



Long-term care rate increase survey

An industry survey of strategies and
experiences with rate increases

Prepared by:

Missy Gordon, FSA, MAAA
Principal and Consulting Actuary

Amy Pahl, FSA, MAAA
Principal and Consulting Actuary

Peer reviewed by:
Allen Schmitz, FSA, MAAA
Principal and Consulting Actuary

8500 Normandale Lake Boulevard
Suite 1850
Minneapolis, MN 55437 USA

Tel +1 952 820 2478
Fax +1 952 897 5301

milliman.com

Table of Contents

1. OVERVIEW	3
1.1 Summary of participation	3
1.2 Brief history of rate increase environment in LTC industry	3
1.3 Executive summary	4
2. RATE INCREASE FILING OUTCOMES	6
2.1 Approval process	6
2.2 Department meetings	10
2.3 Rate stability approvals	12
2.4 Policyholder options	12
2.4.1 Reducing inflation protection	13
2.4.2 Landing spots	14
2.4.3 Contingent benefit upon lapse	14
2.5 Rate increase implementation capabilities	16
2.6 Policyholder notification	16
3. APPROACH TO FILING A RATE INCREASE	17
3.1 Rate increase filing history	17
3.2 Approach to determining a rate increase request	17
3.2.1 Actuarial justification	18
3.2.2 Adverse historical experience	19
3.2.3 Missing original pricing information	20
3.2.4 Experience pooling	20
3.2.5 Class definition	21
3.3 Internal and external resources	21
3.3.1 Coordination with outside party	21
3.3.2 Filing resources and timing	22
3.4 Rate increase strategy	23
3.4.1 Rate increase request	23
3.4.2 MultiYear rate increase requests	24
3.4.3 Varied increases	24
3.4.4 Filing exhibits	26
3.5 Rate stabilization	26
3.5.1 Background	26
3.5.2 Rate stabilization filings	27
3.6 NAIC Bulletin	28
3.6.1 Background	28
3.6.2 Strategy	29
4. ASSUMPTIONS AND PROJECTIONS	30
4.1 General	30
4.2 Mortality	30
4.3 Lapse rate	31
4.4 Morbidity	33
4.5 Interest	34
4.6 Policyholder behavior	35
4.6.1 Policyholder behavior assumptions	35
4.6.2 Policyholder behavior experience	36
4.7 Modeling	37

1. OVERVIEW

Milliman recently completed a survey on premium rate increases for the long-term care (LTC) insurance industry. Twenty-six companies participated in the survey. This is the inaugural survey; we expect to conduct it on a recurring basis every three to five years.

This report provides a summary of the survey findings and assumes that the reader is familiar with LTC insurance and rate increase filings. We expect this survey report to be a valuable resource for understanding common practices and trends in LTC rate increase filings.

The results of this survey are intended to provide interested parties with general strategies and approaches to filing LTC rate increases as well as a summary of experience with filing them. In preparing this report, we relied on companies to accurately respond. While we reviewed the responses for general reasonableness, we included them as reported. It should also be noted that not all companies answered every question, resulting in the number of responses varying by question.

Commentary offered throughout this report includes the authors' opinions, which do not necessarily represent those of Milliman. The commentary in this report is based on recent LTC rate filing experience and the current regulatory environment, which is fluid and subject to change. As the responses to the survey are company-specific, the information provided in this report may not be true for all companies or situations.

Because the articles and commentary prepared by the professionals of our firm are often general in nature, we recommend that readers seek the advice of an actuary or attorney before taking any action. The authors of this study are associated with Milliman, Inc., and are members of the American Academy of Actuaries. The authors are qualified under the Academy's qualification standards to render the opinions with regard to the actuarial calculations set forth herein. The authors of this study would like to give a special thanks to Andrea Steffan for her significant contribution in assembling and tabulating the results of this survey.

1.1 Summary of participation

The 26 companies participating in the survey represent \$8 billion in premium (73% of the industry by premium volume). Participants include companies with large market shares as well as smaller companies. Of the survey participants, only a quarter are still selling LTC insurance; the remainder of the companies only have closed blocks. The blocks of business included in the survey are 91% individual policies and 9% group.

About half of the participating companies are holding a premium deficiency reserve (PDR) or an additional asset adequacy reserve. A third of the companies are holding an additional asset adequacy reserve and 12% are holding a PDR. Only one company is holding both PDR and additional asset adequacy reserve.

Many carriers responding to the survey requested that they not be identified by name. To prevent bias or inadvertent allocation of the reported results to the companies that agreed to be identified, we have chosen not to disclose the names of any of the respondents.

Of the 26 participating companies, 24 have a filed at least one rate increase during the lifetime of the business, of which 22 have filed a rate increase in the past 36 months. As some companies have more than one increase in the past 36 months, the survey requested information for up to three recent filings. This report includes a summary of those that have filed at least one rate increase in the life of the business. These 24 companies provided responses for 43 recent nationwide rate increase filings. We define a filing as a nationwide rate increase request and a submission as each separate jurisdiction rate increase request.

1.2 Brief history of rate increase environment in LTC industry

Early on in the history of the LTC industry, there were very few rate increases due to the stigma it might inflict on the company and lack of credible experience. As experience declined, more pressure was put on company management to exercise the option in LTC contracts to take rate action. Over time, more rate increases have been pursued, becoming a major concern for consumers and regulators. State departments have imposed political caps on the magnitude of the rate increases approved. In the early 2000s the National Association of Insurance Commissioners (NAIC) published model regulation with the intent of stabilizing rates and potentially limiting future rate increases. As the number of rate increases pursued grew, the NAIC released a Compliance Bulletin in late 2013 to try to unify what states should assess when considering approval of a rate increase. Generally, state insurance departments have a better understanding of the need for rate increases, but the process of how to address them continues to evolve and is far from uniform.

1.3 Executive summary

All companies that participated in this survey, except two, have filed for at least one rate increase on their LTC business. The following provides highlights of their experiences:

- *Rate increase approvals:* For the companies that have filed an increase, about 75% of the filings received a full or partial rate increase approval. For companies with approvals, just over a quarter received a 20% to 39% rate increase, and some companies averaged a rate increase greater than 80%. In order to obtain a rate increase, companies needed to comply with various requirements, whether regulatory or not, from departments of insurance (departments). Some of the common department requests included reducing the increase amount, phasing in the increase, revising the policyholder notification letter, and offering a rate guarantee for a number of years.
- *In-person meetings:* Requirements for rate increase filings vary by jurisdiction; companies have noted certain jurisdictions in which achieving a rate increase approval is more cumbersome. Among those at the top of the list are Florida, Texas, and Virginia. Some companies organize in-person meetings with departments, sometimes to aid in achieving any rate increase or a higher rate increase. For many of the more cumbersome jurisdictions, companies that held in-person meetings have noted the meeting as productive for the filing, whether in the form of a higher rate increase and/or faster time to approval.
- *Disapproval or rate increase reductions:* Reasons a rate increase might be reduced or disapproved vary greatly, but the most common reason is due to a political cap or non-actuarial reason. Other common reasons cited by jurisdictions include the historical loss ratio being too low, concern regarding subsidization of other jurisdictions, and recouping of past losses. Changes in the review process in departments are fluid which makes it difficult to predict the outcome of a rate increase request.
- *Benefit reduction options:* When a rate increase is approved, companies offer reduced benefit options (RBO) in order to offset the rate increase. The most common benefit reduction options provided are lowering the benefit period, lowering the daily or monthly benefit, increasing the elimination period, or dropping inflation protection. Another relatively new option that some departments favor is landing spots. Landing spots allow a policyholder to reduce benefits to a level that is not already offered in order to partially or fully offset the rate increase. While only a quarter of companies have offered landing spots, it is most typically offered as a reduced inflation protection rate, but can also be a reduced benefit period that is actuarially equivalent.
- *Contingent benefit upon lapse:* Another option for insureds, if available, is contingent benefit upon lapse (CBUL). Half of the companies offered CBUL only where required by regulation or requested by a department as a condition for rate increase approval. The remainder of the companies offer CBUL to all insureds voluntarily regardless of issue age or issue date. Over 25% of the companies responded that 5% to 9% of the insureds elected CBUL rather than receive the rate increase. For another approximate 30%, the election rate was 4% or less and one company responded with an election rate of 30% to 39%. The remaining respondents did not provide this information.
- *Setting the rate increase request:* The justification of the rate increases needed were fairly similar between all of the companies. Changes in persistency was the most common reason for the rate increases, followed by adverse morbidity and then interest rates. The most common factors considered when determining a rate increase strategy include the actual-to-expected lifetime loss ratio and actual-to-expected future loss ratio. More than half of the companies calculate the rate increase by targeting a lifetime loss ratio where only future premiums are increased. Additionally, management strategy was a factor for about half of the companies (e.g., requesting small rate increases).
- *Adverse historical experience:* A limiting factor that many departments impose on rate increase requests is whether the request attempts to "recoup past losses." For about half of the respondents, the actual historical loss ratio exceeds that expected in pricing. For those, 65% determined the rate increase in such a way that it excludes the past losses.
- *Rate stability:* Almost 90% of the companies that have filed for a rate increase had at least one filing subject to rate stability regulation. Most of the companies requested the same increase for policies subject to loss ratio regulation and rate stability regulation. However, for the minority that varied the rate increase request, the companies requested a higher increase on the rate stability business. In the survey, we did not ask for the reason for a higher increase, but based on our experience a reason could be that a higher amount than the generic request is needed to certify to rate stability under moderately adverse conditions.
- *Projection assumptions:* For the assumptions underlying the rate increase filings, company experience is the most common source for the assumptions. The second most common source is industry data for mortality and lapse, and consultant data for

the morbidity assumption. We asked companies how the assumption used in the rate filings compare to those used in their cash flow testing (CFT). A large majority of companies use the same mortality and lapse assumptions. Most use the same morbidity assumption, while about 20% use a lower morbidity assumption in the rate filing. Additionally, almost half of the companies used a lower interest rate than in CFT while less than 20% used the same interest rate.

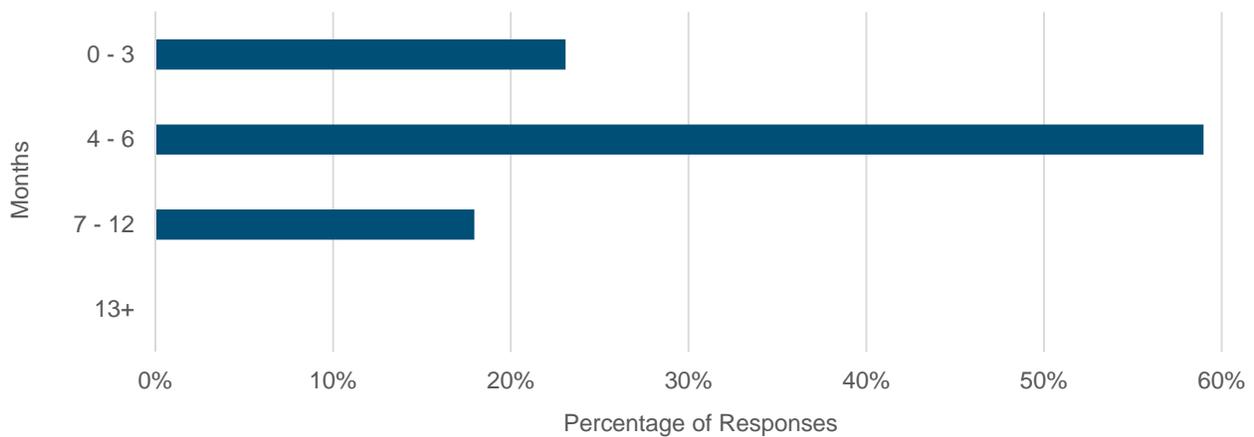
2. RATE INCREASE FILING OUTCOMES

This section discusses the details behind the approvals of rate increases received by the companies in the survey. Outcomes from a rate increase filing can vary greatly across companies and jurisdictions. They depend on a number of factors including, but not limited to, the level of increase requested, the performance of the business relative to the increase requested, jurisdiction requirements (whether regulatory or not), and the company’s strategy for in-person department meetings. This section includes jurisdiction and policyholder responses to the rate increases. Additionally, this section contains a description and summary of the policyholder options to offset a rate increase.

2.1 Approval process

Figure 2.1 shows how many months it took from submission to approval, on average, for the jurisdictions that approved an increase. While the average timeframe from respondents is under six months for most filings, we recognize that some jurisdictions take years to provide an approval.

FIGURE 2.1: AVERAGE APPROVAL TIME FRAME



The rate increase process varies greatly between jurisdictions. Some departments approve rate increases with very little questioning while others have multiple objections, asking a variety of actuarial and non-actuarial questions. Figure 2.2 provides the top ten most “cumbersome” jurisdictions in terms of the filing process as noted by the responses. Although not specified by respondents, possible reasons a jurisdiction may be considered cumbersome include complexity of initial submission requirements, length of objections, and extent of non-actuarial requirements (e.g., policyholder notification letter or options).

