Contingencies
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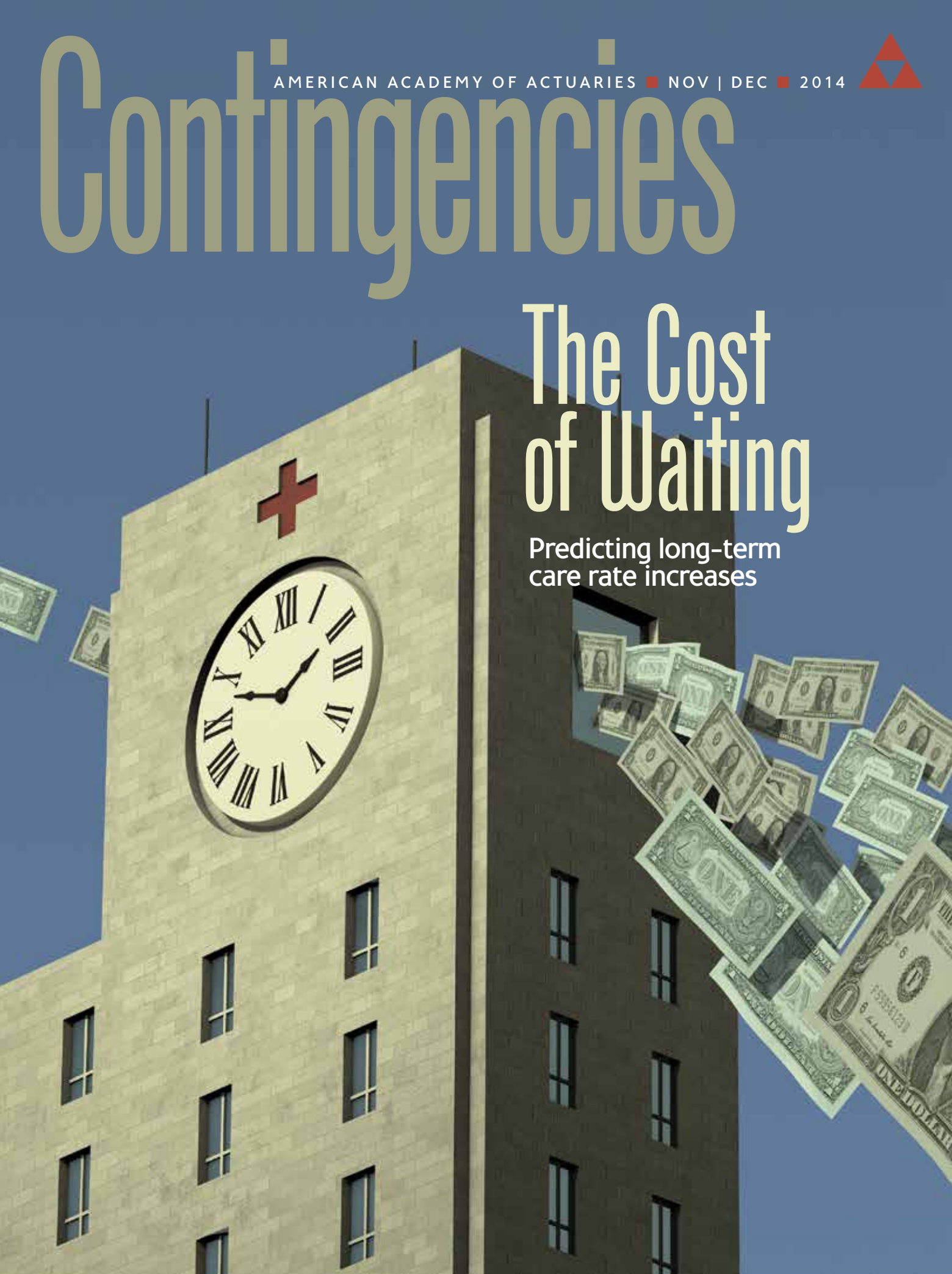
The Cost of Waiting

