**Long-term Care Insurance**

**Approaches to Reviewing Premium Rate Increases**

NAIC LTC Pricing Subgroup

October 2018

**Executive Summary**

Several years ago, the NAIC Long-term Care Pricing Subgroup proposed changes to the NAIC Long-term Care (LTC) Model Regulation (Model 641) aimed at strengthening the pricing of LTC insurance. These proposed changes were adopted by the NAIC in August of 2014. These changes apply to LTC insurance policies issued on or after the date that the state where the policy is issued adopts the changes.

Despite these changes, along with changes made to the pricing methodology of LTC insurance in 2002, carriers find themselves in situations where they must increase premium rates in order to cover future expected claims. Most of these increases are implemented on blocks that are no longer open to new business. Regulators often treat the review and approval of these rate increases differently.

Over the past year, the LTC Pricing Subgroup studied and discussed approaches used by various states to review LTC rate increases. These approaches were discussed on public calls consisting of regulators, industry representatives, and consumer advocates. Through that process, this document was developed to serve as a resource that states can use in their review of LTC rate increases. The goal is to create a more predictable and transparent process for reviewing LTC rate increase filings.

**Scope**

This document describes two methodologies for computing rate increases for LTC insurance policies. Regulators should consider applicable laws in their state when applying these methods to a particular block of policies.

**Background**

Prior to 2002, LTC insurance was priced using a fixed lifetime loss ratio methodology. This methodology was meant to ensure that premium rates were not too high. However, as experience evolved, the premiums set using this methodology proved to be inadequate, leading to large rate increases. In addition, this approach allowed for the portion of the premium available for expenses and profit to increase when actual claims were higher than what was expected when the product was initially priced.

In 2002, a new method of pricing LTC insurance was adopted by the NAIC. This new method, known as the rate stabilization methodology, moved away from fixed loss ratios applied to initial premiums and moved to a rating methodology designed to increase the probability that premiums will remain unchanged for the life of the contract, even under moderately adverse experience.

Even under the revised methodology, policyholders continue to experience large rate increases. In response, the NAIC Long-term Care Pricing Subgroup proposed changes to the NAIC Long-term Care Model Regulation (Model 641) aimed at strengthening the pricing of LTC insurance. These proposed changes were adopted by the NAIC in August of 2014. These changes apply to LTC insurance policies issued after the date that the state where the policy is issued adopts the revised regulation. The new model does not address rate increases consumers are experiencing on existing business.

The LTC Pricing Subgroup turned its focus to the review of these rate increases with the goal of developing a framework to achieve greater transparency and predictability in the review and approval of requests for LTC insurance rate increases.

**Approaches**

As a starting point, the subgroup surveyed states on various practices surrounding their review of LTC insurance rate increases. One of the first steps in the process was to develop consistency when using certain terms, including the term “recoupment of past losses”, when used in our discussions. For purposes of this document, the subgroup developed a consistent understanding of different categories of past losses.

The following charts illustrate the streams of potential losses or deficiencies stemming from two general sources – those stemming from past and future premiums being insufficient, and those stemming from past and future incurred claims being worse than expected.

At the time of a rate increase, sources of potential past premium deficiencies come from premiums that were paid by policyholders who:

* are active
* are in paid-up status (i.e., they are not on claim, but are no longer paying premium under the terms of the policy but may have future claims)
* have lapsed coverage, (i.e., they are not paying premium, are not on claim, and cannot have future claims)
* are disabled (i.e., on claim)

At the time of a rate increase, sources of future premiums come from the following two groups:

* policyholders who remain active and continue paying premiums
* policyholders who are currently on claim but recover and begin paying premiums again

At the time of a rate increase, sources of future incurred claims are:

* active premium paying policyholders who go on claim in the future
* disabled policyholders who are currently on claim, recover, and go on claim again in the future
* paid-up policyholders – this source of future claims is recognized in lifetime loss ratio calculations but not in projections of future claims for rate increases

