

2000-2015 Group Life Premium Waiver Experience Report





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Section 1: Purpose of the Study

The Group Life Waiver Experience Committee (the “Committee”) of the Society of Actuaries (“SOA”) is pleased to present the results of the 2019 Group Term Life Waiver Experience Study (the “Study”). This Study analyzes the recovery and mortality experience between 2000 and 2015 for any open group life waiver claims during the period 2000 through 2015.

The 2019 Study provides an update to the 2005 Group Life Waiver Experience Study (“2005 GLW”), which was published in 2005 based on 1993-2002 waiver experience. The 2005 Study formed the basis for the current NAIC minimum waiver reserve guidelines (Actuarial Guideline XLIV) for any waiver claims incurred on or after January 1, 2009. Prior to the 2005 Study, group life carriers relied on the 1970 Intercompany Group Life Disability Experience Tables (the “Krieger Tables”) as their valuation basis. Though it had not been formally adopted by the NAIC, the Krieger Tables had, for over 35 years, been the “de facto” valuation standard for group life waiver reserve assumption setting.

In response to the growing need for a comprehensive update of industry experience, the Committee gathered and analyzed historical industry data on group life waiver claim terminations. The 2019 Study contains much more extensive data than previous studies. The 2.8 million life years exposed in the 2019 Study is almost four times the exposure in the 2005 Study. In 2018, 20 companies submitted waiver experience to our data partner, Medical Information Bureau (“MIB”), and all companies were included in the final experience table. This compares to 24 companies submitting data and 18 ultimately included in the 2005 Study. An overview comparison of the three studies is shown below.

	2019 GLW Table	2005 GLW Table	Krieger Tables
Year Published	2019	2005	1970
Study Years	2000-2015	1993-2002	1955-1965
Companies Included	20	18 (24 submitted)	12
Life Years Exposure	2,800,000	750,000	125,000
Gender	M and F (50% F)	M and F (39% F)	Unisex (<i>Est 15% F</i>)
EP	6-Month, 9-Month, other	9-month	9-month

While the focus of the Committee for the purposes of this report has been analysis of the raw waiver experience tables, a proposal was made to the National Association of Insurance Commissioners (“NAIC”) Health Actuarial Task Force (“HATF”) and Life Actuarial Task Force (“LATF”) to develop a new graduated Group Life Waiver Experience Table. This proposal has been approved by the HATF and a joint SOA/American Academy of Actuaries (“AAA”) work group has begun work on the development of a new table. This table is being developed for the intended purpose of formal adoption by the NAIC as a replacement to the current 2005 Table as the minimum group life waiver valuation reserve standard.

Bearing the goal of a new valuation table in mind, the Committee aimed to collect more robust data than in prior studies. We included several new parameters considered potentially material to waiver termination experience. Some of these new parameters include elimination period (reflecting significantly more 6-month EP exposure versus 9-month only in the 2005 Study), diagnosis code (consistent with LTD experience study segmentation, most recently in the 2016 Group Long Term Disability Experience Report published in 2018 (“2016 GLTD Study”)), face amount band (aligned with the 2016 Group Life Mortality Study parameters), and LTD linking (to determine overall claim cost of increased waiver incidence of linked LTD/waiver claims). A copy of the data request is available on www.soa.org.

1.1 DATA AND ANALYSIS CONSIDERATIONS

In addition to collecting more robust and complete experience data, the Committee focused on improving data quality, providing additional metrics to facilitate interpretation of results, and supplying additional files at an industry and company level, which will allow companies to dive deeper into the Study experience. To improve data quality, the data submissions were subject to a multi-step audit process by our data partner, MIB, and a company-level reasonability review was performed by select members of the Committee. For more effective interpretation of the Study results, we included 95% confidence intervals (CI) for mortality and recovery rates by lives to assess whether an individual company’s results were outliers or within the realm of reasonability.

The Study results have been analyzed across 16 segmentation variables, compared to three in the 2005 Study (Gender, Age at Disability, and Duration Since Disability). The segmentation variables captured in the experience study include:

- Study Year
- Age at Disability
- Gender
- Duration Since Disability
- Elimination Period
- Definition of Disability
- Benefit Period
- Group Size
- Initial Face Amount Band
- 2-Digit SIC
- Industry Grouping
- Collar Color
- Coverage Type (Basic, Supp/Voluntary or Combined)
- Diagnosis Type
- LTD Coverage
- Company Exposure Segment (6 Small, 7 Medium, 7 Large carriers, based on amount of death benefits exposed in the Study)

Claim terminations were assigned to one of three categories:

- Recovery (including termination due to change in disability definition)
- Death
- Expiration; e.g., claimant reaches age 65

Section 2: Acknowledgements and Resources

2.1 GROUP LIFE WAIVER EXPERIENCE COMMITTEE

The SOA extends its gratitude to the Group Life Waiver Experience Committee. Their collective efforts were instrumental in the development of this new group life waiver experience study.

