the morbidity assumptions were compared with industry-average morbidity rates, such as a Society of Actuaries' study. Is there a reason for company assumptions to be higher or lower than industry average experience, such as benefits provided, policy provisions, underwriting standards, or claims practices?
- e. Discuss how morbidity assumptions for attained ages 85 and over were set in light of potential gaps in availability, credibility, and relevance of supporting data.
- f. Discuss whether the company expects changes in morbidity assumptions in upcoming years as older-age experience develops. Describe how the company added margin to the morbidity assumption to address a potential increase in morbidity expectations. Does any sensitivity testing of the impact of adverse developments in morbidity appropriately address the level of potential increase?
- g. Discuss assumed morbidity improvement (if applicable) and the basis for that assumption. Is the assumption supported by company experience?

- h. Where applicable, provide an overview of changes in morbidity assumptions from those used in the previous AG 51 filing, including the basis for any changes.
- i. To help in understanding the morbidity assumption, calculate the present value of future benefits as of policy duration 10 of the following set of policies, each with \$150 initial daily benefits, 2 ADL or severe cognitive impairment trigger, and 85- to 105-day elimination period:
- i. Female, issue age 55, lifetime benefits, 5% compound inflation
 - ii. Female, issue age 70, lifetime benefits, 5% compound inflation
 - iii. Female, issue age 55, lifetime benefits, no inflation
 - iv. Female, issue age 70, lifetime benefits, no inflation
 - v. Female, issue age 55, 3-year benefits, 5% compound inflation
 - vi. Female, issue age 70, 3-year benefits, 5% compound inflation
 - vii. Female, issue age 55, 3-year benefits, no inflation
 - viii. Female, issue age 70, 3-year benefits, no inflation

For each calculation, use the following pricing assumptions for the following factors:

- Ultimate, annual voluntary lapse of 0.5%
- 2012 IAR mortality applied to active lives [**CLARIFICATION 1/9/2019 – SEE APPENDIX 1**]
- 4% discount rate
- Assume the most preferred underwriting classification that contains at least 30% of the lives
- Assume a single female with no partner discount.

Use the company's assumptions on claims' incidence, length of claim, benefit utilization, and any other morbidity-related aspect.

III. Reinsurance treaty information

- a. Provide information on any new LTC-related reinsurance transactions or significant changes to existing LTC-related treaties that occurred in 2018.

IV. Sensitivity Tests

If the company performed cash-flow testing, provide the present value of ending surplus in a level interest-rate scenario using baseline assumptions. If the company performed a gross premium valuation, provide the resulting value using baseline assumptions. Also, provide the same values using all baseline assumptions except:

- a. No morbidity improvement and no mortality improvement.
- b. No morbidity improvement but with mortality improvement.
- c. No future, non-approved premium rate increases.
- d. Net yield pickup on existing and reinvestment assets capped at 150 basis points above Treasury yields at the time the asset was purchased or will be purchased. This cap applies as an average over the entire portfolio supporting the LTC block.

[CLARIFICATION – 1/9/2019]

APPENDIX 1 – 2012 IAR APPLICATION

Please use the following mortality rates in the Section II.i. present value of future benefits calculations. If a company has already performed the calculation using different mortality rates, that is fine as long as the approach used is clearly identified.

2012 IAR	Policy issued	1/1/2009
<u>Duration</u>	<u>Age 55 Female</u>	<u>Age 70 Female</u>
1	0.001950	0.009074
2	0.002154	0.009910
3	0.002399	0.010827
4	0.002700	0.011839
5	0.003014	0.012805
6	0.003371	0.013913
7	0.003765	0.015191
8	0.004184	0.016655
9	0.004621	0.018342
10	0.005091	0.020311
11	0.005608	0.022648
12	0.005900	0.025741
13	0.006257	0.029162
14	0.006692	0.033420
15	0.007197	0.038347
16	0.007755	0.043430
17	0.008360	0.049589
18	0.009015	0.056425
19	0.009729	0.063959
20	0.010523	0.071050
21	0.011434	0.079783
22	0.012484	0.087482
23	0.013687	0.097524
24	0.015073	0.106926
25	0.016691	0.120397
26	0.018612	0.134089
27	0.021477	0.149474
28	0.024332	0.167194
29	0.028311	0.181957
30	0.032981	0.202339
31	0.037353	0.218582
32	0.043301	0.237794
33	0.050020	0.265200
34	0.057562	0.286361
35	0.063945	0.317591
36	0.072896	0.340362
37	0.079931	0.362371
38	0.090460	0.384113
39	0.099181	0.400000

40	0.113372	0.400000
41	0.126265	0.400000
42	0.140752	0.400000
43	0.159826	0.400000
44	0.173939	0.400000
45	0.196353	0.400000
46	0.212115	0.400000
47	0.230760	0.400000
48	0.261249	0.400000
49	0.282095	0.400000
50	0.317591	0.400000
51	0.340362	1.000000
52	0.362371	
53	0.384113	
54	0.400000	
55	0.400000	
56	0.400000	
57	0.400000	
58	0.400000	
59	0.400000	
60	0.400000	
61	0.400000	
62	0.400000	
63	0.400000	
64	0.400000	
65	0.400000	
66	1.000000	

ⁱ AG 51 provides uniform guidance for the asset adequacy testing applied to a company's LTC block of contracts, and is effective for reserves reported with respect to the Dec. 31, 2017, and subsequent annual statutory financial statements. A statement of actuarial opinion on the adequacy of the reserves and assets supporting reserves after the operative date of the Valuation Manual is required under Section 3B of the NAIC Standard Valuation Law (#820) and VM-30 of the Valuation Manual. Section 14A of Model #820 provides that actuarial opinions and related documents, including an asset adequacy analysis, are confidential information, while Section 14B provides that such confidential information may be shared with other state regulatory agencies and the NAIC. The asset adequacy analyses required under AG 51 reviewed in the preparation of this report were shared with the Valuation Analysis (E) Working Group and the NAIC in accordance with these requirements, and continue to remain confidential in nature.