**Premium Shortfall Categories at the Time of a Rate Increase Request**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Lifetime loss ratio |  |  |  |  |  |  |
| Prospective present value approach |  |  |  |  |  |  |
| Blended if-knew/make up approach | Related image | Related image | Related image | Related image |  |  |
| 2014 NAIC LTC Model Regulation |  |  |  |  |  |  |
| 1 Includes voluntary lapses and those who died prior to generating a claim2 Includes those who died while on claim and those who exhausted their benefits3 Current disabled lives who might recover in the future and resume paying premiums indicates that the category is not reflected in the methodology, and any deficiency needs to be funded from a source other than a rate increase. However, the deficiency could be mitigated by catch-up and transitional adjustments to the prospective PV approach. Related image indicates a partial recoupment since the method blends if-knew, which does not allow for any recoupment, and make up, which allows for full recoupment. |

Current status

**Categories of Adverse Claims Experience at the Time of a Rate Increase Request**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Lifetime loss ratio |  |  |  |  |  |  |
| Prospective present value approach |  |  |  |  |  |  |
| Blended if-knew/make up approach | Related image | Related image | Related image | Related image |  |  |
| 2014 NAIC LTC Model Regulation |  |  |  |  |  |  |
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Current status

As a second step in the process, the pricing subgroup identified several general methodologies that were consistently used across states. These are:

* The lifetime loss ratio approach, which allows for full recoupment of past losses and often results in the largest rate increase
* Unique state approaches, which are designed to limit the recoupment of past losses
* The amended model regulation, which, like the state approaches, limits the recoupment of past losses

The two state approaches discussed in the pricing subgroup are described below.

**Prospective PV approach**

This approach avoids a recoupment of past losses by considering only future projections. The following formula is used to compute an allowable rate increase for a block of LTC insurance policies:



where:

Δ indicates the change in present value (PV) due to the change in actuarial assumptions between the time of the last rate increase (or the original assumptions if there was no prior rate increase) and the current assumptions

*C* is the cumulative percent rate increase to date. For example, if the current rate, prior to the proposed rate increase, is 50 percent higher than the rate at initial pricing, then *C* = .5

The *current* subscript in the denominator indicates that the PV should be computed using current assumptions. The future earned premiums in the formula are based on the current premiums prior to the proposed rate increase. Regulators may wish to consider the addition of margin to the rate increase. For example, the ΔPV(future incurred claims) term in the above formula could be multiplied by 1.1 to represent a 10 percent margin.

The formula is limited to **active, premium-paying policyholders** as of the time of the filing. All present value calculations in the formula should be based on the same set of current active lives.

For pre-rate stabilized policies, one could use .6 in place of .58 and .8 in place of .85:



**Justification for the formula**

The numerator represents the amount of additional funding needed, on a prospective basis, as a result of the change in actuarial assumptions. This amount reflects the increase in the PV of incurred claims, and is partly offset by the increase in the PV of future net premiums, where net premiums are computed by multiplying gross premiums by the loss ratio.

To compute the loss ratio, if *P0* is the premium at initial pricing and *P* is the current premium prior to the proposed rate increase, then:



so



The portion of current premium due to prior increases is:



Applying a 58 percent loss ratio to the initial premium and an 85 percent loss ratio to the increase portion, the loss ratio is:



Since a loss ratio of 85 percent applies to the rate increase, which provides the additional funding needed, then:



The percentage rate increase, computed as ΔPV / PV of future earned premiums, is found by dividing both sides of the above equation by:



**Possible Modifications to Prospective PV approach**

The prospective PV formula is intended to produce a rate increase that is adequate to fund the projected increase in future claim liabilities. However, a regulator should consider modifications to the formula based on the following:

* Disapproval of a prior actuarially justified rate increase.
* A prior actuarially justified rate increase reduced by the regulator.
* Approval of a prior actuarially justified rate increase after significant delay, offset by any company delay in filing for an actuarially justified rate increase.

Note that the use of any prior “actuarially justified” rate increase requires justification and support, which may vary by company and by state. The use and amount of any prior actuarially justified rate increase must be agreed to by both the regulator and the company.

Examples of the modifications that could be made to the prospective PV formula are described below:

**Catch-up Provision (For rate increase requests denied or delayed)**

If part of a past rate increase request has been denied, or if there was a material delay in the prior approval, for the new rate to be consistent with the underlying methodology of the Base Formula, a company must be granted an additional rate increase amount, called the catch-up provision. The catch-up provision is designed to reflect in a new rate increase the necessary additional premiums based on the assumptions provided to the department at the time of the previous rate increase request that were not approved with the prior filing(s). It will not take into account any deviation in actual experience from assumed experience during that time period.

$$Catch-up rate increase \% = \frac{AV(premiums requested^{P})-AV(premiums approved^{P})}{PV\_{current}(future earned premiums)}$$

$$+ \frac{PV(premiums requested^{F})-PV(premiums approved^{F})}{PV\_{current}(future earned premiums)}$$

Where:

AV is the Accumulated Value at the time of the new rate increase request using the actuarial assumptions made at the time of the previous rate increase request(s).