2019 Group Life Waiver Experience Committee

Amy Whinnett (Committee Chair)
 Jennifer Fleck (Committee Vice Chair)
 John Bettano
 David Ferrari
 Jeremy Fleischer
 Patrick Hurley
 Andrew Jenkins
 Michael Jiang
 John Kaspar
 Michael Krohn

Jacob McCoy
 Georgia Nykorczuk
 Ryan Ouellette
 Stephen Rulis
 Susan Sames
 John Schwegel
 Bram Spector
 Matthew Swenson
 Patrick Wallner

2.2 OTHER RESOURCES

The SOA contracted with MIB's Actuarial and Statistical Research Group to collect, validate, and compile the data underlying this report. Mervyn Kopinsky (SOA Experience Studies Actuary), Cindy MacDonald (SOA Senior Experience Studies Actuary), and Korrel Crawford (SOA Senior Research Administrator) supplied SOA staff support.

Section 3: Experience Study Methodology

The objective of the Committee was to analyze changes in the termination experience since the 2005 GLW Table was created. The results in this report are generally expressed as actual-to-expected (A/E) ratios. The expected values are primarily the graduated experience rates from the 2005 GLW Table, with no valuation margins included. For some of the results, we also used the 1970 Krieger graduated rates without valuation margins as the expected values.

3.1 SOURCE DATA

Participating companies' data submissions were provided to MIB for assembly and aggregation. The Committee was not provided with individual claim information, but rather aggregated data summarized by the variables captured in the Study.

The Committee worked with MIB to ensure the accuracy and validity of the submitted data. A self-audit guide was also provided to the participating companies that identified a number of specific data integrity checks to be performed before submitting the data. Then, MIB worked with the data validation subcommittee to either request clarifications or resubmissions, or to exclude specific data.

A few claims are included in the data that were paid before their elimination period ended. The committee recommends that you proceed with caution when analyzing early duration claims.

3.2 RECOVERIES

Companies considered anything that was not an actual death or termination due to benefits expiration as a recovery. This approach is consistent with past studies and with the approach used in the most recent LTD Termination Study.

3.3 AGE BASIS AND DATA GROUPING

The age basis for lives within this experience study was calculated on an age-nearest-birthday basis at individual ages, which was then rolled up into five-year age bands. This methodology was utilized for consistency with the most recent Group Life Mortality Study.

It is important to note that while the age basis for the Study was age-nearest-birthday, the 2005 GLW study grouped experience in five-year age bands on an age-last-birthday basis. This change resulted in the exposure in the five-year age bands in the Study shifting down one-half year less than the exposure in the 2005 GLW study. For example, for age band 42, the Study included individuals aged 39.5-44.5, whereas the 2005 GLW study included individuals aged 40-45.

The 2005 GLW A/Es shown in the report do not account for any adjustments due to the different age basis methodologies. Similarly, the A/Es have not been adjusted for any other differences in exposure between the two studies, such as mix of contributing companies, demographic differences, industry mix, or differences in plan design.

To approximate the impact of this methodology change, we have estimated adjusted A/Es assuming the age bands in the 2005 GLW study had been measured on an age-nearest-birthday basis rather than an age-last-birthday basis. While the impact of the change in age basis on A/E mortality varied by age at

disability and duration, adjusted A/Es generally were between 1% and 5% higher on both a select and ultimate basis for both males and females. Adjusting the age basis for the expected 2005 GLW recoveries resulted in the majority of adjusted A/Es being 1-5% lower than the raw A/Es, with the exception of a few outliers in less credible age ranges. Therefore, given the overall level of A/E mortality and recovery rates reported in this Study, we do not feel the difference in A/Es due to differing age bases has a material impact on the Study's overall conclusions.

Other data was grouped as described in Appendix A.

3.4 EXPOSURES

Because two different types of terminations are being studied (deaths and recoveries), we calculated two sets of exposures depending on which termination was being studied.

1. Death Terminations: If a person died during the exposure period, they were counted as having been exposed during the entire period. If the person instead recovered, they were only counted as having exposure until the actual date of recovery.
2. Recovery Terminations: If a person recovered during the exposure period, they were counted as having been exposed during the entire period. If the person instead died, they were only counted as having exposure to the actual date of death.

The length of time between the start and end dates of a period was determined using the exact number of days instead of a 360 or 365-day calendar year.

