

Trilogy

Actuarial Solutions

Final Expense Mortality Summary Report

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Final Expense Mortality Study

Executive Summary

An eleven-year mortality study was conducted on a calendar year basis with an observation period from 1/1/2010 to 12/31/2020. The experience for calendar years 2010 to 2019 was used to develop the standard mortality tables, and the data for calendar year 2020 was used to estimate the impact of the COVID-19 pandemic.

The final set of data used to construct the mortality tables contained 4.5 million exposure years, 108,146 deaths, and 10 companies. Standard mortality tables were constructed for two underwriting tiers. The mortality rates in both tables vary by sex, tobacco class, issue age, and duration. Companies offering more than two underwriting tiers may be able to develop a mortality assumption by bifurcating one of the tables.

The standard mortality tables provide a good fit to the aggregate experience data; however, a wide range of results was observed among the participating companies. In most contexts, applicable standards of practice would prioritize small adjustments to a table developed based on industry experience for traditional final expense underwriting rather than larger adjustments to a table developed based on industry experience for medical underwriting. The standard mortality tables provided in this study are a solid foundation for developing a mortality assumption for traditional final expense products.

Results by Underwriting Tier

Underwriting Tier	Exposure	Actual Deaths	Expected Deaths	A/E	95% Confidence Interval	
					Lower Bound C.I.	Upper Bound C.I.
(2.1)	4,262,827	95,558	96,070	99%	99%	100%
(2.2)	267,516	12,588	12,737	99%	97%	101%
Total	4,530,343	108,146	108,807	99%	99%	100%

Range of A/E Results by Company

Min	Max	Total
71%	134%	99%

Adjustments to the standard mortality tables may be required for each participating company to reflect their own experience. Detailed company specific reports are available from Trilogy Actuarial Solutions upon request.

The impact of the COVID-19 pandemic was measured for the top underwriting tier by determining the Actual-to-Expected (A/E) ratio for the 2020 experience using the standard mortality table as the expected basis. The A/E ratio showed a 12% increase in the top tier mortality.

COVID-19 Results

Underwriting Tier	Exposure	Actual Deaths	Expected Deaths	A/E	95% Confidence Interval	
					Lower Bound C.I.	Upper Bound C.I.
(2.1)	731,246	25,070	22,441	112%	110%	113%

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Future Studies

The scope of this study was limited by the volume of experience data provided by the participating companies. If we recruit additional participants for future studies, we are interested in expanding the study as follows:

- Develop standard mortality tables for a larger number of underwriting tiers;
- Determine whether different distribution channels have statistically significant differences in mortality for similar underwriting;
- Evaluate the impact of different underwriting tools (e.g., electronic applications, personal history interviews, third party databases, etc.); and
- Develop cause of death statistics designed to help evaluate underwriting criteria.

Conclusion

Table Fit

The standard mortality tables fit the underlying data well and provide a solid foundation on which to develop mortality assumptions for final expense business. The confidence intervals for the overall A/E ratios based on the standard tables are very narrow and include 100%. The confidence intervals for the A/E ratios related to the individual predictive variables also all include 100%.

Select Period

The select period suggested by the data varies significantly by underwriting tier. The most select underwriting tier appears to have a six year select period, whereas the least select underwriting tiers appear to have a select period as short as one year. The selection factors during the contestable period appear to be significantly driven by the rescission rate.

Rescission Rates

Rescission rates appear to be highly correlated with the quality of the underwriting tier. That is, more select underwriting tiers appear to have higher rescission rates. This may be due to the following:

- A greater propensity on the part of applicants to stretch the truth on the application to qualify for a more select underwriting tier relative to the knockout questions and/or;
- An increased propensity on the part of companies to identify applicants that have not answered the knockout questions correctly.

COVID-19 Impact

We observed a 12% increase in the mortality experience for 2020 in the top underwriting tier. This increase is almost certainly a result of the COVID-19 pandemic. The observed rescission rate for 2020 is noticeably lower than the proceeding years. Reporting of the cause of death for insureds that contracted COVID-19 may have interfered with companies' ability to rescind claims during the contestable period. The reduced rescission rate contributed to significantly higher A/E ratios during the contestable period relative to the average during this time (119% vs. 112%).