PV is the Present Value at the time of the new rate increase request using the actuarial assumptions made at the time of the previous rate increase request(s).

Premiums RequestedP is the total past premiums that would have been collected had the entire rate increase request been granted in a timely manner based on the actuarial assumptions made at the time of the previous rate increase request(s)

Premiums RequestedF is the total future premiums that would have been collected had the entire rate increase request been granted in a timely manner based on the actuarial assumptions made at the time of the previous rate increase request(s)

Premiums ApprovedP is the total past premiums that were collected based on the rate increase approved at the time of the previous rate increase request(s)

Premiums ApprovedF is the total future premiums that would have been collected based on the rate increase approved at the time of the previous rate increase request(s)

For pre-rate stabilized policies, use .8 in place of .85.

**Transition Provision (For Pre-Rate Stability products and other products where the last rate increase requests was voluntarily reduced by the company)**

If the prior rate increase request was not subject to the Rate Stability actuarial certification or a past rate increase request has been voluntarily reduced from the amount per such certification, a transition period needs to be established for companies to make a single filing to provide the full amount of premium necessary to meet the actuarial certification (consistent with the Model Bulletin calculation requirements). This transition filing would establish the assumptions to be used as the “prior assumptions” for future Base Formula requests and the maximum “Prior Premium” scale for these policies based on those prior assumptions. For any new filing of a rate increase to the Prior Rate scale to be consistent with the underlying methodology of the Base Formula, a company must be granted increases from the current approved premium scale up to but not above the maximum Prior Premium scale as part of the Transition amount. In this instance, the company will not be allowed to recapture past premiums that would have been collected if the rate increase request had not been voluntarily reduced. To the extent that a company requests a Transitional increase and a state denies or reduces the amount, the amount denied would be allowed in future rate increase requests under the Catch-Up Provision.

$$Transition rate increase \% = \frac{PV(premiums justified)-PV(premiums requested)}{PV\_{current}(future earned premiums)}$$

Where:

PV is the Present Value using the actuarial assumptions made at the time of the previous rate increase request(s).

Premiums Justified is the total future premiums that would have been collected had the previous rate increase request been based upon the entire amount calculated in the Base Formula and Catch-up Provisions at the time of the previous rate increase request(s)

Premiums Requested is the total future premiums that would have been collected based on the entire rate increase requested at the time of the previous rate increase request(s)

For pre-rate stabilized policies, use .8 in place of .85.

**Calculation of Entire Rate Increase**

Total Rate Increase = Base Formula Increase % + Catch-up Increase % + Transition Increase %

**Blended If-Knew/Make-up Approach**

This approach begins with the computation of if-knew and makeup rate increases, as described in the definitions below. Next, a blended average is computed between the if-knew and make-up increases, where the makeup component is weighted based on the percentage of original policyholders remaining in active, premium-paying status. Finally, a cost-sharing function is applied to determine the portion of the rate increase that is paid by policyholders, while the remainder is a cost borne by the company.

This approach requires the use of all components outlined in this section. It is not appropriate to use only one part of this approach to determine a rate increase.

Key definitions include:

* If-knew increase – increase to the premium rates such that the resulting rates, if in effect from inception of the form, would produce the greater of the initial target lifetime loss ratio or minimum loss ratio applicable to the form
* Make-up increase – increase to the premium rates such that the resulting rates, if in effect in future years, would produce the greater of the initial target lifetime loss ratio or minimum loss ratio applicable to the form
* Blended increase – weighted average of if-knew increase and makeup increase, with the makeup component weighted based on the percentage of the original policyholders remaining in active, premium-paying status
* Cost-sharing increase – blended increase reduced by the cost-sharing formula described below
* Maximum allowable rate increase – an increase that, in addition to any prior rate increase, results in a cumulative rate increase equal to the cost-sharing increase