Predicting long-term care rate increases



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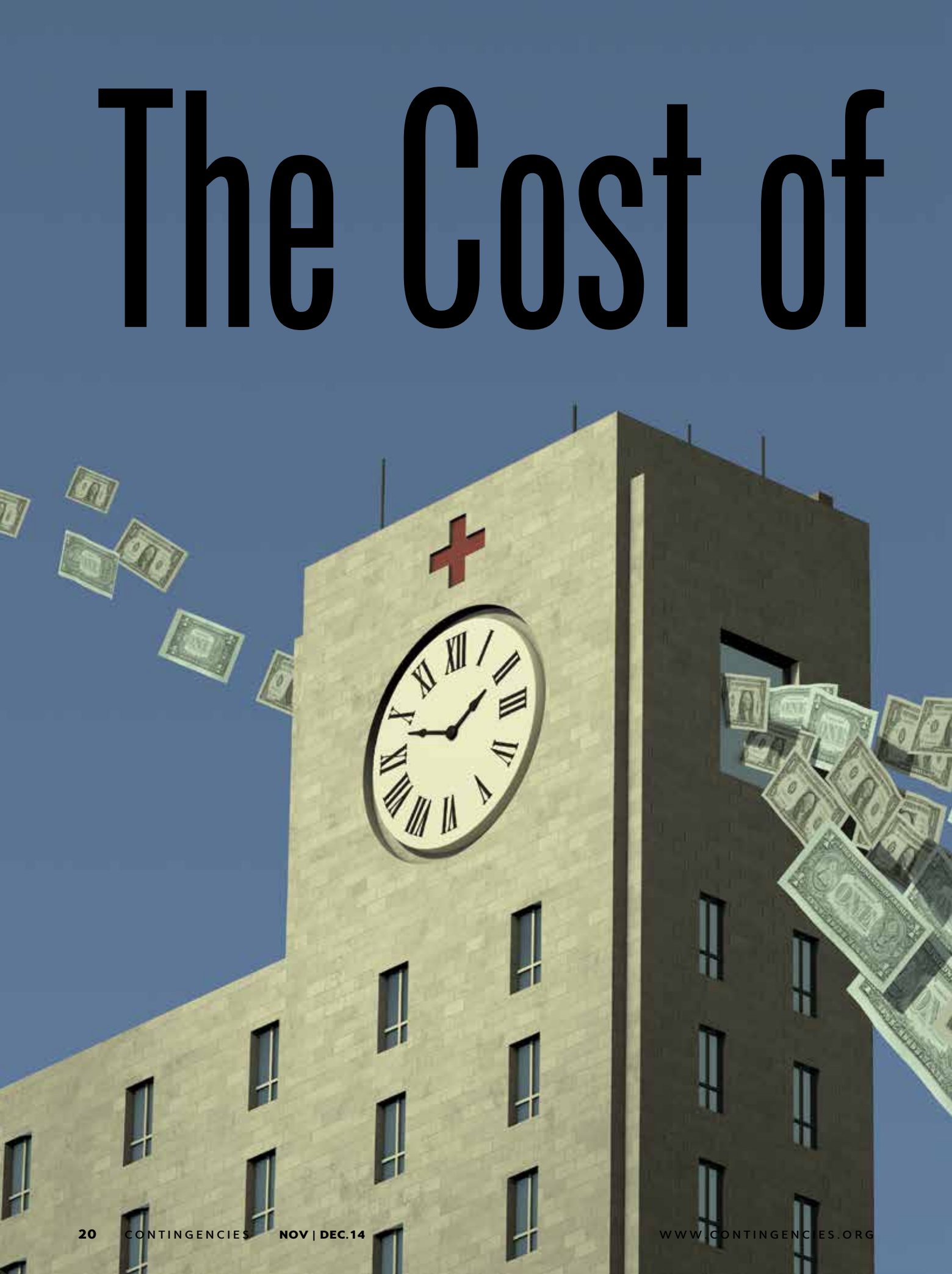


Waiting

Regulatory action is needed now to make the long-term care rate increase landscape more predictable

BY DAWN HELWIG

RECENT FINANCIAL CHALLENGES in the private long-term care (LTC) industry have led many companies to discontinue new sales or, as most companies have done, introduce rate increases on their existing blocks of business. But filed rate increases have understandably met resistance from the regulatory agencies, which have often approved lower increases than requested or none at all. Because LTC insurers face potential ramifications when their original pricing assumptions are not met and delayed rate increases have a significant effect on company sustainability, there is a need for immediate and cohesive regulatory action so that the rate increase landscape can become more predictable and efficient.