Data is provided quarterly for the first two years and annually thereafter. For quarterly calculations, in situations where the end of a quarter fell on an invalid date (for example, 3 months after 11/30 is 2/30), the end of the quarter was assumed to be the last valid date (2/28, or 2/29 on a leap year, in this example).

3.5 CARRIER DAMPENING

To ensure that the data was not skewed by one carrier dominating the Study results, we compared the exposure of the top contributors to the Study and found that the largest few contributors submitted similar levels of exposure in relation to the overall Study exposure. Therefore, we determined that there was no need to make dampening adjustments to any individual carrier's results as was done in the past with other experience studies.

3.6 ANNUALIZED RECOVERY/DEATH RATES

For the first and second years from age at disability, results were studied at the quarterly level, consistent with the format of past waiver rate tables. For the purposes of the graphs in the sections below, quarterly rates for those early durations were combined and summarized as annual rates in order to provide a more meaningful comparison to the annual durations starting in year 3. To do this, the counts across the four quarters of each duration year were added and compared to each duration year's average annualized exposure count.

3.7 AGE BASIS AND DATA GROUPING

Ninety-five percent confidence intervals of death rates and recovery rates (on a count basis only) were used for some of the calculations in this report. The variable Death Rate by Count is between the variable Death Rate CI Lower Bound and Death Rate CI Upper Bound. These variables represent the expected death rate and the lower and upper bounds of the 95% confidence intervals, respectively. Similar variables are presented for Recovery Rate by Count.

The confidence interval is calculated as:

$$\text{calculated rate} \pm \frac{1.96 \times \sigma}{\text{policies exposed}}$$

Where σ represents the standard deviation of the rate being calculated.

Section 4: Study Results Summary

The tables below detail the mortality and recovery rates by duration for the 2019 Study for 4-6 month and 7-9-month elimination periods (EPs), including comparisons to the 2005 GLW and Krieger Tables. For 4-6-month elimination periods, the mortality and recovery rates reflect experience from 6 months onwards. For 7-9-month elimination periods, the mortality and recovery rates reflect experience from 9 months onwards. Mortality and recovery rates are shown on an annualized basis.

As shown in Tables 4.1 and 4.2 below, the overall waiver mortality rate was 49.6 per 1,000 lives for 4-6-month EPs and 54.0 per 1,000 for 7-9-month EPs.

Waiver mortality rates for 4-6-month EPs were 95% of 2005 GLW mortality and 54% of Krieger Table mortality. For 7-9-month EPs, A/E mortality was 110% compared to 2005 GLW mortality and 62% compared to Krieger Table mortality.

Table 4.1
Mortality Rates by Duration: 4-6-Month EP

Duration Since Disability	Death Life Years Exposed	Death Count	Annual Mortality Rate per 1000	A/E Mortality 05 GLW	A/E Mortality Krieger
Q3	53,521	4,457	83.3	79%	39%
Q4	48,783	5,315	109.0	100%	52%
Y02	156,070	12,606	80.8	89%	62%
Y03	119,233	6,184	51.9	98%	64%
Y04	95,725	3,843	40.1	92%	58%
Y05	82,117	2,743	33.4	93%	50%
Y06	70,883	2,202	31.1	96%	48%
Y07	60,391	1,783	29.5	102%	48%
Y08	51,836	1,471	28.4	99%	49%
Y09	44,803	1,300	29.0	103%	52%
Ult 10+	299,772	11,772	39.3	104%	53%
Total	1,083,133	53,676	49.6	95%	54%

Table 4.2
Mortality Rates by Duration: 7-9-Month EP

Duration Since Disability	Death Life Years Exposed	Death Count	Annual Mortality Rate per 1000	A/E Mortality 05 GLW	A/E Mortality Krieger
Q4	38,891	4,178	107.4	98%	51%
Y02	131,226	11,919	90.8	101%	70%
Y03	106,306	6,084	57.2	107%	71%
Y04	89,094	3,978	44.6	102%	64%
Y05	78,865	2,992	37.9	105%	56%
Y06	70,510	2,467	35.0	107%	54%
Y07	62,599	2,103	33.6	115%	55%
Y08	55,588	1,779	32.0	111%	55%
Y09	49,369	1,621	32.8	115%	59%
Ult 10+	465,009	24,861	53.5	120%	62%
Total	1,147,456	61,982	54.0	110%	62%

Tables 4.3 and 4.4 reflect recovery rates of 89.5 per 1,000 lives for 4-6-month EPs and 54.3 per 1,000 for 7-9-month EPs. Waiver recovery rates for 4-6-month EPs were 230% of 2005 GLW recovery rates and 236% of Krieger Table recovery rates. For 7-9-month EPs, A/E recoveries were 185% compared to 2005 GLW recoveries and 191% compared to Krieger Table recoveries.