FIGURE 2.2: TOP “CUMBERSOME” JURISDICTIONS FOR RATE FILINGS

Florida	New York
Texas	Indiana
Virginia	Arizona
California	Colorado
Minnesota	Massachusetts

Changes in the review process in jurisdictions are often ongoing, which makes it difficult to predict the outcome of a rate increase request. The NAIC LTC Actuarial (B) Working Group began discussions in 2015 to create a more standardized review process, headed by the Minnesota and Nebraska departments. The outcome of these efforts is not yet known.

As conditions for approval, departments may require that certain criteria be met; most commonly, lowering the rate increase level. Figure 2.3 provides a summary of the requirements for a rate increase approval.

FIGURE 2.3: JURISDICTION REQUIREMENTS FOR RATE INCREASE APPROVAL

Requirement	Percentage of Responses
Reduce increase amount	98%
Revised policyholder notification letter	93%
Phase in rate increase	81%
Provide rate guarantee (most commonly three years, but varied between two and five years)	56%
Offer CBUL to more insured regardless of issue date	35%
Offer CBUL to more insured regardless of triggers	26%
Provide additional alternatives to the rate increase (e.g., landing spots or reduced benefits)	26%

Note: Responses total more than 100% as more than one may apply.

Figure 2.4 provides the most common reasons cited by the jurisdictions for reducing or denying a rate increase.

FIGURE 2.4: JURISDICTION REASONS FOR RATE INCREASE REDUCTION OR DISAPPROVAL

Reason	Percentage of Responses
Requested increase is unreasonable (i.e., political cap/non-actuarial)	84%
Disagreement on justification of the rate increase	63%
Historical loss ratio too low	56%
Subsidizing other jurisdictions	40%
Request “recoups past losses”	37%
Jurisdiction-specific lifetime loss ratio too low	21%
Not enough time passed since last increase	16%
Lifetime loss ratio too low	5%
Poor state	5%
Average age of insured is too old	5%

One of the more common reasons a rate increase is reduced or disapproved is a historical loss ratio that is deemed too low. A jurisdiction that uses this reason will require a company to wait until more adverse experience unfolds. For a long-duration product like LTC, it is inappropriate to use “low” historical loss ratios to determine whether or not a block is performing poorly. In early policy years when claims are low, a portion of premiums received are set aside to prefund expected future claims. This prefunding aspect of LTC insurance results in low historical loss ratios, which can cause several misconceptions, including that the company has experienced significant profits or that there is time to wait and see how experience will unfold before deciding whether a rate

increase is needed. While evaluating the need for a rate increase based on historical loss ratios may be appropriate for medical insurance, this method does not capture the prefunding component of LTC premiums.¹ The prefunding component provides the reserves needed to pay future claims of a block of business in total.

While a company waits to file an increase, because the jurisdiction notes that the historical loss ratio is too “low,” the future premium base to which any rate increase would be applied continues to shrink. This means a larger increase will be needed later to achieve the same lifetime loss ratio and could result in a rate increase request that “recoups past losses” in the eyes of certain departments. Recouping past losses is another reason that jurisdictions disapprove or reduce rate increases, compounding the challenge of achieving an approval. Additional discussion of recouping past losses appears in Section 3.2.2 below.

As shown in Figure 2.4 above, 40% of the 24 responding companies indicated a department might limit or disapprove a rate increase due to concerns that policyholders in its jurisdiction will subsidize other jurisdictions. In most cases, the department will allow an increase that brings the jurisdiction up to the average nationwide approval level. This practice creates a “catch-22” problem with the subsidization argument in that, as more jurisdictions approve rate increases, the limiting jurisdiction will always lag behind the other jurisdictions, causing the limiting jurisdiction to be subsidized by others.

Figure 2.5 provides the distribution of department decisions on the submissions.

FIGURE 2.5: DISTRIBUTION OF DISPOSITIONS

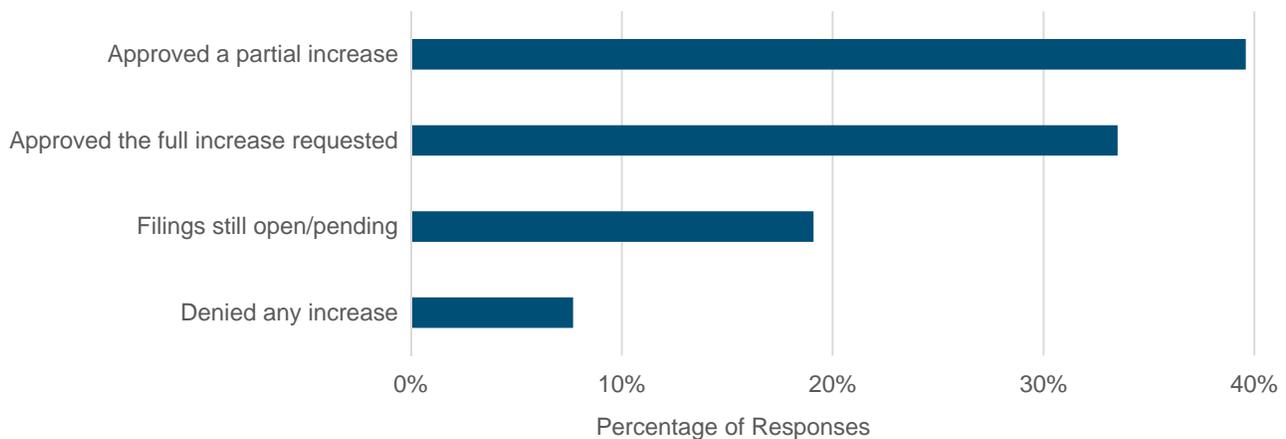


Figure 2.6 provides the average approved rate increase where a disposition was received (including 0% for disapprovals).

¹ Gordon, M., & Moench, S. (August 2014). Mechanics and Basics of Long-Term Care Rate Increases. *Society of Actuaries Long Term Care News*, (36), 1-9. Retrieved from <https://www.soa.org/Library/Newsletters/Long-Term-Care/2014/august/ltc-2014-iss36-gordon.aspx>

FIGURE 2.6: AVERAGE APPROVED INCREASE

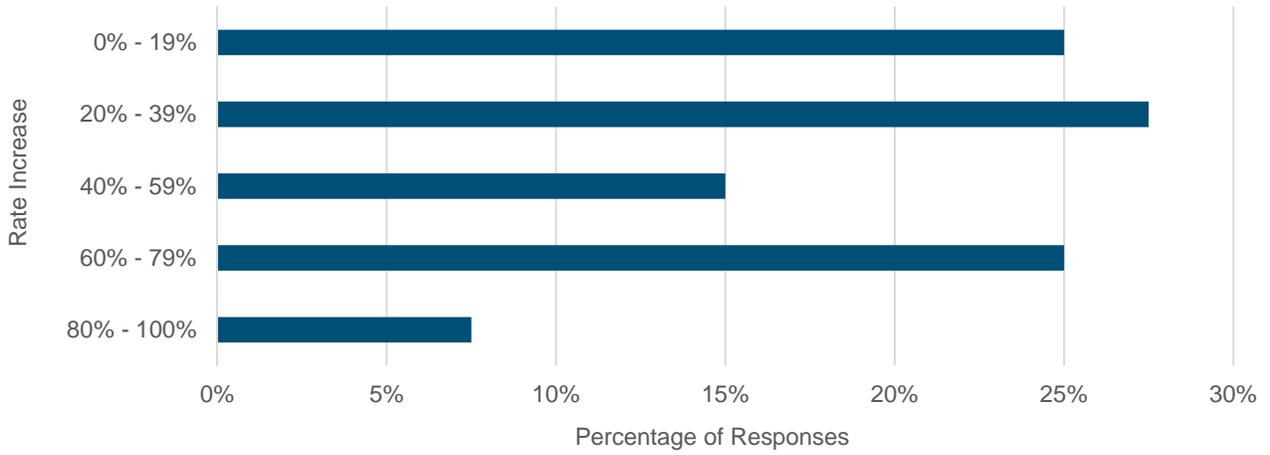
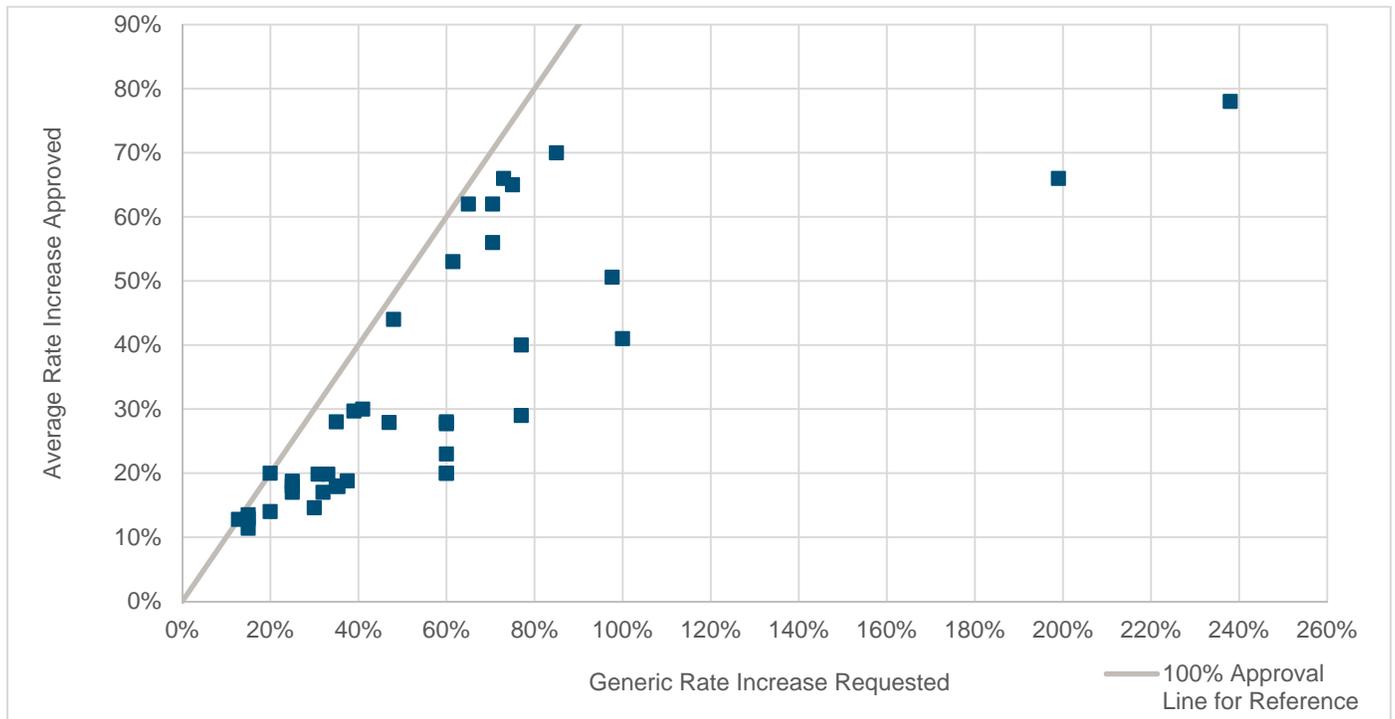


Figure 2.7 provides for each filing the “generic” nationwide rate increase request versus the average rate increase approved. The generic request is what was submitted to all jurisdictions, except where jurisdiction-specific modifications to the request are needed.

FIGURE 2.7: AVERAGE RATE INCREASE REQUEST APPROVED BY AMOUNT OF GENERIC REQUEST



2.2 Department meetings

Almost half of the 24 companies responding do in-person meetings with departments. For those who meet with jurisdictions, over a third visit approximately 50% of the departments in which they submit requests. The remainder meet with fewer than half, ranging from 1 to 15 departments.

Figure 2.8 provides a list of the ten jurisdictions where participants in the survey viewed an in-person meeting as productive. In the survey question, we considered a meeting to be “productive” if the department meeting resulted in a higher approved increase or shorter time to approval. There may be other benefits to an in-person meeting, but we did not request respondents to clarify the benefits.

FIGURE 2.8: TOP TEN JURISDICTIONS WHERE IN-PERSON MEETING IS PRODUCTIVE

Florida	Utah
Texas	Virginia
California	North Carolina
New York	Missouri
Pennsylvania	Ohio

The timing of the in-person department meetings is summarized in Figure 2.9.