Factors Affecting LTC Premium Rates

LTC is priced on the assumption that premiums will be level for life, even though claims are expected to increase rapidly as policyholders age. The difference between the initial premiums collected and the lower claims expected in the earlier years of the policy create financial reserves that are used in later years to fund the shortfall between claims and premiums.

This level-premium structure makes the sustainability of LTC insurance dependent on three key risk factors:

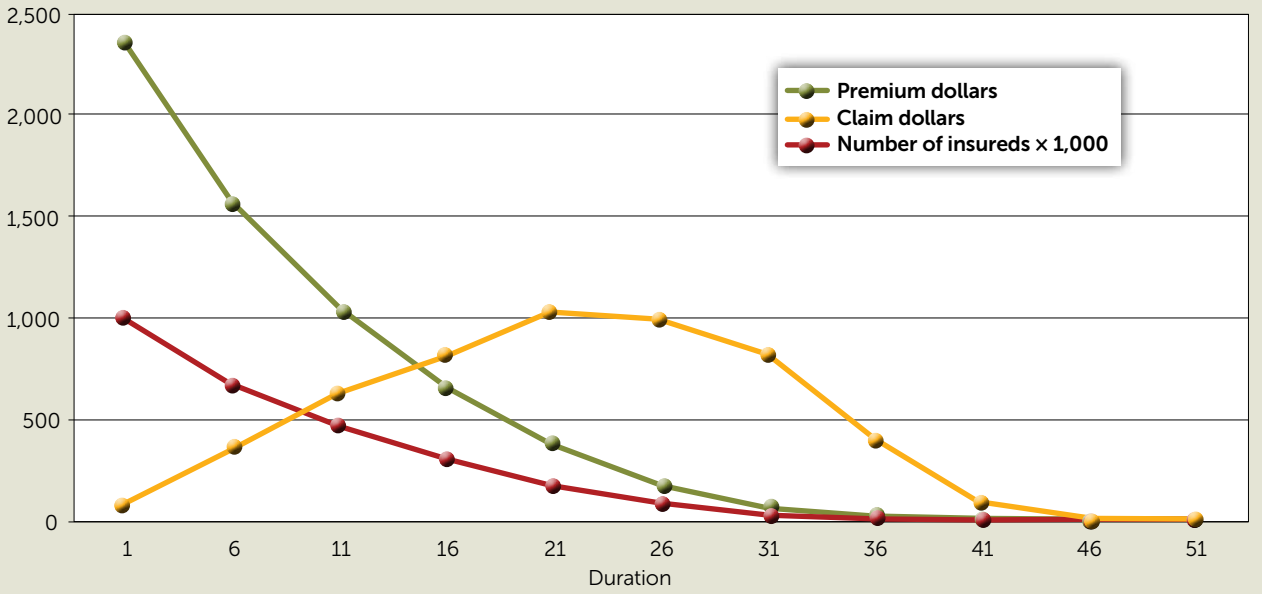
- Morbidity, that is, claims paid out. Morbidity is dependent on the number of people who claim (frequency), how long they stay on claim (measured by continuance curves), and the cost and number of services they use (utilization).
- Voluntary lapse rates and mortality rates determine how many people live long enough to reach the later claim durations when the reserves are needed to fund the premium shortfall.
- The interest rate environment determines the return earned on the reserves held.

Several benefit features of LTC policies increase the probability of needing rate adjustments. These benefits either increase anti-selection on the part of insureds or require larger reserves. Consequently, these features also cause greater reliance on interest rates and lapse rates.

RANDY LYHUS

FIGURE 1

LTC Insurance—Per Policy Sample Financial Results by Duration Original Pricing—10 Years Ago (All Ages)



- Lifetime loss ratio at 4.0% = 62.3%
- Statutory IRR = 15.1%

Source: Milliman

FIGURE 2

Effect of Voluntary Lapse Rates on Number of Insureds in Force (assuming no change in mortality)

Beginning of Policy Year	Original Pricing*	Revised**
1	1,000	1,000
6	688	755
11	482	638
16	316	507
21	189	366

*Original assumed voluntary lapse rate assumptions = 8%, 6.75%, 5.75%, 4.75%
**Actual voluntary lapse rates = 8%, 5%, 3.5%, 2.5%, 2%, 1.5%, 1.0%

Source: Milliman

Three common options that increase the probability of needing rate adjustments are lifetime benefit period (BP), zero-day elimination period, and 5 percent compound inflation. Sales of lifetime BP have declined from around 40 percent 10 years ago to about 3 percent in 2013, when only three companies were still offering lifetime BP. Zero-day elimination periods are rarely offered anymore, and most sales have migrated to 80- to 100-day elimination periods. Five percent compound inflation, while still an important sales point, has lost some ground to lower levels of compound interest (3 percent or 4 percent), to simple inflation, and to guaranteed purchase options.