Table 4.3
Recovery Rates by Duration: 4-6-Month EP

Duration Since Disability	Recovery Life Years Exposed	Recovery Count	Recovery Rate per 1000	A/E Recovery 05 GLW	A/E Recovery Krieger
Q3	54,276	11,271	207.7	209%	222%
Q4	49,682	12,409	249.8	247%	270%
Y02	158,427	30,504	192.5	256%	228%
Y03	126,387	18,719	148.1	274%	263%
Y04	97,855	7,429	75.9	193%	195%
Y05	82,938	4,158	50.1	168%	201%
Y06	71,219	2,848	40.0	170%	203%
Y07	60,670	2,280	37.6	185%	234%
Y08	51,935	1,623	31.3	172%	217%
Y09	44,787	1,242	27.7	176%	216%
Ult 10+	296,651	5,468	18.4	217%	320%
Total	1,094,826	97,951	89.5	230%	236%

Table 4.4
Recovery Rates by Duration: 7-9-Month EP

Duration Since Disability	Recovery Lives Exposed	Recovery Count	Recovery Rate per 1000	A/E Recovery 05 GLW	A/E Recovery 05 Krieger
Q4	39,098	6,246	159.8	160%	173%
Y02	132,002	17,984	136.2	183%	161%
Y03	110,579	13,557	122.6	227%	217%
Y04	90,469	6,232	68.9	175%	176%
Y05	79,287	3,627	45.7	153%	182%
Y06	70,619	2,620	37.1	158%	187%
Y07	62,484	1,898	30.4	150%	188%
Y08	55,428	1,477	26.6	147%	184%
Y09	49,135	1,156	23.5	150%	184%
Ult 10+	455,998	7,343	16.1	228%	337%
Total	1,145,101	62,140	54.3	185%	191%

Section 5: Comparison to Industry Tables

This section compares the new 2019 mortality and recovery experience study to both the 2005 GLW Tables and the Krieger Tables. This section focuses on the subset of data within the 2019 experience tables in the 7-9-month elimination period grouping, in order to be consistent with the 2005 GLW and Krieger Tables. Both of those tables were based on 9-month elimination period data, which was the most common elimination period within those studies. Exposure for the analysis within this section starts after the 9-month elimination period. Within the 2019 experience data, the exposure from 9 months onwards from the 7-9-month elimination period group makes up approximately 41% of the total study exposure by count. This analysis focuses on the level of segmentation consistent with the past studies, with additional detail for new 2019 experience segmentations discussed separately in other sections below.

5.1 KEY FINDINGS IN COMPARISON TO PAST STUDIES

Table 5.1 below shows both mortality and recovery rates by gender, as well as comparisons to the 2005 GLW and Krieger Tables when applying the 2005 GLW and Krieger Table rates to the 2019 experience exposure. As compared to the 2005 GLW, mortality rates for both males and females have increased (by 9% and 10%, respectively) and recovery rates for both males and females have increased (by 101% and 73%, respectively). In addition, the general relationships of increased mortality and recovery rates for both males and females holds for both the select and ultimate periods, with the increase being greater for the ultimate period than for the select period.

Table 5.1
Comparison of Rates by Count to Past Studies, 7-9-Month EP Plans

Death		Males				Females			
		2019 Deaths	2019 Rate	A/E 2005	A/E Krieger	2019 Deaths	2019 Rate	A/E 2005	A/E Krieger
Select	21,410	58.0	102%	68%	17,152	48.0	107%	56%	
Ultimate	<u>16,606</u>	<u>64.0</u>	<u>120%</u>	<u>67%</u>	<u>6,814</u>	<u>42.1</u>	<u>119%</u>	<u>52%</u>	
Total	38,016	60.5	109%	67%	23,966	46.2	110%	55%	

Recovery		Males				Females			
		2019 Recoveries	2019 Rate	A/E 2005	A/E Krieger	2019 Recoveries	2019 Rate	A/E 2005	A/E Krieger
Select	24,826	67.1	191%	170%	30,915	85.4	173%	190%	
Ultimate	<u>3,929</u>	<u>15.5</u>	<u>301%</u>	<u>418%</u>	<u>2,470</u>	<u>15.5</u>	<u>180%</u>	<u>307%</u>	
Total	28,755	46.1	201%	185%	33,385	64.0	173%	196%	

5.2 COMPARISON TO PAST STUDIES WITH SEGMENTATION BY YEARS DISABLED AND AGE-AT-DISABILITY ONSET

The four charts below provide additional detail of mortality and recovery rates as compared to past studies, segmented by years disabled and age-at-disability onset. The charts show how the overall relationships summarized in section 5.1 generally hold across all disability onset age bands, as well as years disabled groupings. All three studies show how mortality and recovery rates were generally highest during the select period at early durations and how mortality rates generally increased and recovery rates generally decreased as age-at-disability onset increased.

