Is Your Spouse Contagious?

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Figure 1
Actual-to-Expected Incidence, Second Spouse After LTC Claim for First Spouse

Years Since First Spouse's Claim	Female	Male	Composite
Less than 1 year	425%	481%	453%
Greater than 1 year	158%	176%	166%
Total	213%	249%	230%

Note: "First Spouse" = first spouse of couple to incur an LTC claim, "Second Spouse" = remaining "healthy" spouse.

Figure 2
Actual-to-Expected Incidence, Second Spouse After Death for First Spouse

Years Since First Spouse's Death	Female	Male	Composite
Less than 1 year	304%	320%	310%
Greater than 1 year	117%	132%	122%
Total	148%	168%	155%

Note: "First Spouse" = first spouse of couple to die, regardless of prior LTC claim incurral, "Second Spouse" = surviving "healthy" spouse.

The influence of "contagion" among spouses has been widely studied and observed for everything from emotions and depression to dementia, obesity and mortality. Readers may be familiar with the "broken heart syndrome" or "widowhood effect," where a widow has a heightened risk of death shortly after losing a loved one. Given these demonstrated cases of a spousal contagion impact, we considered an important question: How does spousal contagion influence long-term care needs?

Spouses often serve the role of informal caregiver, which can result in both physical and psychological "wear down" impacts that eventually lead to LTC claims for the spouse providing the care. Alternatively, when one spouse dies, the other may no longer be able to care for himself or herself and may require formal LTC services.

We studied LTC insurance claim data of married couples, where both spouses have LTC coverage, to examine the influence on claim incidence (or frequency of claim occurrence) for one spouse when the other spouse commences a claim or dies. The higher level of claim incidence in the presence of a contagion factor is significant. This article provides high-level results of spousal claim analysis and discusses potential implications to the LTC insurance market.

SUMMARY RESULTS

Our analysis focused on the incidence of the "healthy" spouse (referred to hereafter as the "second" spouse) for the time period following the "first" spouse's event (claim incidence or death, depending on the analysis).

The observed incidence for the second spouse after the first spouse commences a claim is consistently higher than we would otherwise expect using composite marital experience assumptions from Milliman's 2017 Long-Term Care Guidelines (guidelines), suggesting a marked contagion impact. Figure 1 demonstrates the contagion impact following a claim of the first spouse.

The impact is most pronounced within a year of the first spouse's claim. Observed incidence is about 450 percent of the guidelines composite marital expected incidence. In other words, a policyholder is about 4.5 times more likely to incur an LTC claim within a year of that person's spouse incurring an LTC claim than would otherwise be expected in the absence of information about the spouse's claim. The contagion impact grades down over time but, even after several years, does not fully return to composite marital expected incidence, suggesting a sustained contagion impact.
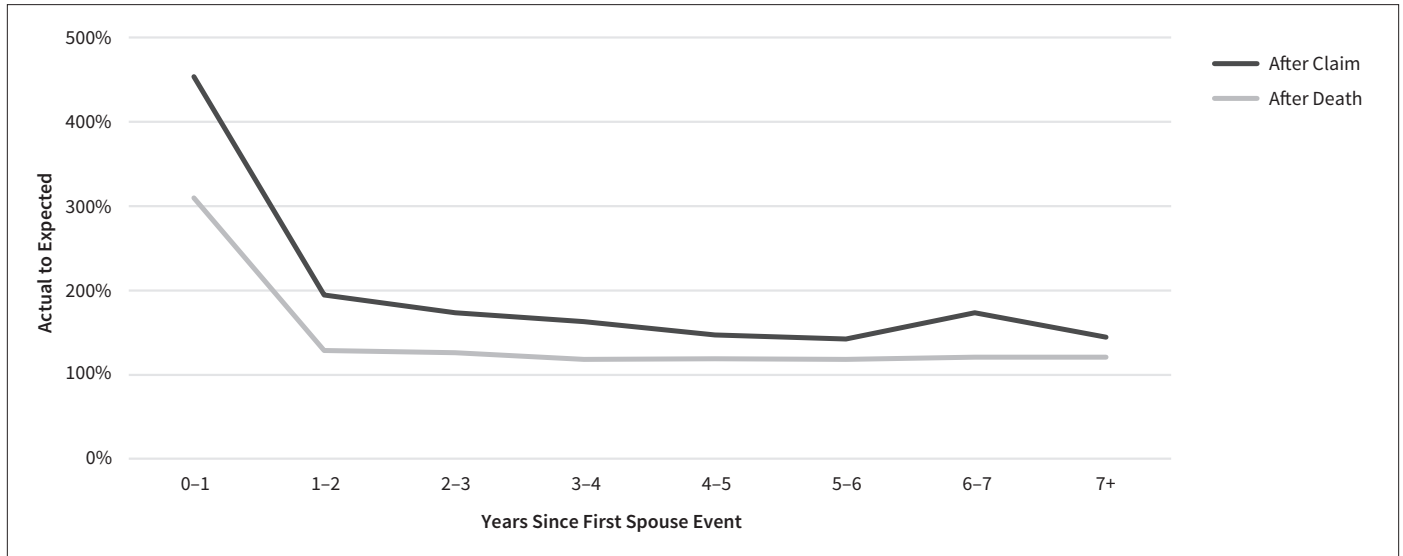
Similarly, the impact of spousal contagion after the death of the first spouse is noteworthy. Figure 2 demonstrates the contagion impact following the death of the first spouse.