**Cost sharing**

This approach requires a state to establish a cost-sharing formula to be applied the rate increase determined under this approach. The table below is an example of a formula where the rate increase is sliced into layers. The policyholder’s share of the rate increase decreases with each layer.

|  |  |
| --- | --- |
| **Blended increase** | **Policyholder share of the increase** |
| 0-15% | 100% |
| 15-50% | 90% |
| 50-100% | 75% |
| 100-150% | 65% |
| >150% | 50% |

For example, a blended increase of 70 percent would be sliced into three layers, consisting of 15 percent in the 0-15% layer, 35 percent in the 15-50% layer, and the remaining 20 percent in the 50-100% layer. The policyholder’s share of a 70 percent blended increase would be 100% x 15% + 90% x 35% + 75% x 20% = 15% + 31.5% + 15% = 61.5%.

The example below illustrates the application of this method. It assumes that the minimum loss ratio applicable to the policy is 60 percent and that at the time of the rate increase filing, 40 percent of the original policyholders remain and are paying premium.

 

There are many possible refinements of the basic approach described above, such as:

* reducing the allowable increase if the original premiums were unreasonably low (i.e. lower than a benchmark premium calculated using assumptions that are deemed appropriate for the period in which the policy was priced and issued)
* basing the if-knew and make-up increases on a measure of profitability rather than on a target or minimum loss ratio standard
* calculating present values using actual and expected investment returns rather than statutory valuation rates
* specifying how margins for adverse experience and waiver of premium benefits should be treated in the loss ratio calculation
* specifying the level of granularity of the rate increase calculation (i.e. whether the rate increase should vary by benefit features, underwriting criteria, etc.)

**NAIC Model Regulation**

Section 20.1(C)(2) of the Model Regulation describes a 58/85 loss ratio standard, which recognizes the lesser of actual or expected past claims. The allowable rate increase computed according to the Model Regulation’s loss ratio standard applicable on the issue date of the policy, serves as a ceiling when using either of the above approaches.

**Comparison of Approaches**

Below are summaries of the results produced under each method for three actual rate filings received from three different carriers.

For each carrier, the earned premiums and incurred claims were multiplied by a random number to mask the carrier’s actual data. Note that all yearly figures are discounted with interest:

**Carrier #1**

|  |
| --- |
| **Summary of rate filing** |
| Type | Pre Rate Stabilized (Individual)  |
| Rate increase history | 40% in 2010;25% in 2015 |
| Cumulative rate prior increase | 1.40 x 1.25 - 1 = 75% |

|  |  |
| --- | --- |
|  | **Accumulated and present values at 4.5% interest rate** |
|  | Prior assumptions | Current assumptions |
|  | Earned premiums | Incurred claims | Earned premiums | Incurred claims |
| Past |  29,881,320  |  30,254,745  | 29,312,302  |  30,254,745  |
| Future |  6,396,557  |  64,064,583  | 8,276,125  | 81,078,884  |
| Lifetime |  36,277,877  |  94,319,328  |  37,588,427  |  111,333,629  |

|  |
| --- |
| **Summary of calculations** |
| Estimated % of active policyholders remaining | 50% |
| Lifetime LR | 296% |
| Maximum rate increase under 60/80 lifetime LR standard | 1321% |
| Blended if-knew & makeup components: |
| Makeup increase | 3268% |
| “If knew” rate increase | 498% |
| Blended with 50% active policyholders remaining: | 1883% |
| With cost sharing | 983% |
| **Blended if-knew & makeup rate increase\*** (after backing out prior 69.6% cumulative rate increase) | **519%** |
| **Prospective PV allowable rate increase** | **238%** |
| \* Rate increase assumes: (1) benchmark premium = original premium; and (2) 50% actives remaining. |