Full cash (disability) benefits and limited pay options are rarely offered anymore. Also, many companies recently have switched to premium rates that vary by gender, since female morbidity levels are much higher than male morbidity levels. All these changes allow companies to reduce the anti-selection they receive and to better control their risks.

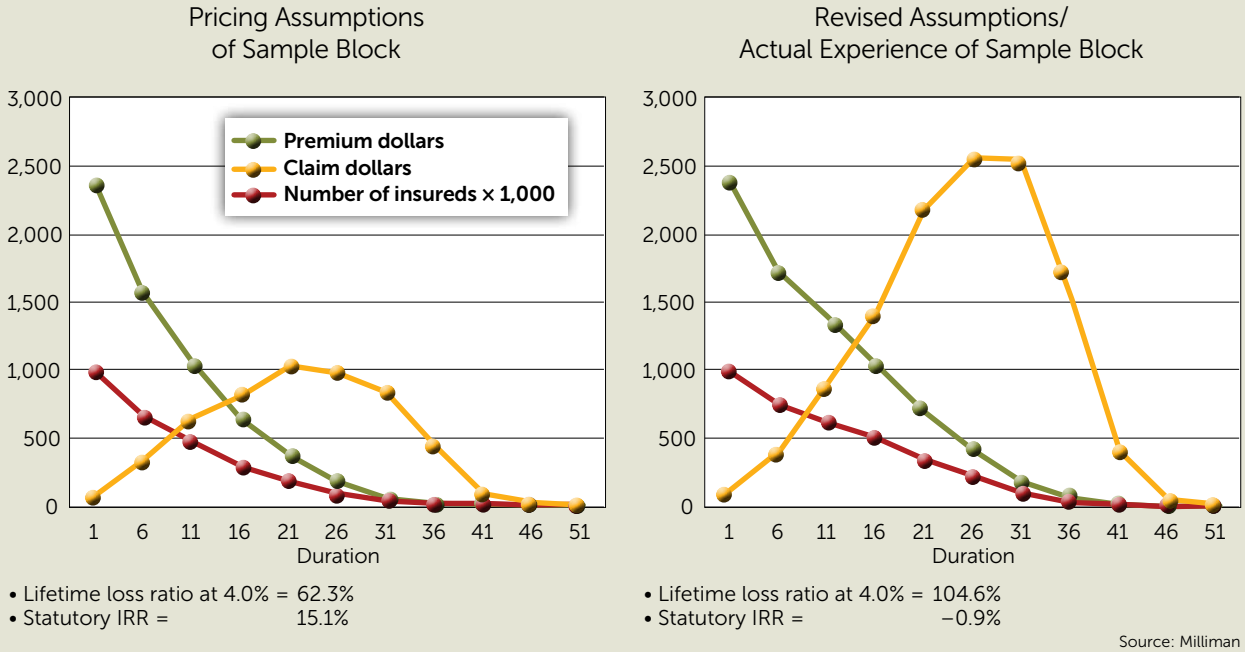
Also, in recent years LTC carriers have been subjected to a "perfect storm" related to the three key risk factors mentioned above:

- Morbidity could be higher or lower than originally expected depending on how conservative the company's original assumptions were and how tight its underwriting was. For almost all companies, lengths of stay have been increasing.
- Voluntary lapse rates and mortality have been lower than expected and have dropped since early generations were priced.
- Interest rates have declined substantially from original pricing.

The impact on LTC business of this "perfect storm" (in particular the lapse and mortality factors) has been that more policies last to the later durations, where the claims are high. This is exacerbated

FIGURE 3

LTCI Policy Premiums and Claims— Effect of the Three Changes on the Sample Block



Source: Milliman

by the fact that the reserves, which are locked in based on the original assumptions, are also accumulating at a lower rate due to the reduced investment earnings.