FIGURE 2.9: TIMING OF IN-PERSON MEETINGS

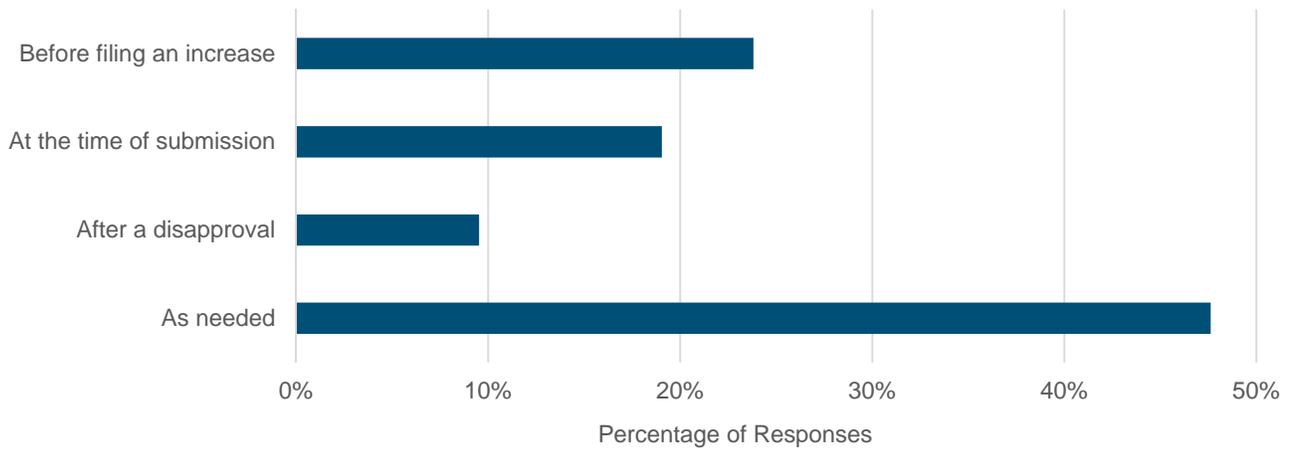
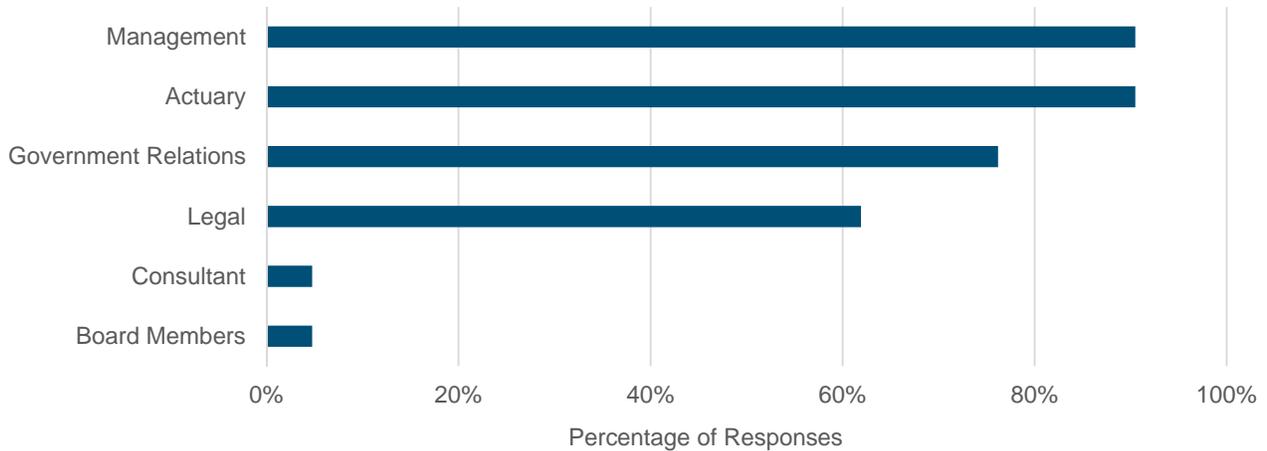


Figure 2.10 provides information about who attends the meetings with departments.

FIGURE 2.10: ATTENDEES OF IN-PERSON MEETINGS

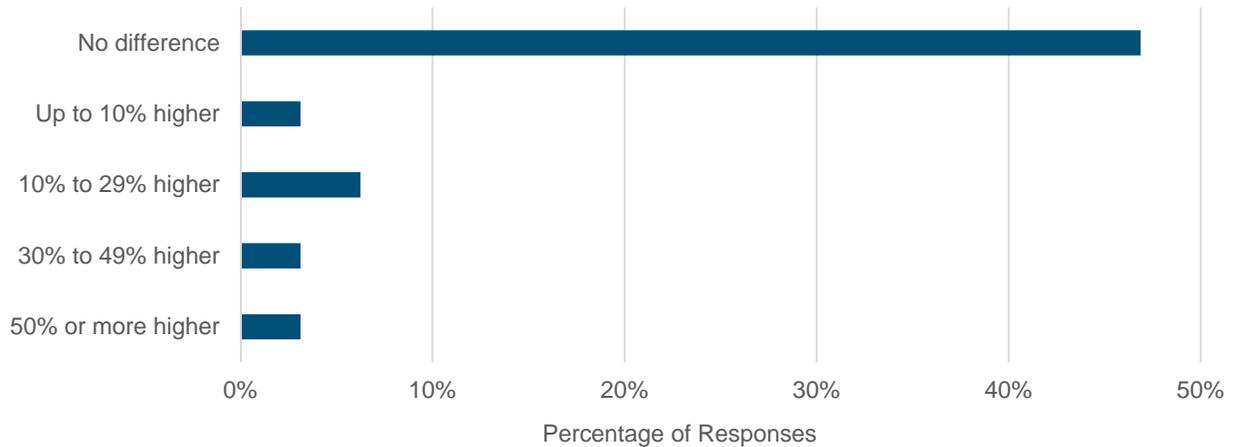


Note: Responses total more than 100% as more than one may apply.

2.3 Rate stability approvals

For the 21 companies with rate stabilized business, Figure 2.11 provides the difference in the average rate increase approval between rate stabilized business and business that is not rate stabilized. As an example, if the average approval on non-rate stabilization business was a 40% increase and the corresponding average approval on rate stabilization business was 50%, the response would be 10% higher.

FIGURE 2.11: RATE STABILIZATION APPROVAL DIFFERENCE



Note: 38% of respondents with both non-rate stabilization and rate stabilization business did not provide this information.

For the jurisdictions where rate stability regulation applied, Figure 2.12 provides how many required certification to future rate stability to approve the rate increase. This is, if a company did not request an increase that could be certified to future rate stability, the jurisdiction required the company to revise the rate increase to a level that allows certification (i.e., a higher increase).

FIGURE 2.12: JURISDICTIONS THAT REQUIRED RATE STABILAZATION CERTIFICATION FOR APPROVAL

Percentage of Jurisdictions	Percentage of Responses
Unknown (requested rate increase already certified to rate stability)	56%
Did not require certification	39%
Required certification	5%

Note: Responses from 91% of the companies with rate stability business.

2.4 Policyholder options

Alternative options to reduce benefits provided to insureds in lieu of a rate increase are provided in Figure 2.13.

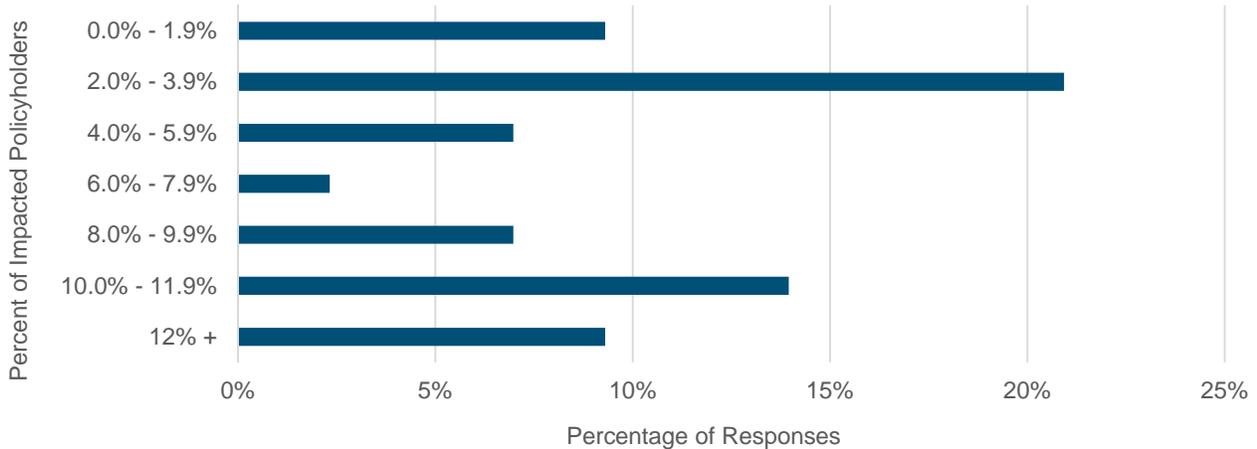
FIGURE 2.13: REDUCED BENEFIT OPTIONS (RBO)

Option	Percentage of Responses
Lowering the benefit period	98%
Increasing the elimination period	88%
Lowering the daily/monthly benefit	88%
Dropping inflation protection	72%
Reducing inflation protection to another existing inflation protection option	53%
Landing spots	26%
Dropping optional riders	7%
Reduce home care coverage percentage	7%

Note: Responses total more than 100% as more than one may apply.

Figure 2.14 provides the percentage of policyholders impacted by a rate increase that chose to reduce benefits rather than receive the full rate increase.

FIGURE 2.14: BENEFIT REDUCTION ELECTIONS



Note: 30% of respondents do not track or did not provide this information.

2.4.1 REDUCING INFLATION PROTECTION

When a policyholder drops or reduces inflation protection to another existing inflation protection option (e.g., compound down to simple inflation or reduction of inflation percentage), companies handle the continuing or inflating daily benefit level differently. There is a broad spectrum of approaches used by companies. While the survey included a question on the approach used, the responses varied significantly between, and even within, companies. Figure 2.15 lists the approaches companies use when a benefit inflation option is dropped or reduced.

FIGURE 2.15: DAILY BENEFIT IMPACT WHEN INFLATION IS DROPPED OR REDUCED

Daily benefit is frozen at the current inflation level

If inflation protection is reduced to another existing inflation protection option, the daily benefit moves to what it would have been with the reduced inflation protection option

Policyholder can choose daily benefit up to inflated level with premium rate based on original issue age

Daily benefit reverts to original level

Where the daily benefit is frozen at the current level, companies may set the new no-inflation premium based on either: the (1) the original daily benefit amount, or (2) the current daily benefit amount. Whether a company follows (1) or (2) was not requested in the survey. Administration of changes in inflation protection is a sensitive topic and one of much discussion between companies and regulators.

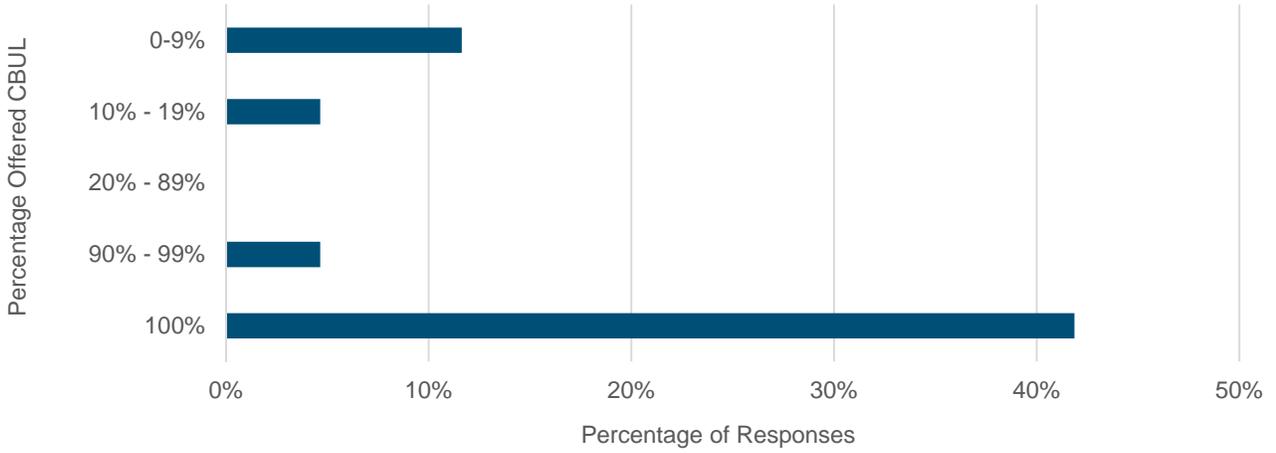
2.4.2 LANDING SPOTS

Landing spots are a relatively new concept within the LTC industry. Landing spots allow a policyholder to reduce benefits to a level that is not already offered in order to partially or fully offset the rate increase. About one-quarter of the companies surveyed offer landing spots. When asked how the landing spots are determined, the most common response was that they are calculated using a lower inflation protection percentage such that the reduction is actuarially equivalent to the rate increase (i.e., they are exactly offsetting). The policyholder’s current daily benefit keeps the inflation-based increase accrued to date and then begins inflating at a new, lower rate. Another option provided by some companies is a reduced benefit period that is actuarially equivalent, or a combination of reduced benefit period and lower inflation protection percentage.