**Carrier #2**

|  |
| --- |
| **Summary of rate filing** |
| Type | Rate stabilized (individual)  |
| Rate increase history | None |
| Cumulative prior rate increase | 0% |

|  |  |
| --- | --- |
|  | **Accumulated and present values at 4% interest rate** |
|  | Prior assumptions | Current assumptions |
|  | Earned premiums | Incurred claims | Earned premiums | Incurred claims |
| Past |  2,605,954  |  41,528  |  2,605,954  |  41,528  |
| Future |  4,537,414  |  3,795,819  |  4,382,489  |  5,514,785  |
| Lifetime |  7,143,367  |  3,837,347  |  6,988,442  |  5,556,313  |

|  |
| --- |
| **Summary of calculations** |
| Estimated % of active policyholders remaining | 71% |
| Lifetime LR | 80% |
| Maximum rate increase under 58/85 lifetime LR standard | 40% |
| Blended if-knew & makeup components: |
| Makeup increase | 59% |
| “If knew” rate increase | 37% |
| Blended with 71% active policyholders remaining: | 53% |
| With cost sharing | 49% |
| **Blended if-knew & makeup allowable rate increase1, 2** | **49%** |
| **Prospective PV allowable rate increase2** | **49%** |
| 1 Rate increase assumes: (1) benchmark premium = original premium; and (2) 71% actives remaining.2 The allowable rate increase would be limited to 40% based on the 58/85 lifetime loss ratio standard. |

**Carrier #3**

|  |
| --- |
| **Summary of rate filing** |
| Type | Rate stabilized (individual)  |
| Rate increase history | None |
| Cumulative prior rate increase | 0% |

|  |  |
| --- | --- |
|  | **Accumulated and present values at 4.5% interest rate** |
|  | Prior assumptions | Current assumptions |
|  | Earned premiums | Incurred claims\* | Earned premiums | Incurred claims\* |
| Past |  1,272,279  |  221,055  |  1,272,279  |  221,055  |
| Future |  659,852  |  1,098,641  |  864,521  |  2,561,128  |
| Lifetime |  1,932,131  |  1,319,696  |  2,136,800  |  2,782,183  |

\* Projected incurred claims include a 10% moderately adverse experience load.

|  |
| --- |
| **Summary of calculations** |
| Estimated % of active policyholders remaining | 77% |
| Lifetime LR | 130% |
| Maximum rate increase under 58/85 lifetime LR standard | 210% |
| Blended if-knew & makeup components: |
| Makeup increase | 308% |
| “If knew” rate increase | 124% |
| Blended with 77% active policyholders remaining: | 266% |
| With cost sharing | 174% |
| **Blended if-knew & makeup allowable rate increase\*** | **174%** |
| **Prospective PV allowable rate increase** | **183%** |
| \* Rate increase assumes: (1) benchmark premium = original premium; and (2) 77% actives remaining. |

**Other Considerations**

**Premium Rate Increase Caps**

Some states, either by regulation or administrative practice, place caps on premium rate increases. In particular, New Hampshire adopted a rule that caps rate increases based on the insured’s attained age. In general, caps implemented by states have no actuarial basis, but instead are arbitrarily administered.

Although it is understandable that states may favor arbitrary caps in the interest of protecting policyholders from large rate increases, one concern is a potential solvency risk if actuarially justified rate increases are postponed along with the potential for substantial reductions in benefits due to state-specific guaranty fund limits. In addition, the need for future rate increases will be greater based on the degree to which requested rate increases are capped. Many states have worked with companies to successfully address large rate increases through the use of a pre-approved series of incremental increases, allowing rates to reach the appropriate level while fully informing the policyholders of the timing and amount of the full series of increases.

**Delays in Filing and Delays in Approval of Rate Increases**

Similar to arbitrary rate caps, delays in implementing actuarially justified rate increases due to either a carrier failing to file a needed rate increase, or delays in the regulatory approval of a needed rate increase, can pose a potential solvency risk. Several LTC insurance carriers have commented that delays in the implementation of needed rate increases lead to significantly higher rate increases later. For example, one carrier with a large block of LTC business estimated that each one-year delay of a needed rate increase adds a 5 to 10 percentage point increase to the needed rate increase.

**Lifetime Loss Ratio Issue**

Some regulators believe it is inappropriate to approve a rate increase that would lead to a lower projected lifetime loss ratio than in the prior rate increase filing.  Where the prior filing was consistent with actuarially certified adequate premiums this would generally be an appropriate expectation unless sufficient justification is provided for an exception.  Where the prior rate filing was not consistent with actuarially certified adequate premiums (e.g. most pre-rate stability business or filings limited by rate caps) or the company noted in its filing that if experience did not improve that additional rate increase filings are likely, the projected loss ratio from such a prior filing is not an appropriate limit.