Figure 1 shows sample expected premiums collected per policy sold (green line) and sample expected claims incurred per policy sold (orange line), by policy duration from time of issue. It also includes the expected number of policies that remain in force in each duration (red line), starting with 1,000 policies. This slide uses pricing assumptions that might have been typical 10 to 15 years ago.

The graph demonstrates the mismatch in timing between premiums and claims. The difference between the green line and the orange line in the early years is used to fund reserves, which are paid down once the orange line exceeds the green line.

As stated above, this example relies on a model that utilizes assumptions that might have been typical ten or 15 years ago. Notably, the ultimate lapse rate assumed was 4.75 percent, and the investment earnings rate was 6.9 percent. Using these assumptions, the lifetime loss ratio (ratio of claims divided by premiums, with both discounted to issue at 4.0 percent) was expected to be 62.3 percent. The lifetime statutory internal rate of return (IRR) was 15.1 percent. These were typical expected loss ratios and returns for policies priced in the late 1990s to early 2000s.

Now let's look at what happens to premiums and claims if assumptions turn out differently from how they were originally priced. More current assumptions might reflect the following:

- New money rates have dropped significantly, and the company's investment portfolio might be earning only 4.5 percent instead of the originally assumed 6.9 percent.

FIGURE 4

Effect of Revised Assumptions on Sample LTCI Block's Lifetime Financial Results

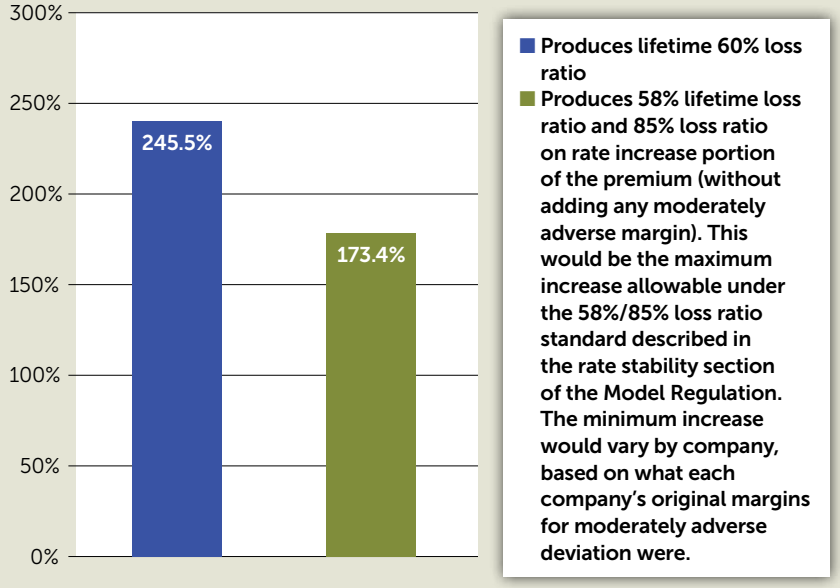
Age Band	Original Pretax Margin as % of Premium @ 6.9%*	Revised Pre-tax Margin as % of Premium @ 4.5%	Original Statutory IRR	Revised Statutory IRR
55–59	31.8%	−32.3%	15.2%	−0.5%
65–69	21.2%	−20.5%	15.0%	−2.3%
75–79	13.2%	−7.0%	14.4%	−1.6%
All	25.1%	−24.8%	15.1%	−0.9%

*Discount rate is equal to the investment earnings rate. For both scenarios, reserves are developed using 4.0% discount rate. Pretax margins are BEFORE taxes and risk-based capital.

Source: Milliman

FIGURE 5

Rate Increase for Sample LTC Block Needed After 10 Years—Varies Based on Criteria Used



Source: Milliman

- The actual ultimate lapse rate is coming in at only 1.0 percent instead of the originally assumed 4.75 percent.
- Morbidity is coming in 10 percent higher than assumed.

To get an idea of the importance of the lapse rate assumption (1.0 percent ultimate vs. 4.75 percent ultimate), Figure 2 shows how many policies—out of 1,000 initially issued—would remain in force after five, 10, 15, and 20 years. The company originally anticipated having 189 policies in force at 20 years; instead, 366 policies were in force, almost double the number originally expected. More importantly, these policies have reached the point where claims are higher than premiums, and the accumulated reserves, together with the premiums, are not going to be sufficient to pay claims on that many more people.