2.4.3 CONTINGENT BENEFIT UPON LAPSE

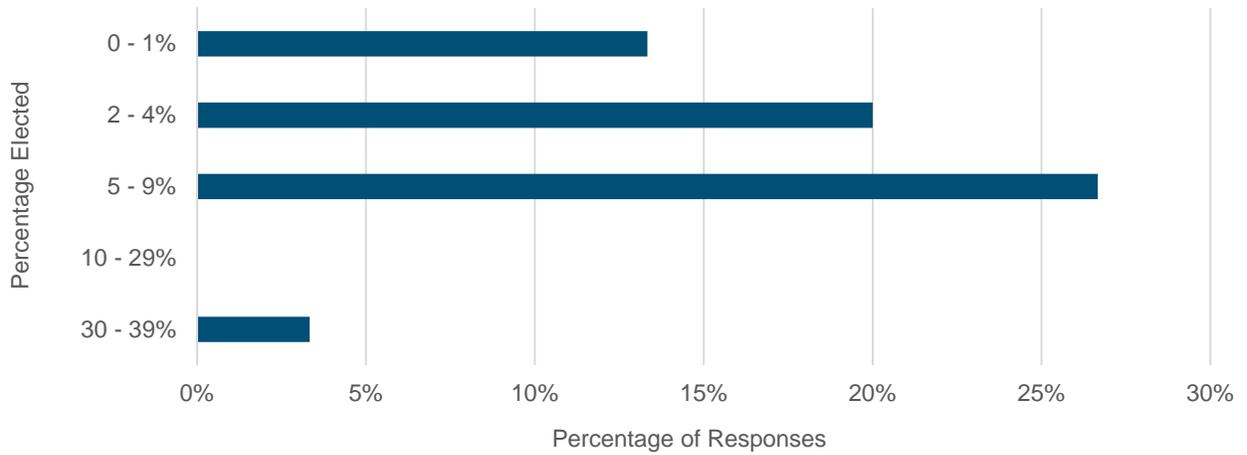
The strategy used to determine when CBUL is offered is split evenly between the companies. Half of the respondents offered CBUL only when required by regulation or requested by a regulator as a condition for a rate increase approval. The other half voluntarily offer CBUL to all insureds regardless of issue date or issue age. Figure 2.16 provides the percentage of insureds that were offered CBUL.

FIGURE 2.16: INSUREDS OFFERED CBUL



For those that were offered CBUL, Figure 2.17 provides the percentage of insureds who were offered the option and chose to elect CBUL.

FIGURE 2.17: INSUREDS WHO ELECTED CBUL



Note: 37% of respondents do not track or did not provide this information.

2.5 Rate increase implementation capabilities

It is critical that a company’s administration system is capable of handling the nuances of any increase. As non-uniform increases are becoming more popular, it is important that the company’s administration system is capable of handling a varied increase. Almost all of the companies (91%) are able to implement an increase that varies by at least one parameter. Even if a company is able to implement a varied increase, a company may prefer not to do so due to administrative complexities and the additional cost to implement a varied increase. The parameters by which the rate increase may vary are provided in Figure 2.18. For 8% of the companies, the rate increases are applied seriatim so they are able to apply an increase by any variation.

FIGURE 2.18: PARAMETERS BY WHICH RATE INCREASE MAY VARY BASED ON IMPLEMENTATION CAPABILITIES

Parameter	Percentage of Responses
Inflation Protection	95%
Benefit Period	92%
Issue Age	90%
Elimination Period	74%
Home Care Coverage Percentage	8%
Attained Age	3%

Note: Responses total more than 100% as more than one may apply.

2.6 Policyholder notification

The policyholder notification period requirements vary by jurisdiction; however, a company may choose to implement later than required by the minimum notification period. Most commonly, companies use a 60-day notification period unless a longer time frame is required by a jurisdiction. However, the time frame varies from 30 to 95 days for the companies included in the survey.

3. APPROACH TO FILING A RATE INCREASE

LTC rate increases are challenging and the approach can vary between companies, and even across products within a company, as there is not a one-size-fits-all solution. This section provides a summary of how the companies manage rate increases on their LTC blocks of business including how the rate increase is determined, the approach to adverse historical experience, missing original pricing information, and experience pooling. Additionally, a summary of the rate increase requested is included and whether it is uniform or varies. This section also provides how companies approach filing a rate increase for rate stability policies. The end of this section discusses the impact of the recent NAIC Bulletin on rate increases.

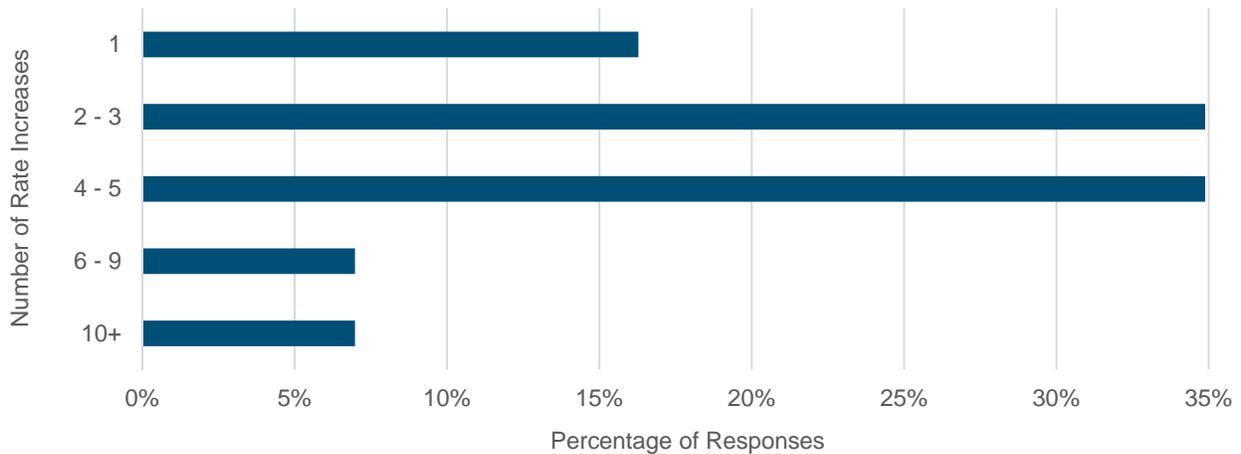
The survey responses include the 24 companies that have filed an increase in the life of the business, of which 22 filed a rate increase in the most recent 36 months. As some companies have filed for more than one increase in the past 36 months, the survey requested information for up to three recent filings.

3.1 Rate increase filing history

All 26 participating companies have filed at least one rate increase in the lifetime of their LTC business, with the exception of two companies. Of those who have filed at least one rate increase, all but two companies have filed for a rate increase in the past 36 months; almost half have filed in the past six months. The reasons two companies have not filed a rate increase in the past 36 months are: (1) they are considering alternatives to a rate increase, and (2) they are in the process of preparing another rate increase filing.

Figure 3.1 provides the number of rate increases that have been implemented for the 24 companies that have filed a rate increase in the life of the business, including the most recent filing.

FIGURE 3.1: NUMBER OF RATE INCREASES



For companies that have filed more than one increase, there is not a common pattern from the respondents of how often an increase is filed. The responses were fairly even among annually, every two, three, or four years, and as needed.

3.2 Approach to determining a rate increase request

The majority of the participating 26 companies (80%) analyze experience annually, while 13% look at the experience more than once a year and 7% look at the experience every two or three years.

More than five years of experience was accumulated before the first rate increase was filed for all companies that have filed a recent rate increase. It was most common for companies to file an increase six to ten years after the first policy was issued on the block of business. Other common timeframes were 11 to 15 years or more than 20 years. It is financially advantageous to both the company and some policyholders to request rate increases earlier during the life of a block of LTC business rather than later. Generally, the longer a company waits to request an increase, the larger the increase that is needed because it will be applicable to a smaller subset of persisting insureds. If filed too early, some departments may push back due to lack of credible historical experience. Regardless, quick action, once a company realizes an increase is needed, is generally in the best interest of the company and policyholders (in the form of potentially smaller cumulative increases). Deferring a rate increase just five years to wait and see how experience unfolds may double the rate increase needed to produce the same lifetime loss ratio that would have been achieved had the increase been implemented immediately.²

There are many factors that can be considered when determining what increase to request for a nationwide rate filing. Figure 3.2 provides some of the common factors used by the 24 companies that have filed increases. Responses included as “Other” are the 58%/85% test required by rate stability regulations, experience including an assumption for moderately adverse experience (MAE), profit margin, constraints of a reinsurance agreement, targeting a lifetime loss ratio with MAE where only future premiums are increased and allows for certification to rate stability, and impact on new business.

FIGURE 3.2: FACTORS CONSIDERED WHEN DETERMINING RATE INCREASE STRATEGY

Factor	Percentage of Responses
Actual-to-expected lifetime loss ratio	84%
Actual-to-expected future loss ratio	56%
The requested rate increase is calculated by targeting a lifetime loss ratio where only future premiums are increased	53%
Management strategy (e.g., request small rate increases)	51%
The requested rate increase is calculated by targeting a lifetime loss ratio assuming all premiums since inception are increased	26%
Other	14%

Note: Responses total more than 100% as more than one factor may apply to a filing.

3.2.1 ACTUARIAL JUSTIFICATION

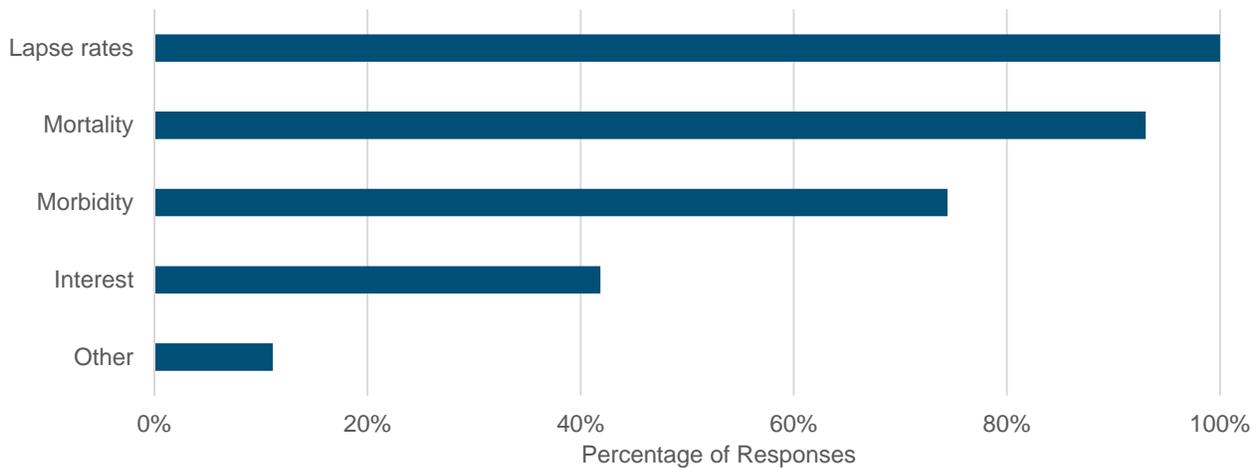
The reasons for rate increases are fairly consistent among the participating companies. Figure 3.3 below provides the percentage of companies giving each reason for the rate increase. Voluntary lapse rates have been much lower than had been assumed in original pricing, which is the most common reason (all companies that have filed an increase cited it as a reason for the rate increase). Mortality, which has a similar effect on LTC financials, was the second most common reason for a rate increase. The changes in lapse and mortality over the years result in more people keeping their coverage longer to ages at which claims are more common. The issue of more policyholders remaining in force impacts the older blocks of business the most, but newer blocks are also affected.

The third most common cause for an increase was adverse morbidity. Based on our review of industry data used to update the Milliman *Long-Term Care Guidelines (Guidelines)*, the assumption for incidence has generally decreased, but length of stay has increased over time. In developing the *Guidelines*, we observed a trend in insured experience toward more assisted living facility stays. This is consistent with general observed trends in the industry as well. The length of stay for an assisted living facility is significantly longer than a nursing home stay, which contributes to the longer length of stay observed in the *Guidelines*.

² Gordon, M., & Moench, *ibid.*

Almost half of the companies responded with interest rates as a reason for the rate increase requests. As many policies were priced when investment yields were higher than in the current environment, lower interest rates is a reason for many older policy forms. In our experience, there are only a handful of jurisdictions that do not allow for deviations that are due to lapse and/or interest rates to support a rate increase. LTC claims are generally low at younger attained ages and high at older attained ages. In pricing, the expected present value of lifetime claims is used to develop level lifetime premiums for each issue age. In early years when claims are low, a portion of the premiums is used to prefund claims incurred in future years. The prefunding component provides the reserves needed to pay future claims of a block of business in total. If the earnings rates on the assets supporting future liabilities are lower than expected, the assets will not grow as originally anticipated. This results in fewer assets being available when future claims are incurred, creating a greater reliance on future premiums. If consumers were to self-fund, they would also be exposed to investment risk. If their invested assets did not grow at the rate expected, they too may not have sufficient funds to cover their future LTC costs.

FIGURE 3.3: FACTORS COMPRISING THE ACTUARIAL JUSTIFICATION



Note: 'Other' includes mix of business and cost of waiting. Responses total more than 100% as more than one may apply.

