**Long-term Care**

**Approaches to Reviewing Premium Rate Increases**

NAIC LTC Pricing Subgroup

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**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.

**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, but does nothing to address the 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 consistent definitions, including our understanding of the term “recoupment of past losses”, when used in our discussions. The subgroup worked for several months to develop 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)
* have lapsed coverage, (i.e. they are not paying premium and are not on claim)
* 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 policyholders who go on claim in the future
* disabled policyholders who are currently on claim, recover, and go on claim again in the future

**Recoupment of Losses – Premium Shortfall Categories**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Lifetime loss ratio |  |  |  |  |  |  |
| Approach 1: If-knew approach |  |  |  |  |  |  |
| Approach 2: Prospective Present Value |  |  |  |  |  |  |
| New model regulation |  |  |  |  |  |  |

A red X does not indicate that past premiums were adequate. Instead, it indicates that any deficiency (i.e., the difference between if-knew and actual premium collected) needs to be made up from a source other than a rate increase.

**Recoupment of Losses – Adverse Claim Categories**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Lifetime loss ratio | N/A | N/A | N/A |  |  |  |
| Approach 1: If-knew approach | N/A | N/A | N/A |  |  |  |
| Approach 2: Prospective Present Value | N/A | N/A | N/A |  |  |  |
| New model regulation | N/A | N/A | N/A |  |  |  |

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

**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**.

For pre-rate stabilized policies, we 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:



**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.

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. In some cases, especially at later durations, the allowable rate increase computed under the prospective PV or blended if-knew/makeup approach fails to meet the loss ratio standard in the Model Regulation. As a result, the allowable rate increase computed according to the Model Regulation’s loss ratio standard serves as a ceiling when using either of the above approaches.

**Comparison of Approaches**

The allowable rate increases under the prospective PV and blended if-knew/makeup approaches were compared using simulated data for a cohort of 10,000 policyholders with an issue age of 55. Incidence and claim termination rates were based on SOA Basic Tables. Mortality rates assumed at pricing were based on the 2012 IAM table. A mortality selection factor of .25 was assumed during the first year, increasing by .05 annually, until reaching 1 at year 16. Lapse rates assumed at pricing were 6 percent for the first year, reducing by 1 percent annually in years 2-5, and remaining flat at 1 percent at years 6 and beyond.

The revised assumptions were implemented as a flat multiple of the pricing assumptions across all durations. For example, if the incidence rates were revised to be 5 percent higher than those assumed at initial pricing, then the incidence rate at every duration was multiplied by 1.05 to generate the revised incidence rates.

The following charts illustrate the allowable rate increases under the following methods:

* if-knew
* prospective present value (PPV)
* prospective present value limited to the NAIC model 58/85 standard using the lesser of actual or expected past claims
* blended if-knew/make-up
* blended if-knew/make-up limited to the NAIC model 58/85 standard using the lesser of actual or expected past claims

Scenario 1: adverse experience

Assumptions:

|  |  |
| --- | --- |
| discount rate | 4.00% |
|  |  |
| **Initial pricing assumptions** |  |
| lifetime loss ratio target | 60.0% |
|  |  |
| **Assumption changes (revised ÷ pricing)** | |
| incidence rate | 1.05 |
| mortality rate | 0.95 |
| mortality selection rate | 1.00 |
| voluntary lapse rate | 0.95 |
| claim severity | 1.10 |

Scenario 2: worse adverse experience than scenario 1

Assumptions:

|  |  |
| --- | --- |
| discount rate | 4.00% |
|  |  |
| **Initial pricing assumptions** |  |
| lifetime loss ratio target | 60.0% |
|  |  |
| **Assumption changes (revised ÷ pricing)** | |
| incidence rate | 1.10 |
| mortality rate | 0.90 |
| mortality selection rate | 0.95 |
| voluntary lapse rate | 0.80 |
| claim severity | 1.20 |

Scenario 3: much worse adverse experience than the previous scenarios

Assumptions:

|  |  |
| --- | --- |
| discount rate | 4.00% |
|  |  |
| **Initial pricing assumptions** |  |
| lifetime loss ratio target | 60.0% |
|  |  |
| **Assumption changes (revised ÷ pricing)** | |
| incidence rate | 1.20 |
| mortality rate | 0.90 |
| mortality selection rate | 0.95 |
| voluntary lapse rate | 0.80 |
| claim severity | 1.30 |

**Conclusion**

As illustrated in the above charts, the PPV and blended if-knew/make-up approaches produce roughly similar rate increases up to a certain duration. Before they begin to diverge, each approach is limited by the NAIC model 58/85 loss ratio standard, which recognizes the lesser of actual or expected past claims. If regulators and carriers adhere to the NAIC model as an ceiling, the allowable rate increases under the PPV and blended if-knew/make-up approaches is similar.

**Other Considerations and Modifications to Approaches**

**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.

**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.