Chart 5.2.1
Comparison of Mortality Rates to Past Studies by Years Disabled, 7-9 Month EP

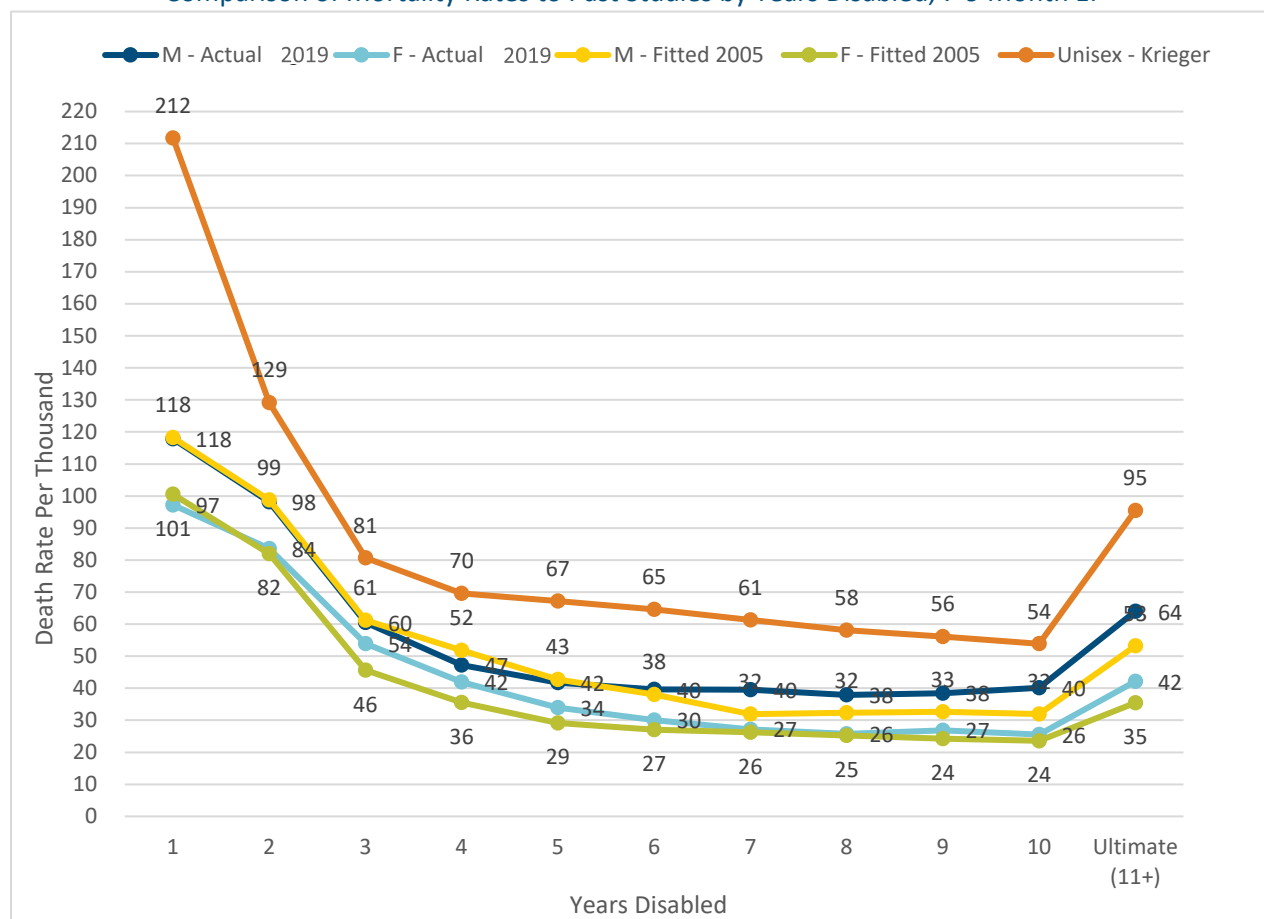


Chart 5.2.2
Comparison of Recovery Rates to Past Studies by Years Disabled, 7-9 Month EP