3.2.2 ADVERSE HISTORICAL EXPERIENCE

A limiting factor that certain departments impose on rate increase requests is whether the request attempts to “recoup past losses.” For about half of the respondents, the actual historical loss ratio exceeded what was expected in pricing. Of those, 65% determined the rate increase in such a way that it did not take into account the past losses. There were multiple approaches companies used to exclude the past losses, including:

- Replace historical actual loss ratios with expected loss ratios
- Target a future actual-to-expected ratio equal to or greater than 1.00
- Do not request a rate increase that brings the block back to profitability
- Projected future experience restored to the levels projected in the previous filing
- Restate premiums to current rate level since inception, then target the lifetime loss ratio
- Use the lesser of actual past claims and expected past claims when determining loss ratio compliance. Expected claims shall be calculated based on the original filing assumptions assumed until new assumptions are filed as part of a rate increase. New assumptions shall be used for all periods beyond each requested effective date of a rate increase regardless of whether or not the rate increase is approved. Expected claims are calculated for each calendar year based on the in-force during the calendar

year. Expected claims shall include margins for moderately adverse experience; the margins included in the claims that were used to determine the lifetime loss ratio consistent with the original filing or as modified in any rate increase filing.

The subject and definition of “recoupment of past losses” was discussed by the Health Actuarial Task Force (HATF) in the development of the 2013 Long-Term Care Model Bulletin. HATF defined recouping past losses as prior claims in excess of expected. This means that based on HATF’s definition, to demonstrate a rate increase is not recouping past losses, actuaries must use the lesser of actual and expected past claims in demonstrating compliance with loss ratio requirements. HATF explored alternative definitions of “not recouping past losses” and concluded they were not appropriate and were too risky for the long-term care product.

Indirect discussion of recouping past losses is found in Section 20.1 of the Model Regulations adopted in 2014 by the NAIC. Section 20.1C(2) states that premium rate schedule increases shall be calculated such that the sum of the lesser of—

- The accumulated value of actual incurred claims, without the inclusion of active life reserves
- The accumulated value of historical expected claims, without the inclusion active life reserves

—plus the present value of the future expected incurred claims, projected without the inclusion of active life reserves, should stand for total incurred claims in the 58%/85% calculation.

Section 20.1C(3) details how to calculate expected claims:

1. Expected claims shall be calculated based on the original filing assumptions until new assumptions are filed as part of a rate increase.
2. New assumptions shall be used for all periods beyond each requested effective date of a rate increase.
3. Expected claims are calculated for each calendar year based on the in-force at the beginning of the calendar year.
4. Expected claims shall include margins for moderately adverse experience; either amounts included in the claims that were used to determine the lifetime loss ratio consistent with the original filing or as modified in any rate increase filing.

3.2.3 MISSING ORIGINAL PRICING INFORMATION

As time passes or blocks of business are acquired, documentation of original pricing information becomes unavailable, including the expected pricing loss ratios or pricing assumptions. We asked what approach is used in demonstrating actual-to-expected experience in a filing (required by some states) and these are some of the methods:

- Used GAAP assumptions as a proxy for original pricing assumptions
- Estimated expected experience based on sample pricing cells
- Recreated expected experience with projection model to replicate initial pricing loss ratios
- Recalculated expected experience based on available pricing actuarial memorandum and actual sales or in-force distribution

3.2.4 EXPERIENCE POOLING

Just over half of the filings pooled the experience of multiple policy forms together in a single filing. Figure 3.4 provides the reasons or criteria companies considered when pooling policy forms within a filing. If policy forms are pooled, the rate increase justification is based on the pooled experience, but the rate increase request may vary by policy form.

FIGURE 3.4: REASONS FOR POOLING POLICY FORMS

Criteria	Percentage of Responses
Similar benefits	76%
Consistency with how the block is managed	76%
Similar original pricing assumptions	72%
Increased credibility	72%
Similar issue year era	52%

Note: Responses total more than 100% as more than one option may apply.

Based on our experience, certain departments may question or will not allow pooling of certain forms. Common reasons for department pushback are pooling different benefits (e.g., will not allow pooling of comprehensive policies with home care policies), pooling with policy forms not issued within the jurisdiction, or significant difference in issue year era.

3.2.5 CLASS DEFINITION

We asked companies to provide how they define “class”; Figure 3.5 provides a list of the responses provided. As class is a company and legal definition, there is a wide range of definitions as shown in Figure 3.5.

FIGURE 3.5: DEFINITIONS OF CLASS

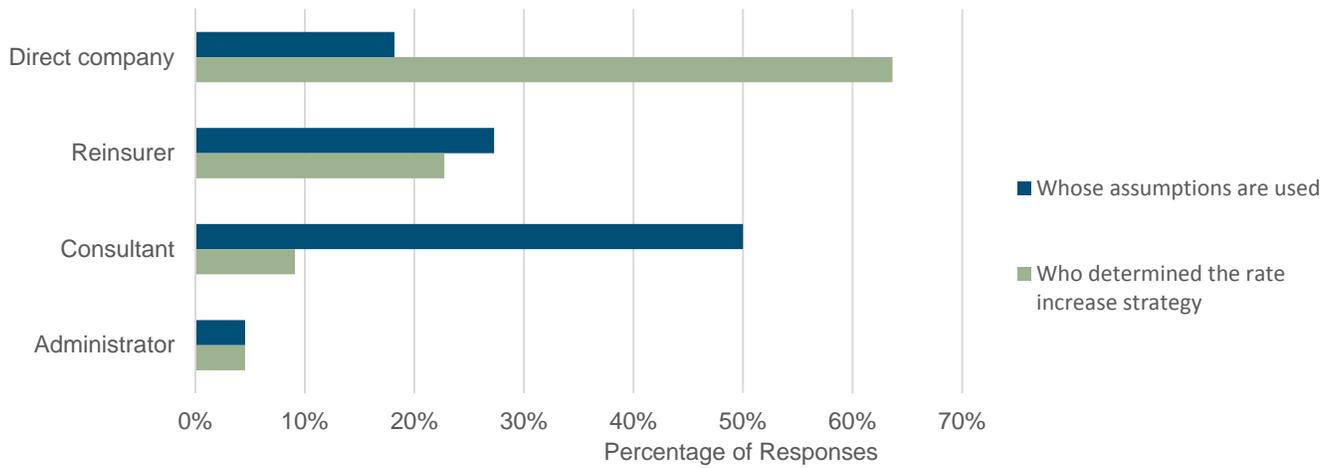
Issue age, benefit period, elimination period, inflation protection, policy form, and issue state	Policy series and issue age
By policy form, benefit package, state	Policy form
Policy form and issue state	Smoker status and gender
Issue age, pool of money, initial monthly benefit, community care level, elimination period, inflation option, premium payment option, medical underwriting, marital status, employer sponsored/multi-life discounts, and the selection of any riders	Issue age, benefit period, initial daily benefit, home care percentage, elimination period, inflation option, and the selection of any riders
Original rating cells	Per policy form definition

3.3 Internal and external resources

3.3.1 COORDINATION WITH OUTSIDE PARTY

Oftentimes, a rate increase strategy involves coordination with a consultant, administrator, and/or reinsurer. This was the case for over half of the companies. Where there was coordination with an outside party, companies were the ones “driving” the rate increase for 59% of the respondents (i.e., the one pushing for the rate increase to be filed). For the remaining 41% involving outside parties, the “driver” of the rate increase was the reinsurer. Figure 3.6 provides whose assumptions are used, who sets the rate increase strategy, and who prepares and submits the filings for companies with outside involvement.

FIGURE 3.6: RATE INCREASE STRATEGY COORDINATION WITH OUTSIDE PARTY



Note: Responses total more than 100% as more than one option may apply.

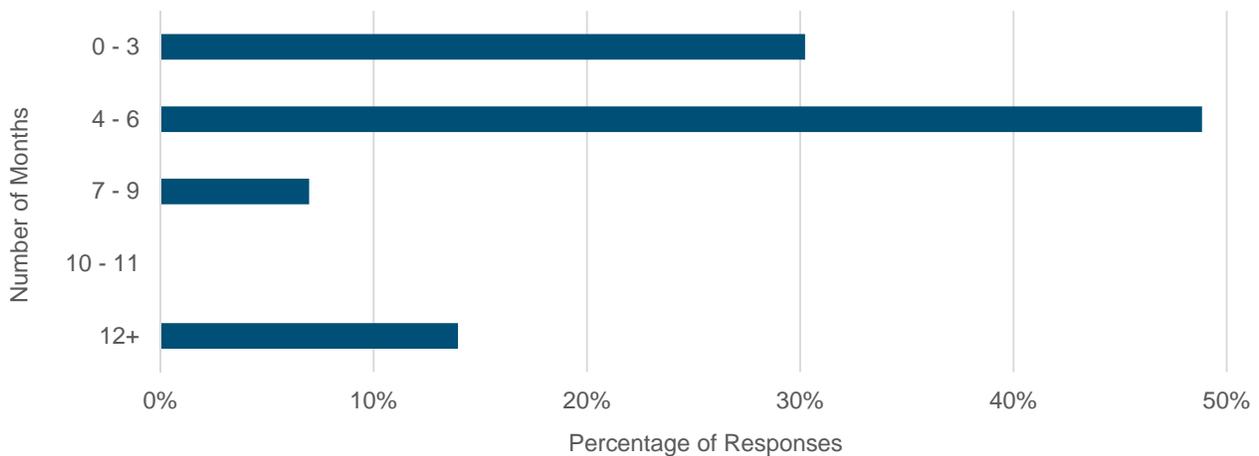
When the 24 companies were asked who is involved in preparing and/or submitting the rate increase submissions, 70% responded with direct company, 60% with consultant, and less than 10% with reinsurer or administrator.

3.3.2 FILING RESOURCES AND TIMING

About two-thirds of the companies have fewer than nine people on their filing teams, while a third have 15 or more on theirs. As expected, the number of people on a filing team is correlated with how much LTC business a company has.

The time frame to get initial filings submitted can vary for a number of reasons including the number of jurisdictions being filed and available resources. A summary of the responses is provided in Figure 3.7.

FIGURE 3.7: NUMBER OF MONTHS TO GET INITIAL FILINGS SUBMITTED



3.4 Rate increase strategy

3.4.1 RATE INCREASE REQUEST

Once a rate increase strategy and justified increase is determined, the company determines a “generic” nationwide rate increase request amount. This is the request that will be submitted to all jurisdictions, except where jurisdiction-specific modifications to the request are needed. The generic request for the companies is summarized in Figure 3.8. The minimum rate increase request provided in the survey was 13% and the maximum was 238%.

FIGURE 3.8: GENERIC NATIONWIDE RATE INCREASE REQUEST

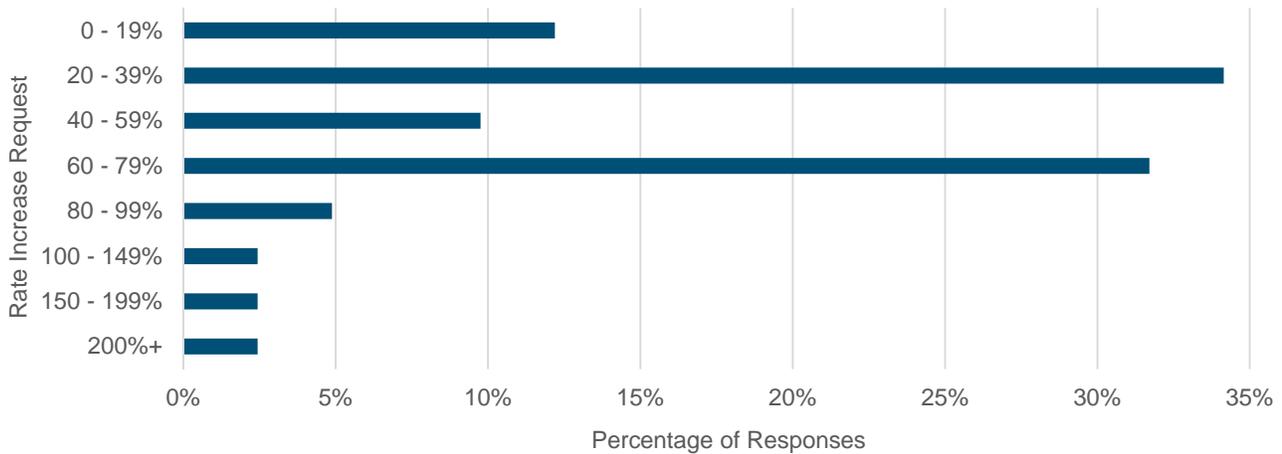
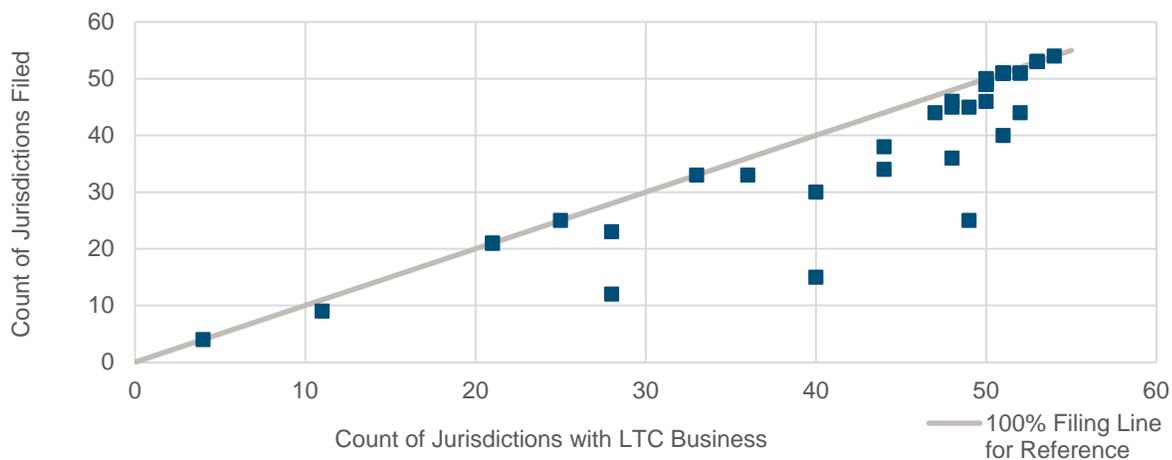


Figure 3.9 provides the number of jurisdictions in which the companies have LTC business and how many jurisdictions in which a rate increase is filed.