Putting the original per policy premiums and claims alongside the revised (actual) per policy premiums and claims, you see that the revised premiums are higher, but not by nearly as much as the revised claims, so the premiums would need to be increased dramatically to fund that higher claim level. The revised assumptions create a lifetime loss ratio, at the 4.0 percent discount rate, of 104.6 percent, vs. the originally expected 62.3 percent. The statutory IRR has turned negative.

In sum, the finances of this revised projection no longer work with the originally calculated premium. To put this in perspective, it might help to realize that, using the current assumptions and a 4.0 percent discount rate, 65 percent of the lifetime premium has been collected by the end of the 10th policy duration year, but only 13 percent of the lifetime claims have been paid.

These results are exacerbated for younger policyholders because they have longer life expectancy and therefore more years to build reserves before claims are expected to be paid out; that is, they build up larger reserves. Thus, lower investment income and lower lapse rates have a bigger impact on their financial projection. As shown in Figure 4, someone in the 55-59 age range experiences a drop in pretax margins from 31.8 percent to negative 32.3 percent, vs. someone age 75-79, who experiences a drop from 13.2 percent to negative 7.0 percent. The impact on statutory IRR, while also significant, is not quite as leveraged.

For simplicity, note that these pretax margins use a 4.0 percent discount rate for reserves for both original and revised assumptions. There is thus significant excess investment income generated in the original pricing scenario. In reality, the reserve discount rate would have been higher 15 years ago. Also, pretax profits are before taxes and risk-based capital.

As Figure 4 demonstrates, the change in assumptions in the industry in the past 10 to 15 years has resulted in profits that are significantly lower than original expectations and loss ratios that are significantly higher. The end result is that rates need to be significantly increased or a significant amount of additional capital needs to be invested in the block of business to strengthen reserves.

Effect of Rate Adjustments and Their Timing

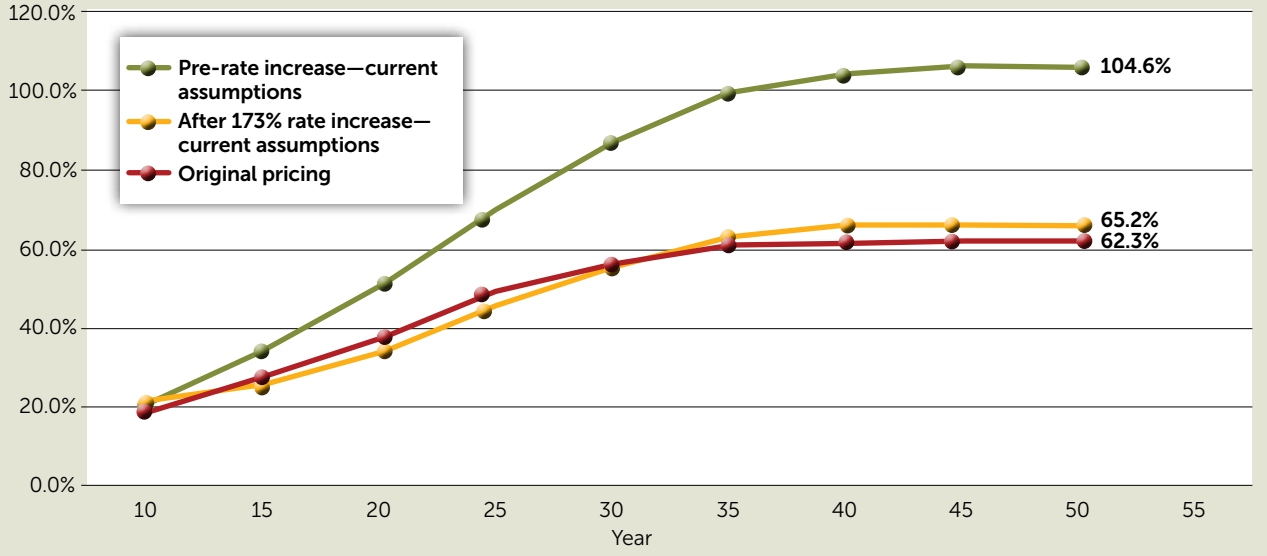
Recognizing the need for a rate adjustment at duration year 10, there are several ways that the needed increase can be calculated. Figure 5 shows two possible methods for calculating this change: 1) an increase to meet the 60 percent lifetime loss ratio standard for pre-rate stability business, and 2) the current National Association of Insurance Commissioners (NAIC) post-rate stability method, in which the lifetime loss ratio must exceed 58 percent *and* the loss ratio on any rate-increased portion of the premium must exceed 85 percent. In addition, for any rate increase filed under rate stability, the company must demonstrate that current assumptions have been worse than originally assumed by an amount exceeding the margin for adverse deviation that was built into the original rates.