In the first year following the death of a spouse, a policyholder is about three times more likely to incur an LTC claim than would otherwise be expected in the absence of spousal mortality information. Conversely, the incidence of one spouse would be lower than composite expectations if it is known that the other spouse is currently alive.

ADDITIONAL RESEARCH OBSERVATIONS

First, the contagion impact for either the claim or death of the first spouse grades down over time. We examined data for multiple years subsequent to the first event. While credibility of the data decreases over time, the claim incidence appears higher even seven years after the event of the first spouse. See Figure 3.

Figure 3
Actual-to-Expected Incidence of Second Spouse (After First Spouse's Event)

Second, the impact of claim contagion varies by the care setting of the first spouse. The actual-to-expected claim incidence of the second spouse is higher in the first year following a claim for facility care than for home care. However, in the second year following the claim of the first spouse, and after, the actual-to-expected claim incidence is higher if the first spouse entered home care versus facility care. See Figure 4.

Figure 4
Actual-to-Expected Incidence, Second Spouse After LTC Claim for First Spouse Based on Care Setting of First Spouse LTC Claim

Years Since First Spouse's Claim	Facility	Home Care
Less than 1 year	480%	416%
Greater than 1 year	139%	178%
Total	218%	229%

Note: "First Spouse" = first spouse of couple to incur an LTC claim, "Second Spouse" = remaining "healthy" spouse.

Third, these analyses illustrate contagion impacts relative to marital policyholder experience. The magnitude of the contagion impact can also be observed relative to "single" policyholder experience. The contagion impact relative to single expectations indicates a similar pattern of results. Claim experience in the first year after the claim or death of the first spouse is higher than single policyholder experience. The trend of subsequent years is close to the single experience following the first spouse's death and the trend is somewhat higher than single experience following the first spouse going on claim.

DATA AND ANALYSIS

We utilized LTC insurance data to study the contagion impact. To evaluate LTC incidence among spouses, our analysis considered only married insureds where both spouses purchased policies. This resulting data set is significant, including nearly 10 million life-years of exposure and nearly 50,000 claims for over 500,000 couples.

Using the couples' experience data, we identified which spouse had the first event, if either (i.e., an LTC claim incidence or death, depending on the study). To quantify the contagion impact, we measured the LTC claim incidence of the second spouse relative to the expected LTC guidelines claim incidence, based on demographic and coverage characteristics such as age, gender, type of coverage, policy duration, etc. This actual-to-expected comparison reflects the significance of the first spouse's event on the second spouse's likelihood of LTC claim, relative to expected assumptions that otherwise ignore the status of the first spouse.

The results of this analysis should be used with caution. This analysis is based on LTC insured data for which insureds were subject to underwriting and accepted coverage. The results should not be extrapolated to the population as a whole. The study population was limited to married insureds where both spouses were required to have purchased policies to receive a spousal discount to ensure claim data would be available for both spouses. A change to the married definition (e.g., only one spouse was required to purchase an LTC policy) may lead to different results.

In other words, the contagion impact is already reflected in the aggregate marital claim cost pattern.

Contagion Modeling

While the traditional approach is actuarially sound and appropriate, specifically recognizing contagion impacts can help refine spousal modeling or explain spousal results. For example:

- In examining an in-force block of business, if it can be determined that a large portion of policyholders issued with spousal discounts are currently widowed, an adjustment to future claim expectations may be warranted.

- In underwriting a new policy, perhaps the length of time since a spouse has incurred a claim or died could be considered when issuing a policy.

- In reviewing spousal claim experience, the contagion impact may help explain actual-to-expected claim experience.

- In general, for any policy with joint spousal benefits, such as shared care riders or joint life combination products, explicitly modeling contagion can help refine overall results.

FUTURE ANALYSIS

We are examining additional impacts from spousal contagion. What is the impact on length of claim for contagion claims? How can we consider the impact of divorce versus death versus claim? What are the implications by the care setting, including assisted living facilities, for both the first and second spouses? What are the potential projection and pricing impacts of contagion? Are there trends in the level and severity of contagion impacts? These are all areas ripe for additional research. ∎

IMPLICATIONS

The implications of spousal contagion on LTC are potentially far-reaching. The discussion that follows focuses on some of the actuarial modeling implications associated with spousal contagion.

Traditional Pricing and Projections of LTC Insurance Business

Many LTC insurance plans have historically provided spousal discounts, which have varied in terms of spousal requirements. For example, some companies have required both spouses be accepted for coverage and purchase policies to obtain the discount. For other companies, the married couple has simply needed to apply and one spouse can obtain the discount whether or not the other spouse purchases a policy.

The actuarial pricing of policies with the spousal discount reflects claim experience on these policies that is significantly lower than "single" claim experience in the early policy years, but generally grades toward single experience in the later policy durations. The married claim experience is lower initially partially because one spouse provides informal care. After death or divorce, the informal care ceases, so morbidity is closer to the single claim experience. The marital savings wears off as the cumulative impact of death and divorce increasingly impacts the block of originally issued married policyholders. The end result is often marital projected claims that start significantly lower than single and grade toward single over time.

Implicit in this marital claim cost pattern (for those issued as married) are death and divorce rates, and the resulting morbidity impacts subsequent to the death, disability or divorce of a spouse. If the claim experience for one spouse is higher in the year following a claim (or death) of the other spouse, that pattern is already inherent in the overall claim cost assumptions.

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