FIGURE 3.9: JURISDICTION DISTRIBUTION



Although achieving rate equity across jurisdictions may be desirable, only 28% of the companies have filed their recent filings in every jurisdiction. For others, it is not always feasible to file in every jurisdiction. The reasons a company may not file in a particular jurisdiction are provided in Figure 3.10.

FIGURE 3.10: REASONS TO NOT FILE IN A JURISDICTION

Reason	Percentage of Responses
Small amount of premium/policyholders	51%
Cost to file	28%
Difficulty in achieving approval	28%
Jurisdiction regulation/criteria is not met	14%
Pooling requirements	7%
Time to approval	2%

Note: Responses total more than 100% as more than one factor may apply to a filing.

3.4.2 MULTIYEAR RATE INCREASE REQUESTS

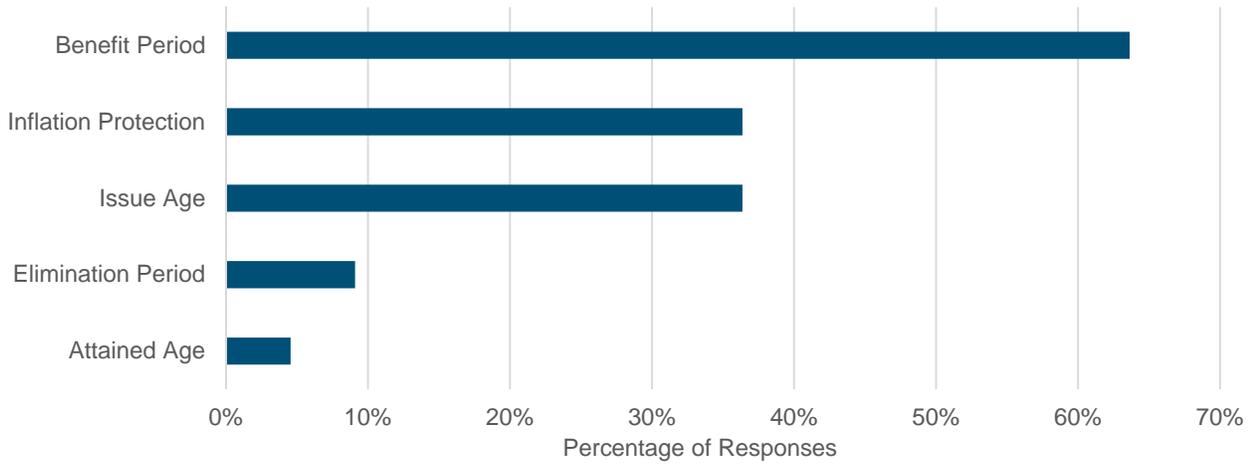
For 14% of the companies, the rate increase request was phased in over multiple years. While some jurisdictions will not preapprove a rate increase that will be implemented more than 12 months from the approval date, other jurisdictions prefer to phase in large increases over a number of years. When an increase is phased in, a larger cumulative increase is generally determined to be actuarially equivalent to a single increase. For the companies that requested a multiyear increase, the annual request was in the range of 30% to 80%. The majority requested a three-year implementation, with the remaining requesting an increase phased in over two years. Where a multiyear request was filed, less than 25% of the jurisdictions approved the multiyear request. However, more jurisdictions may start approving multiyear increases as the NAIC Bulletin released in 2013 allows an increase to be spread over three years (additional information regarding the Bulletin is discussed in Section 3.6 of this report below).

3.4.3 VARIED INCREASES

The impact on the lifetime loss ratio of a rate increase on different rating cells in part depends on the reason for the rate increase. For example, deviations in persistency and interest can create more adverse projected experience for younger issue ages because of the longer projection period (i.e., the impact of persistency and interest discounting is key). On the other hand, projections for older issue ages are more sensitive to deviations in morbidity because the time until claim is shorter. While the impact of a rate increase can vary by issue age and/or benefits, companies are faced with additional considerations, such as credibility of the variations, administrative complexities, and definition of class to name a few. Some companies choose to vary the rate increase request to recognize differences in experience, while others request a uniform increase. That said, even if a company requests a uniform rate increase, some departments prefer the rate increase to vary by benefit or issue age. Just over half of the filings included in the survey were for a varied increase.

Figure 3.11 provides the parameters by which the requested increase varies within a filing for the 14 companies with a varied increase.

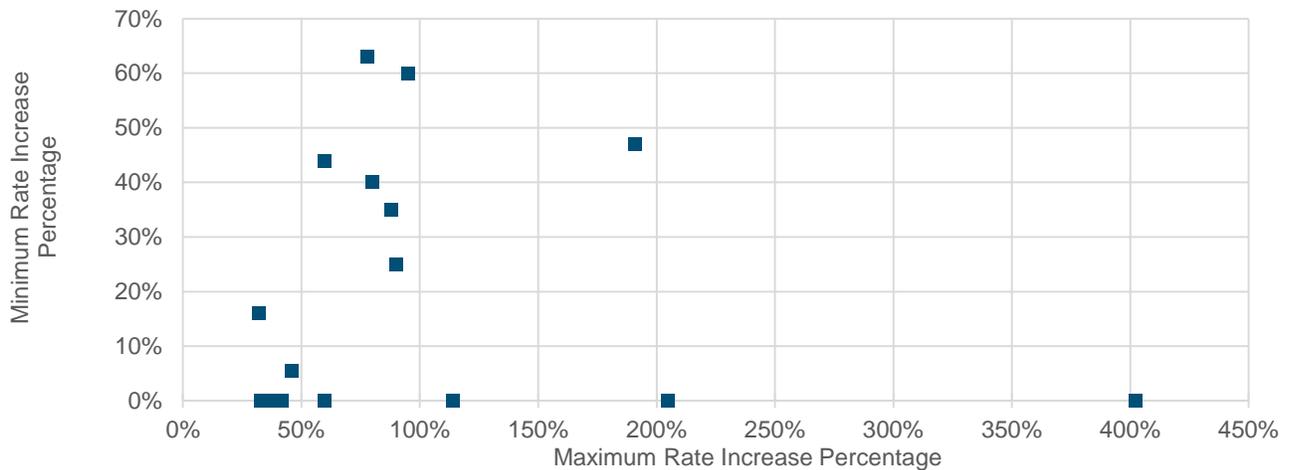
FIGURE 3.11: VARIED RATE INCREASE REQUEST



Note: Responses total more than 100% as more than one parameter may apply to a filing.

Figure 3.12 provides the minimum and maximum increase requests within a filing, respectively. For example, for 59% of the 14 companies with a varied increase, the minimum request in a filing was 0%, and for 18% of the respondents, the maximum request in the filing was over 100%.

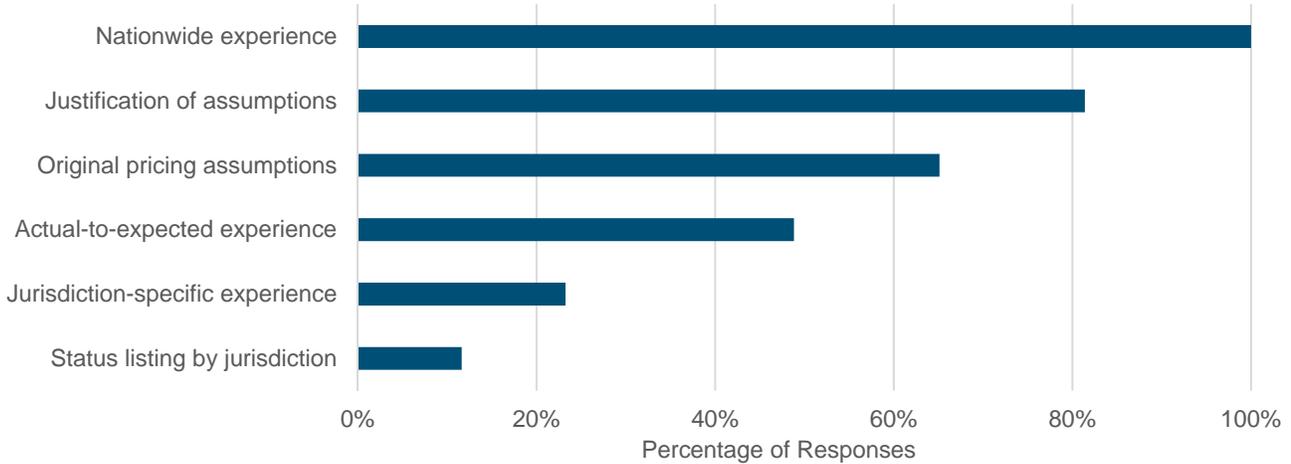
FIGURE 3.12: VARIED INCREASE RANGES



3.4.4 FILING EXHIBITS

Figure 3.13 provides the exhibits that are included in a generic/standard filing. Additional exhibits included in the standard filing may head off objections from departments. However, including additional exhibits may increase the cost and time to file an increase.

FIGURE 3.13: STANDARD FILING EXHIBITS



Note: Responses total more than 100% as more than one may apply.

3.5 Rate stabilization

3.5.1 BACKGROUND

In the early 2000s, the NAIC developed and published LTC model regulation, which many jurisdictions have enacted, with the intent of stabilizing rates and reducing the need for future rate increases. Over the years, jurisdictions adopted this model regulation, except for a handful that have not yet. Prior to rate stability regulation (i.e., loss ratio regulation), the only requirement of a rate schedule was that the lifetime loss ratio exceed a required minimum loss ratio, typically 60%.

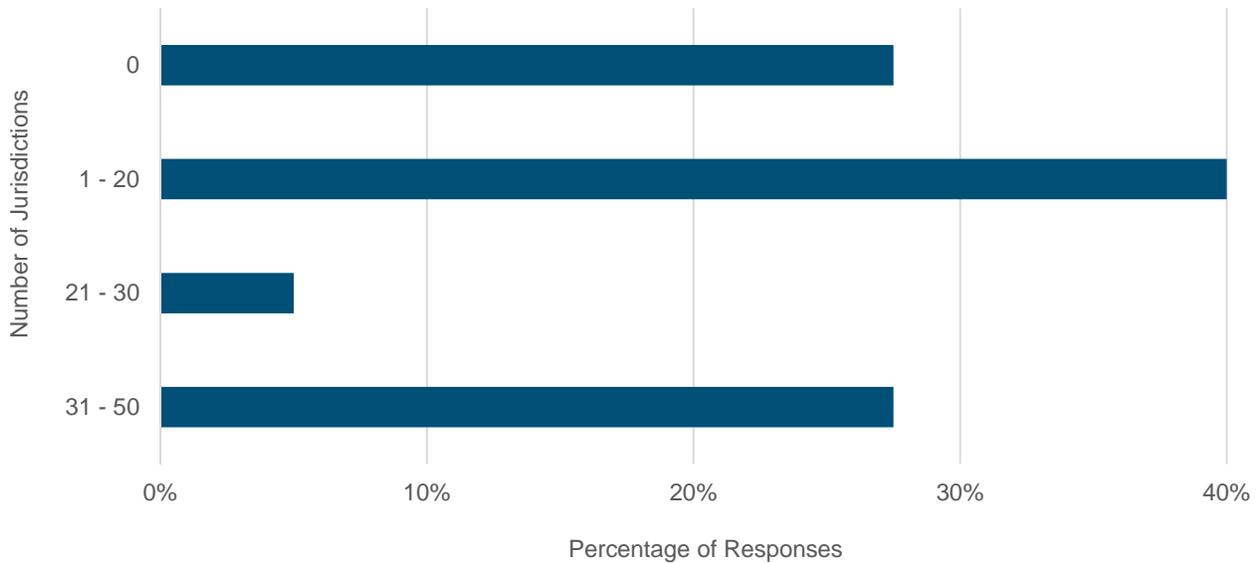
For rate stability policies, the experience is subject to a dual (58%/85%) loss ratio test, using the maximum valuation interest rate and assumptions with margins for moderately adverse conditions. The 58%/85% test demonstrates that the original premiums have at least a 58% lifetime loss ratio, whereas increased premiums have at least an 85% lifetime loss ratio. In addition to the 58%/85% test, for companies that are still issuing new business a demonstration is needed to show that the premium rate schedule with the rate increase is not higher than new business rate schedules.