The blue bar shows a needed increase of nearly 246 percent. This was calculated to produce the originally required lifetime loss ratio of 60 percent. In this scenario, the lifetime IRR has dropped from the originally expected 15.1 percent to 11.9 percent.

The green bar, with a 173.4 percent increase, shows the maximum rate increase that could be filed under rate stability regulations *before* any margin for moderately adverse deviations is added. If moderately adverse margins were

FIGURE 6

Projected Loss Ratio for the Sample Block, Cumulative Through Year X (Accumulated at 4.0% Interest)



- Projected lifetime loss ration improves from 104.6% to 65.2% with 173.4% rate increase
- This is still 5% higher than the original projected lifetime loss ratio of 62.3%

Source: Milliman

included, the rate increase would be even higher. Although this is the maximum increase allowable under rate stability, the actual increase to be filed would vary by company based on what its original margin for moderately adverse deviations was. Under this scenario, the lifetime IRR drops to 8.8 percent.

Using the maximum rate stability increase (before a moderately adverse margin) from Figure 5 of 173.4 percent, Figure 6 shows what happens to the cumulative loss ratios from year 10 on, both with and without the rate increase. Both are compared with the original pricing expectations. The cumulative lifetime loss ratio with the rate increase now becomes 65.2 percent, vs. 104.6 percent expected without the rate increase, a significant improvement. It is important to note that this is still 3 percentage points higher than the originally filed 62.3 percent lifetime loss ratio.

It should be noted that even though a 173 percent to 265 percent rate increase could be justified for this sample block of business, most companies in the industry are *not* filing for the maximum rate increases that can be justified, and are filing for lesser increases.

The example above assumes that the needed rate increase happened after a policy was in force for 10 years. The logical question might be: What would results look like if the need for the rate increase was recognized and taken earlier or if the rate increase was not applied until later years? Figure 7 shows the cumulative loss ratio—using original assumptions (green bars) and current assumptions (orange bars)—after five, 10, 15, 20, 25, and 30 years. The graph on the right shows the rate increase that would needed at each point in time to satisfy the current NAIC standard of having a 58 percent lifetime/85 percent NAIC loss ratio test on premium increases, ignoring moderately adverse margins.

First note that after only five years, the cumulative actual loss ratio is not too different from what was expected—and both are very low (under 10 percent). The effect of the underwriting has not yet worn off at this point, so this actual-to-expected comparison might not be a good indicator of what the ultimate will look like. Making a case for a rate increase at this point is possible but often difficult to justify to the regulators. However, the graph on the right shows what rate increase would be justified at the same points, using the 58/85 rate stability method. After five years, a 97 percent rate increase is needed. After 10 years, the needed rate increase has become 173 percent and after 15 years 350 percent.

The graphs show that the cumulative actual loss ratio and the expected ratio diverge over time, AND that the required rate increase grows significantly. The conclusion is that the earlier an increase is recognized, filed, and approved, the lower the rate increase percentage that is needed.