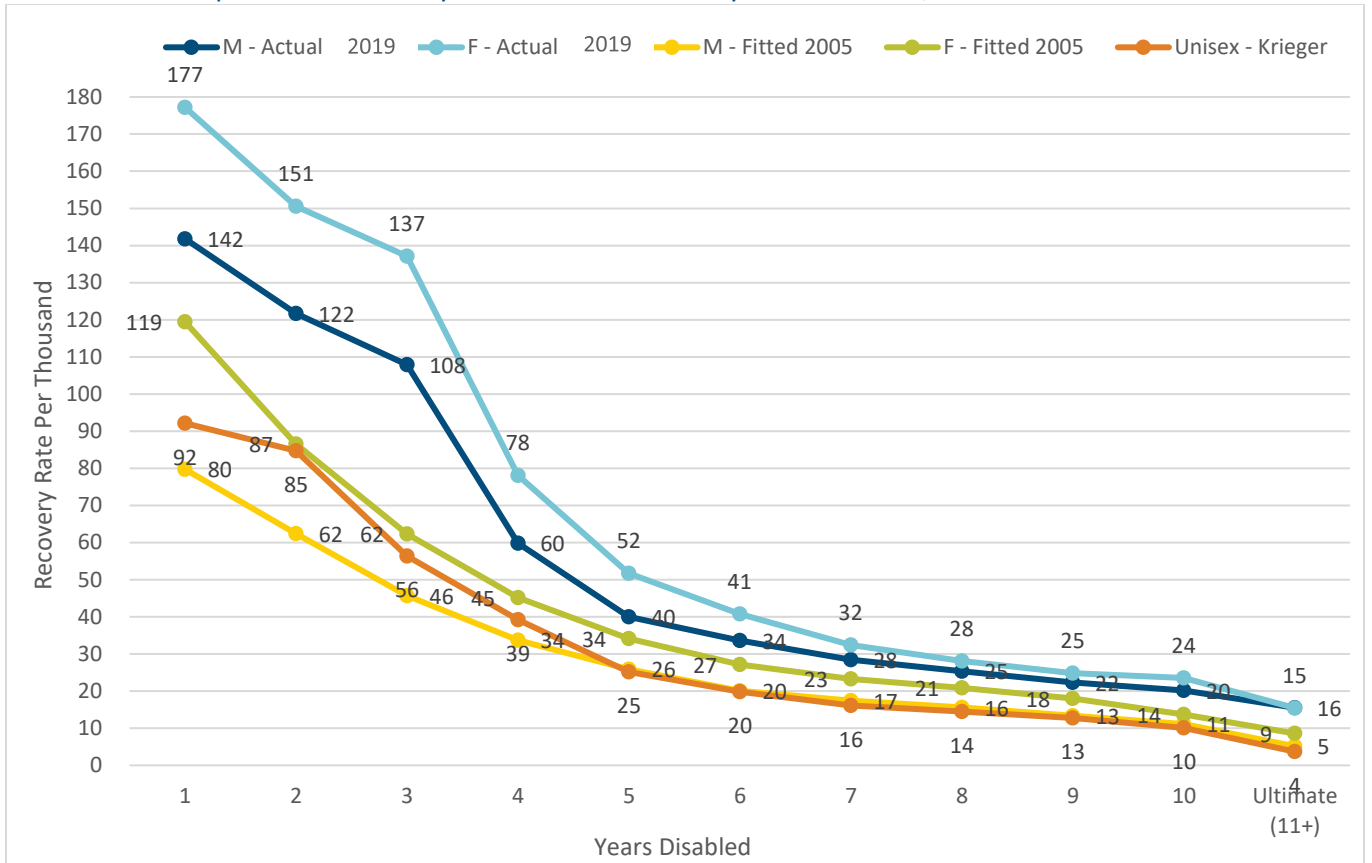


Chart 5.2.3
 Comparison of Mortality Rates to Past Studies by Age-at-Disability Onset, 7-9 Month EP