When filing a rate increase on policies subject to rate stability, certification is required that states—if the requested premium rate schedule increase is implemented and the underlying assumptions, which reflect moderately adverse conditions, are realized—no further premium rate schedule increases are anticipated.

3.5.2 RATE STABILIZATION FILINGS

Figure 3.14 provides the number of submissions in jurisdictions in which the filing is subject to rate stability regulation. For all of the filings included in the survey, those with policies subject to rate stability regulation also had policies subject to loss ratio regulations.

FIGURE 3.14: JURISDICTIONS WHERE FILING IS SUBJECT TO RATE STABILITY REGULATION



There are different approaches to rate filings wherein policies on a single policy form are subject to both loss ratio and rate stability regulation. A summary is provided in Figure 3.15. This is the standard approach of the respondent, but some filings may be bifurcated as required or requested by a jurisdiction.

FIGURE 3.15: RATE STABILITY FILING APPROACH

Approach	Percentage of Responses
File on all policies and comply with both loss ratio and rate stability regulation	50%
Treat all policies according to rate stability regulation	22%
Bifurcate loss ratio and rate stability experience and file separately	16%
File all under loss ratio regulation guidelines	13%

For policies subject to rate stability regulation, the respondents indicate that the requested increase was certified to future rate stability for half of the filings. For about 20% of the filings that included rate stability policies, the rate increase request differed between rate stability versus non-rate stability policies. For those that differed the request, Figure 3.16 provides the difference in the rate request between non-rate stabilized business and rate stabilized business. As an example, if the request on non-rate stabilization business was a 40% increase and the request on rate stabilization business was 50%, the response would be 10% higher.

FIGURE 3.16: RATE STABILAZATION REQUEST VERSUS NON-RATE STABILIZATION REQUEST

Rate Increase Request Difference	Percentage of Responses
Up to 20% higher	0%
20% to 39% higher	50%
40% or more higher	17%
Request is higher but company did not specify amount	17%

Note: One company did not provide this information.

3.6 NAIC Bulletin

3.6.1 BACKGROUND

As LTC rate increases have become more widespread and frequent, the NAIC published a model Bulletin on August 9, 2013, providing guidance to regulators and companies. Some jurisdictions have been applying the concepts of the Bulletin in their reviews, but have not necessarily adopted it into regulation. As such, the Bulletin does not have the same authority as jurisdiction regulations (i.e., it does not have the full force of law). A portion of the Bulletin has since been incorporated into the 2014 Model Regulation.

According to the Bulletin, the intent is to address rate increase for LTC insurance policies currently in force, in particular pre-rate stability policies. The Bulletin indicates all present and accumulated values used to determine rate increases shall use the maximum valuation interest rate for contract reserves. Additionally, the Bulletin states that all present values calculated to determine rate increases shall use reasonable estimates of future premium payments and claim payments. For post-rate stability policies, a margin for moderately adverse experience should be included, whereas for pre-rate stability policies, the assumptions should be the most likely (without explicit margin).

Regarding rate increase approvals, the Bulletin indicates that the department may approve the requested increase as a single increase when the insurer agrees to not implement future rate increases for three years from the implementation date. Alternatively, in lieu of a single increase, the department may approve a series of scheduled rate increases that are actuarially equivalent to the single increase requested by the insurer over the lifetime of the policy.

In accordance with the Bulletin, as a condition of rate increase approval, the CBUL is required for all policies. For policies which have reached their 20th duration, the insurer shall provide the CBUL without reference to the trigger percentages. For policies which have not reached their 20th duration, any percentage in excess of 100% shall be reduced to 100%.

The Bulletin also prescribes what should be included in the policyholder notification letter. This includes the rate increase amount and implementation schedule, available benefit reduction options, clear disclosure addressing the guaranteed renewable nature of the policy/coverage and that the insured should understand premium rates may increase again in the future, and offer of contingent benefit upon lapse.

Per regulation, the only requirement for pre-rate stability policies is that the lifetime loss ratio exceed the minimum required loss ratio, typically 60%. The Bulletin introduces a new loss ratio standard for these policies. The Bulletin states that the department may limit the increase based on the use of a dual loss-ratio approach for pre-rate stability policy forms. The recommended loss-ratio would be:

- the greater of 60% or the lifetime loss ratio used in the original pricing, applied to the current rate schedule on the effective date of these new requirements; plus
 - 80% applied to any premium increase that is filed after that date on an individual policy form; or
 - 75% applied to any premium increase that is filed on a group policy form.

The last area the Bulletin discusses is available options for insureds to mitigate the rate increase. The insurer shall provide for department approval an explanation and demonstration on how the additional alternative to the rate increase is actuarially justified and/or how the new option may reasonably benefit insureds.

3.6.2 STRATEGY

About a third of the companies indicated that the NAIC Bulletin has impacted the company’s strategy for rate increase filings. Figure 3.17 provides how the strategy for rate filings changed for those companies based on the items discussed in the Bulletin (summarized above).

FIGURE 3.17: CHANGES IN STRATEGY DUE TO NAIC BULLETIN

Bulletin Item	Percentage of Responses
CBUL strategy (e.g. offer to more/all insureds voluntarily)	69%
Offering three-year rate guarantee	62%
Phased-in increases	38%
Policyholder notification letter	31%
Revised assumptions	23%
Revised increase request due to the new loss ratio test	0%
Additional alternatives to the rate increase provided to the insureds	0%

Note: Responses total more than 100% as more than one may apply.

As the Bulletin is relatively new, only a handful of jurisdictions have required compliance with all or part of the Bulletin in order to receive a rate increase. The following lists the jurisdictions where the participating companies have experienced application of the Bulletin:

- Illinois
- Missouri
- Nebraska
- Nevada
- New Hampshire
- Oregon
- Virginia

4. ASSUMPTIONS AND PROJECTIONS

This section describes the source of the projection assumptions used in the rate increase filings and how they compare with those used in the companies' cash flow testing (CFT). Additionally, a listing of the projection systems used in the rate increase filings is provided in this section. The survey did not request specific assumptions in order to comply with antitrust laws, but includes the approach to setting assumptions.

4.1 General

A large majority of companies (80%) review and change assumptions annually, if needed, while 12% of companies review the assumptions every two or three years and one company reviews assumptions semiannually. For 93% of the companies, the assumptions have changed in the last three years.

Commonly, assumptions for a rate filing are those considered most likely, as this is a consumer-friendly approach. For the companies that have filed an increase, 86% use the most likely assumption and the others include a provision for adverse deviation (PAD). For the companies that include a PAD in the assumptions, the PAD was included in morbidity and half had a PAD included in lapse and mortality. Note that the PAD included in the assumptions is separate from margin for the MAE that is required for a rate stability filing.

4.2 Mortality

Figure 4.1 provides the source(s) used in the development of mortality assumptions. Over 90% of respondents applied the mortality assumption in aggregate (total lives), while the remainder applied mortality split between active and disabled lives. Almost half (44%) used future mortality improvement in the projection assumption.

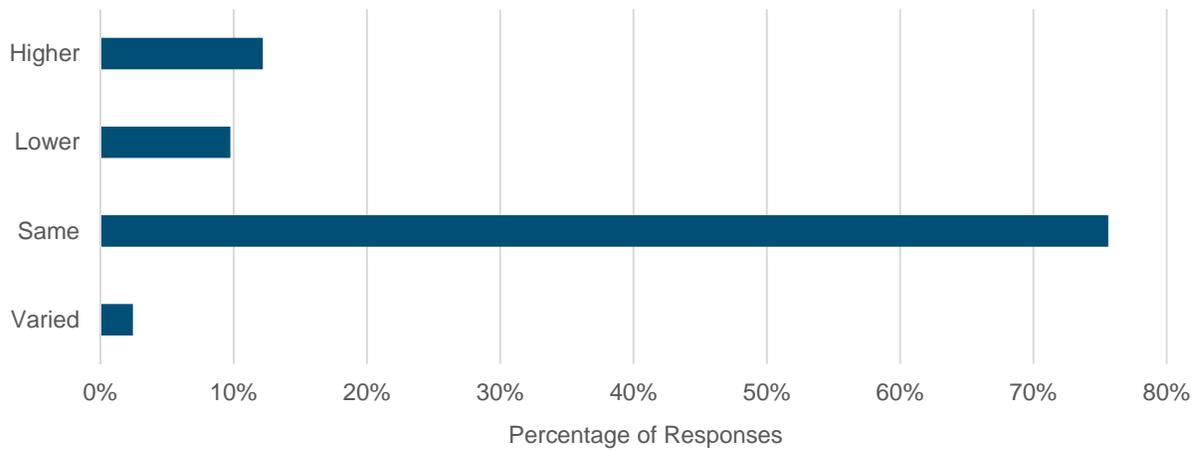
FIGURE 4.1: MORTALITY ASSUMPTION SOURCE

Source	Percentage of Responses
Company experience	93%
Industry data	47%
Consultant data	19%
Reinsurer data	5%

Note: Responses total more than 100% as more than one source may apply.

Figure 4.2 provides whether the mortality assumption used in the rate filing is higher or lower than that used in the company's CFT.

FIGURE 4.2: MORTALITY ASSUMPTION IN RATE FILING VS. CFT



4.3 Lapse rate

Figure 4.3 provides the source(s) used in the development of the lapse rate assumption.

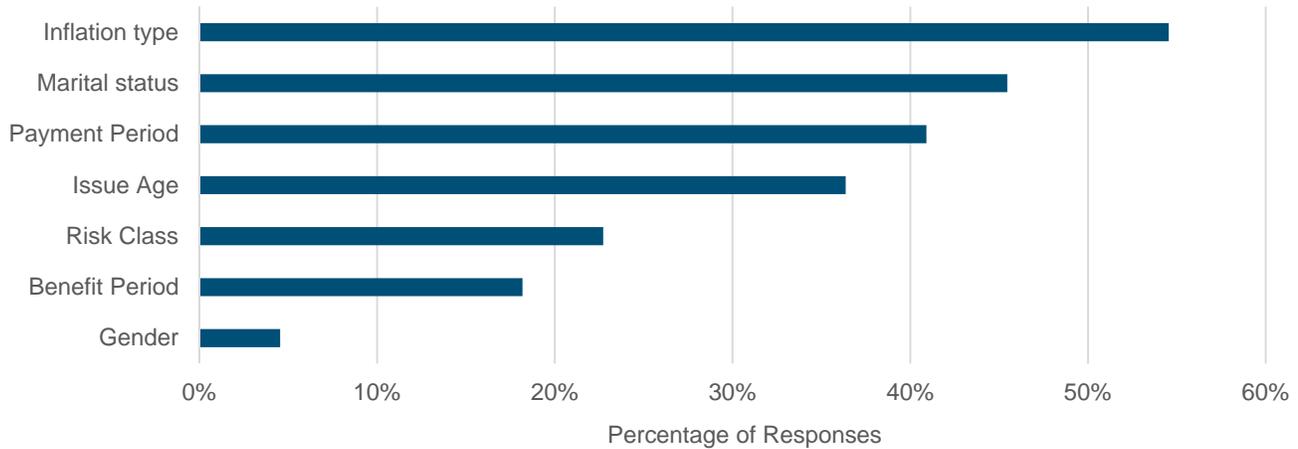
FIGURE 4.3: LAPSE RATE ASSUMPTION SOURCE

Source	Percentage of Responses
Company experience	95%
Industry data	21%
Consultant data	12%
Reinsurer data	5%

Note: Responses total more than 100% as more than one source may apply.

For over half of the filings, the lapse rate varied by one or more parameters. A summary of the parameters by which the lapse rate varied is provided in Figure 4.4.