Sensitivity of LTC Premiums

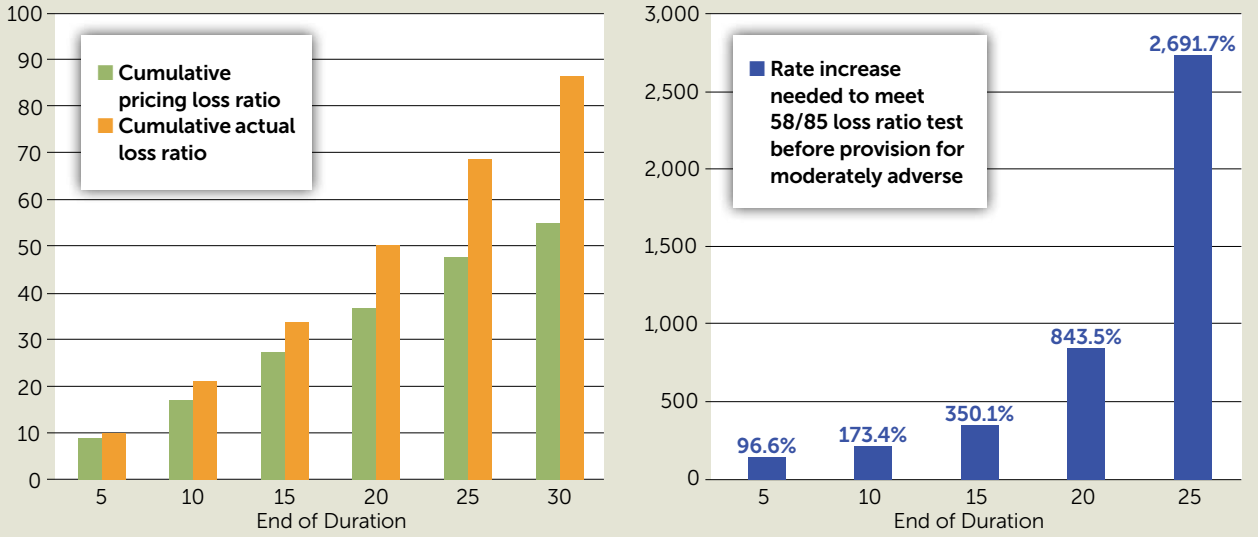
The above example was created under a contrived but realistic scenario. So, just how sensitive are LTC rates to the three key assumptions of lapse/mortality, morbidity, and interest rates?

The variability in rates due to any assumption change is going to vary dramatically based on the issue age of the insured (bigger impacts on younger ages), whether inflation is included or not (bigger impacts on compound inflation) and what profit target is being used.

Rules of thumb for what effect an assumption change could have on an *initial*

FIGURE 7

LTCI Rate Increase: Cost of Waiting



Source: Milliman

rate developed, using an average age distribution, are as follows:

- One percent reduction in lapse rates results in:
  - —9 percent increase in noninflationary rates
  - —13 percent increase in inflationary rates
- One point drop in investment income rate results in:
  - —7 percent increase in noninflationary rates
  - —11 percent increase in inflationary rates
- 10 percent increase in morbidity results in:
  - —10 percent increase in rates (noninflationary and inflationary)

Basically, each of these changes would produce about a 10 percent premium increase. Given that many companies have experienced all of these changes at once and that the lapse and investment income changes have been much greater than one point, it's easy to understand why the need for rate increases can be so strong.

Again, these so-called rules of thumb show the change in rates at the time a policy is issued. If the policy were priced with one set of assumptions and actual experience turned out to be different, the rate increase needed at that point would exceed these estimates.

Future of LTC Rate Regulation

It's necessary to find a balanced solution for approving rates that will provide stability in coverage for insureds. Such a solution will preserve the private LTC market and prevent future reliance solely on public programs like Medicaid. In order to achieve this balance, more coordination is needed between regulators and companies in early filing and approval of actuarially justified rate increases. Closed blocks of business must be able to be restored to adequacy to promote long-term stability.

Some possible solutions that have been mentioned include:

- Allowing more policyholder options at rate increase times (benefit reductions).
- Improving communication with policyholders about their options and (if approved) future planned rate increases.
- Requiring companies to annually review their business and to certify whether or not rates need to be increased.
- Allowing rate increases based on updated assumptions that are actuarially supported, regardless of whether the existing block of business has developed enough experience to be considered credible (i.e., regardless of whether the updated assumptions can be demonstrated in the company's actual experience).
- Requiring companies to file their future plans as part of a rate increase, including what will happen favorably or unfavorably from what was assumed in this filing.
- Allowing increases to be spread out over multiple years. This may require modifying the rate stability requirement that makes an actuary file the full increase needed in order to certify that rates are adequate using moderately adverse requirements.

In conclusion, it's clear from all of the above that there is a need for immediate regulatory action to facilitate a cohesive rate increase landscape such that it can become more predictable and efficient for consumers, companies, and regulators alike. □

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