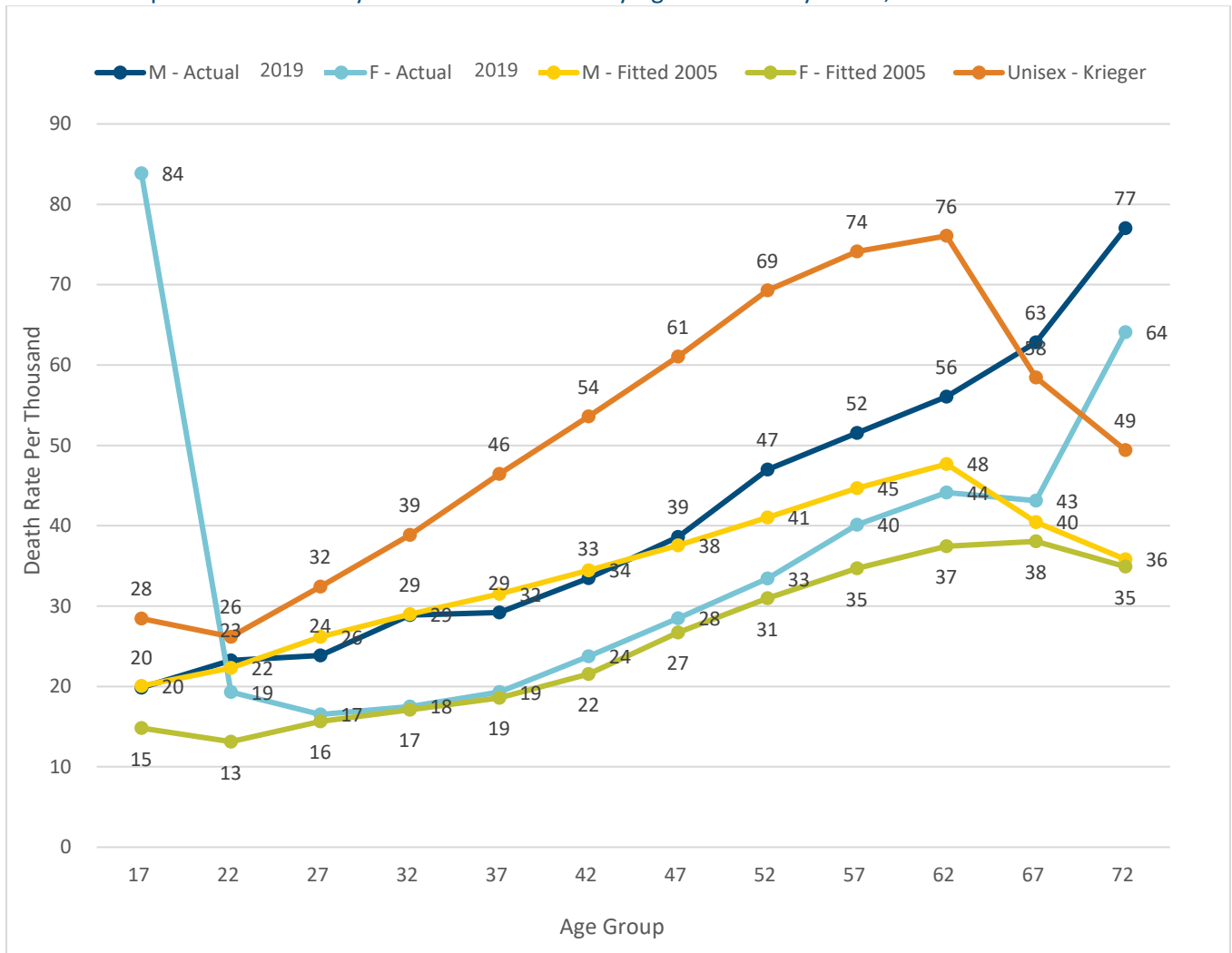
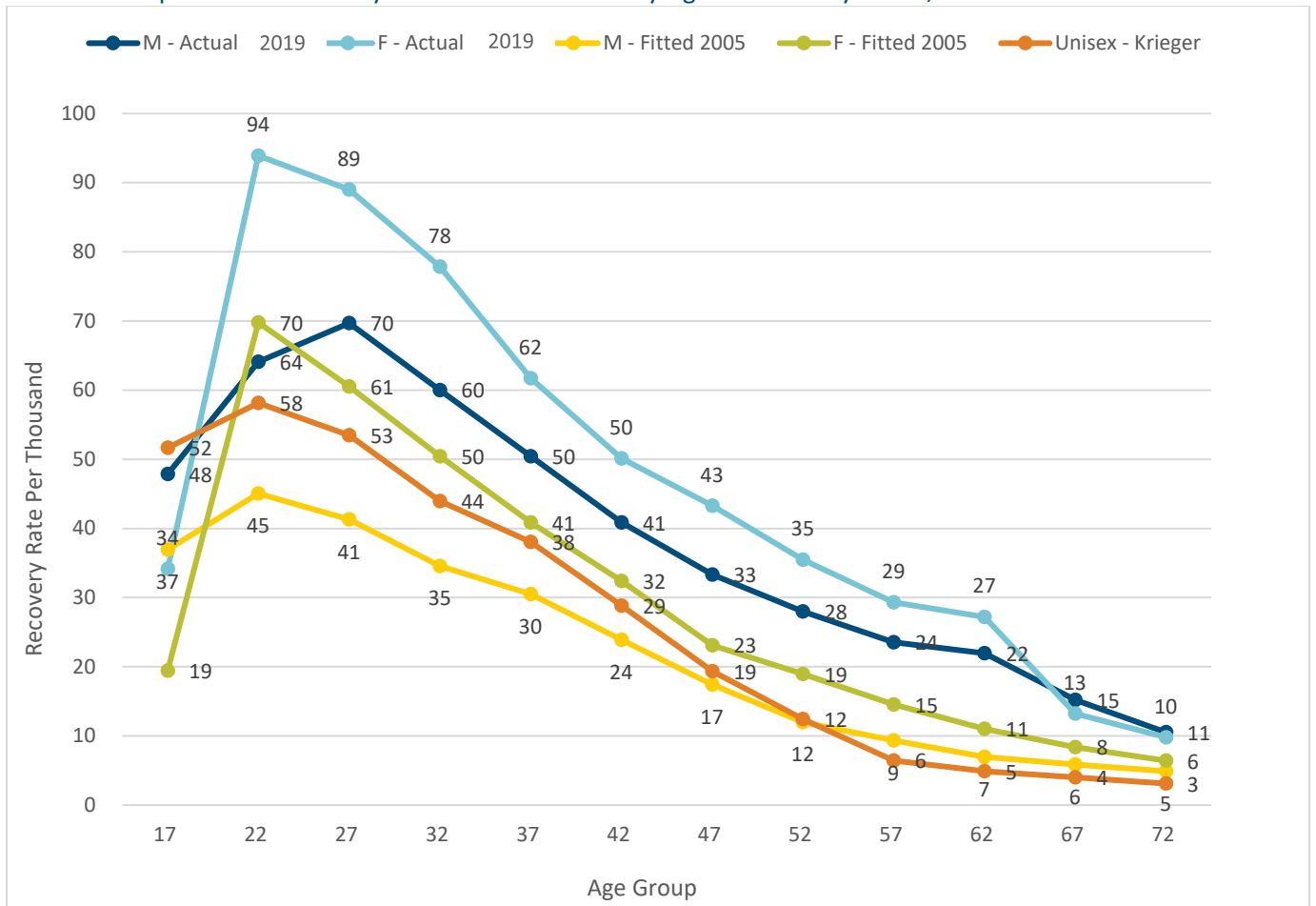