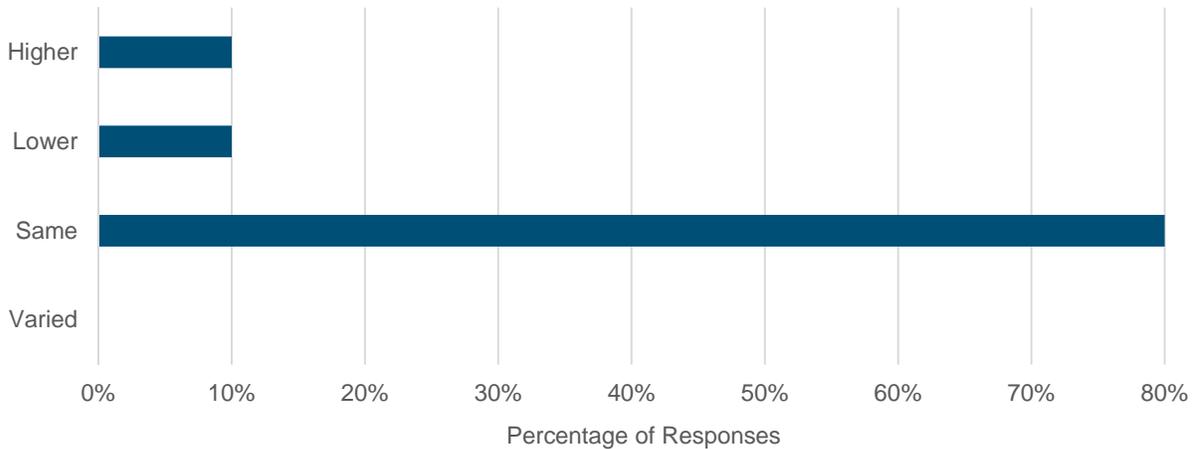
FIGURE 4.4: LAPSE RATE ASSUMPTION VARIATION PARAMETERS



Note: Responses total more than 100% as more than one may apply.

Figure 4.5 provides whether the lapse rate assumption used in the rate filing is higher or lower than that used in the company's CFT.

FIGURE 4.5: LAPSE RATE ASSUMPTION IN RATE FILING VS. CFT



In addition to lapsing a policy due to nonpayment, a policy may terminate due to exhausting the benefits for non-lifetime benefit periods. Most companies include benefit expiry as part of the lapse rate assumption (i.e., it has a higher lapse rate assumption than if it was modeled separately). Another approach is to have a separate assumption for benefit expiry for non-lifetime benefit periods. Figure 4.6 provides the approaches taken in the rate filings included in the survey.

FIGURE 4.6: BENEFIT EXPIRY ASSUMPTION

Modeling Approach	Percentage of Responses
Embedded in lapse	44%
Separate policy decrement assumption	20%
Ignored	18%
Embedded in claims	13%
First principles model	5%

4.4 Morbidity

Figure 4.7 provides the source(s) used in the development of the morbidity assumption. Almost half (40%) used future morbidity improvement in the projection assumption.

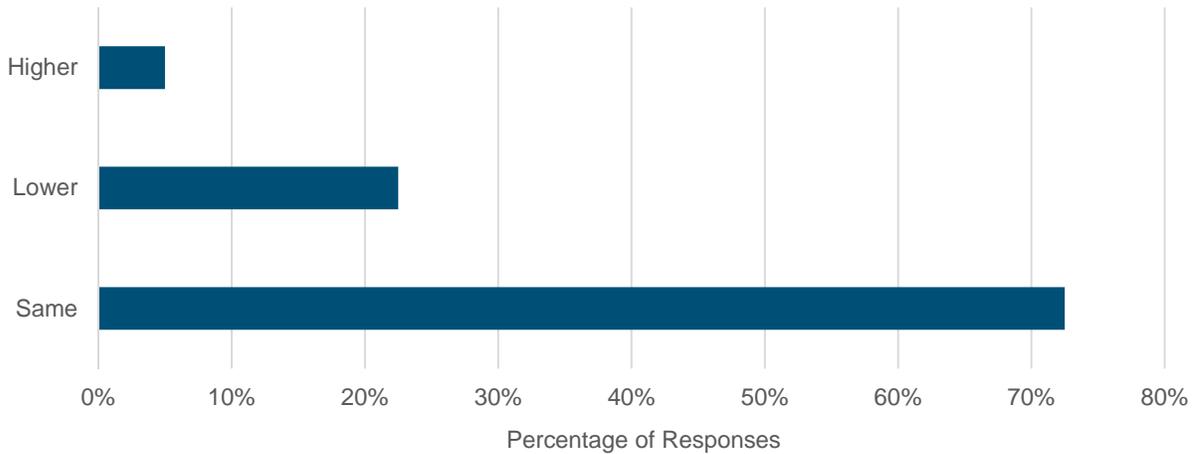
FIGURE 4.7: MORBIDITY ASSUMPTION SOURCE

Source	Percentage of Responses
Company experience	93%
Consultant data	44%
Industry data	40%
Reinsurer data	7%
Original pricing assumption	2%

Note: Responses total more than 100% as more than one source may apply.

Figure 4.8 provides whether the morbidity assumption used in the rate filing is higher or lower than that used in the company's CFT.

FIGURE 4.8 MORBIDITY ASSUMPTIONS IN RATE FILING VS. CFT



4.5 Interest

Figure 4.9 provides the sources used in the development of interest rate assumptions. Around a third of respondents used hedging programs. Just over half of the interest rates used in filings are pre-tax rates and the remainder are post-tax or the tax status is unknown. For the majority of filings (88%), the interest rate is level across all historical and projected years. For those that varied the interest by experience year, all varied the historical interest rate and 40% varied the future interest rate. The source for the future varied interest rate is the CFT forward scenario. For companies with filings wherein a high proportion of policies are subject to rate stability regulation, a higher percentage responded with maximum valuation rates for the source of the interest rate assumption than those with low proportions of rate stability policies. For submissions subject to rate stability regulation, the maximum valuation rate is required to be used in the 58%/85% test.

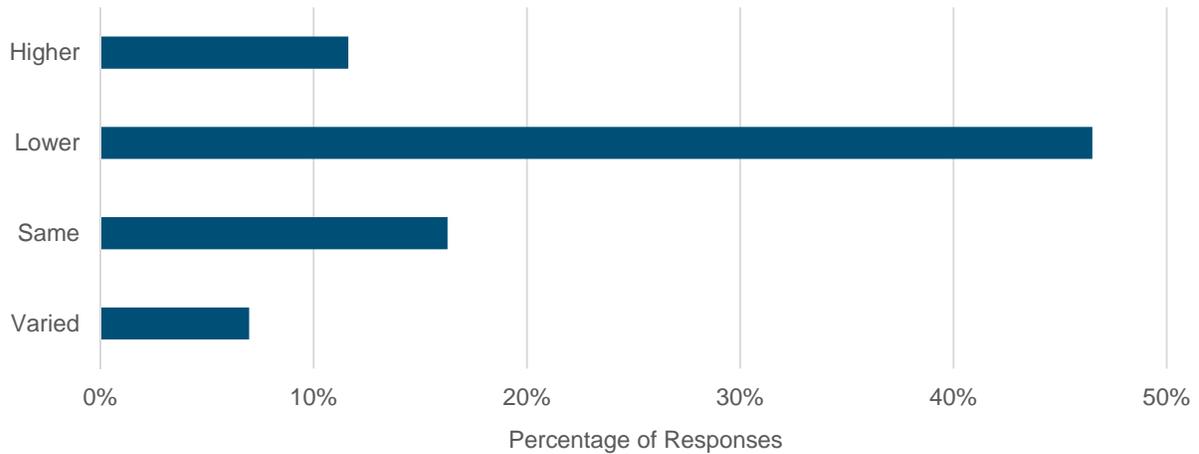
FIGURE 4.9 INTEREST RATE ASSUMPTION SOURCE

Source	Percentage of Responses
Maximum valuation rate	65%
“Most likely” long-term expectation	44%
After CFT scenario	16%
Historical earnings	14%
Current portfolio	12%
Original pricing assumption	12%

Note: Responses total more than 100% as more than one source may apply.

Figure 4.10 provides whether the interest rate assumption used in the rate filing is higher or lower than that used in the company’s CFT.

FIGURE 4.10: INTEREST RATE ASSUMPTIONS IN RATE FILING VS. CFT



Note: 19% of respondents did not provide this information.

4.6 Policyholder behavior

4.6.1 POLICYHOLDER BEHAVIOR ASSUMPTIONS

Just over half of the respondents model the shock lapse assumption; the others ignore the impact of shock lapse on the projection. The shock lapse assumption represents the policyholders who are assumed to drop their policies instead of accepting a rate increase. For the companies that model shock lapse, two-thirds of the respondents include those who are assumed to elect CBUL in the shock lapse assumption.

Around 50% of the filings ignored the CBUL assumption in the projection and about 40% modeled those who are assumed to elect CBUL as a lapse. One company modeled the CBUL assumption by setting a pool of funds equal to the premium paid to date then projecting future claims until the pool of funds is depleted.

A little more than half of the filings model reduced benefit option elections. The RBO assumption represents the policyholders that are assumed to choose to reduce benefits in order to offset all or some of the rate increase. For companies that model an RBO assumption, the approach varies as shown by the following survey responses:

- Benefit multiplier is calculated based on shock lapse and benefit reduction assumption and then applied to incurred claims projection
- Reduction to future premium
- Reduction in premium and claim costs
- Modeled as a lapse
- Modeled as a partial lapse

Similar to RBO and CBUL, about half of the filings did not include an adverse selection assumption. For those filings that reflect adverse selection, the amount of increase to incurred claims is proportionate to the level of rate increase. The length of time the effects of adverse selection are assumed to last differs among the companies that model adverse selection. Figure 4.11 provides a summary of the responses. A permanent shift in morbidity due to adverse selection is the most common approach. The reasoning for a permanent shift is that the insureds remaining after the increase are those who chose to accept the rate increase (i.e., the insureds who think they will use the policy) and are a less healthy population (will use more benefits) than the pre-filing cohort. For

those who lapse the policy, the assumption is that the insured is healthier and less likely to need the policy (as they do not value the policy enough to pay a higher premium).

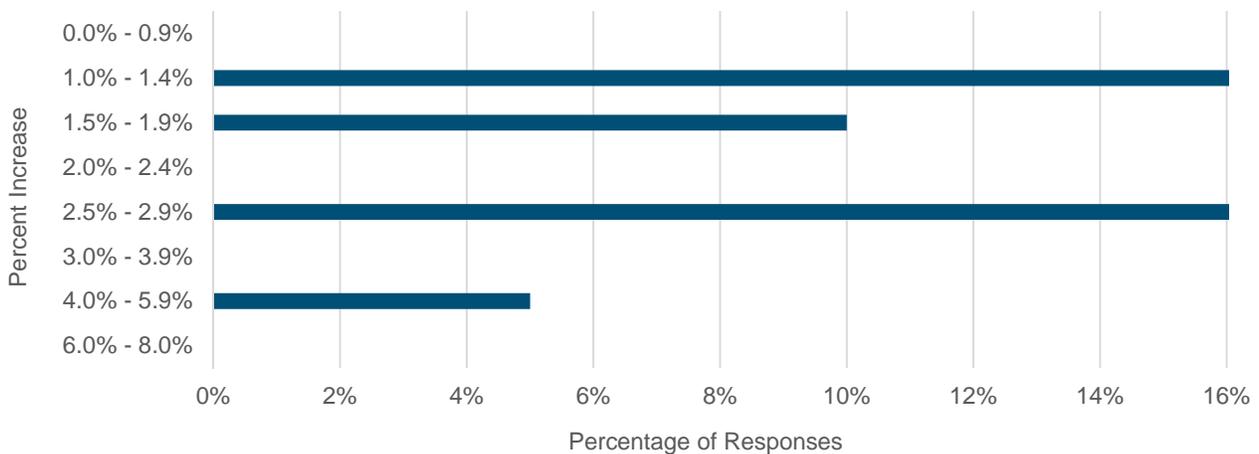
FIGURE 4.11: ADVERSE SELECTION ASSUMPTION LENGTH

Approach	Percentage of Responses
Permanent shift	64%
Level shift lasts up to 10 years	7%
Phased-in to permanent shift	7%
Length of adverse selection affect depends on rate increase level (i.e., a larger increase has more adverse selection and, therefore, takes longer to wear off)	21%

4.6.2 POLICYHOLDER BEHAVIOR EXPERIENCE

Following the implementation of a rate increase, an increase in total lapses (including “normal” and shock lapses) occurred in about half of the filings. For the companies that experienced an increase in total lapses and had the information available, Figure 4.12 provides how much higher the lapses were than in the calendar year before the increase. For example, if lapses increased from 1.6% to 2.6% the response would be 1%.

FIGURE 4.12: INCREASE IN TOTAL LAPSES AFTER A RATE INCREASE



Note: 35% of respondents did not provide this information.

For the majority of companies (84%), they received consumer complaints from less than 3% of policyholders receiving an increase. Just over 5% of the companies had no consumer complaints, one company had 3% to 10%, and another had more than 10% of the policyholders file a complaint.

For the companies still issuing new business, about half indicated that the rate increase had an adverse impact on new business sales, but were unable to provide an estimated impact on sales.

4.7 Modeling

A variety of projection systems are used in producing the rate filings of the participating companies. The following is a list, in order of popularity, of the projections systems used.

- Excel/Access
- Consultant Model
- SAS
- GGY AXIS
- MG-ALFA
- PTS
- MG-Triton
- MoSes
- In-house developed system
- HealthMaster
- PolySystems
- Prophet

Only 5% of the projection models of responding companies use stochastic modeling. About three-fourths of the models use claim costs and the remainder use first principles (frequency and severity).

All companies use the incurral year claim definition (paid claims and claim reserve discounted to the year of incurral), except for one that used a financial year definition (paid claims plus change in claim reserve).