Chart 5.2.4
Comparison of Recovery Rates to Past Studies by Age-at-Disability Onset, 7-9 Month EP



Section 6: Illustrative Reserve Comparisons

In any industry-wide experience data review, a central topic of interest is the potential for change in future valuation of liabilities. The Committee's work in this Study did not include within its scope the development of a new experience table, but the report is intended to support industry actuarial-present-value consideration of recent historical experience relative to current and prior valuation bases.

At this point, it is vital to note:

1. The exhibits and analysis represented in this document should not be used directly in or for any form of valuation. This work was intended only for use as a preliminary estimate of potential change from thorough future efforts to properly update the valuation basis for waiver-of-premium benefits on group term life insurance.
2. The calculations supporting this analysis relate to the actuarial present value of future death payments on group term life waiver claims. No provision was made for estimation of the premium being waived. This follows historical convention for valuation of the benefit on group products, which differs from the conventions for individual products.

6.1 CALCULATION AND TERMINOLOGY NOTES

The purpose of this work is to estimate differences in recent historical experience versus the expectations inherent in the historical valuation bases. That work began with calculating reserve factors per \$1,000 of face amount at a discount rate of 4.5% using the two most recent industry valuation bases, namely:

- The Krieger Tables, without decrement margins
- The 2005 GLW Tables, without decrement margins

Certain details of this work are key for readers to understand, with further detail available in appendix B. Development of a graduated experience table was out of scope for this project. However, the Committee believed that some investment in present-value analysis was necessary to educate the study's audience and to evaluate potential valuation-accuracy returns for later investments in modeling work. The selected approach involved analysis spanning a limited set of valuation cells using relatively simple mathematical methods and some provision for the accuracy limitations of this work.

Mechanically, the Committee overlaid multiplicative industry-experience adjustment factors on a marginless copy of the 2005 GLW Table to produce experience-adjusted continuance. These generated continuance tables that were used to produce reserve factors for certain valuation cells. The Committee considered clusters of experience credibility in selecting the valuation cells for analysis and proper experience adjustments for use in the calculations.

The work was done in triplicate, addressing mean survey experience and two variations considering decrement confidence intervals. All results are rounded to generalize the results, and some figures are presented only in ranges. Each of these aspects were intended to convey the high-level nature of this effort.

Each experience-modified basis had structure in common with the 2005 GLW Table, except for an expansion of select-period detail. The Committee determined elimination period exposure to be sufficient for illustrative reserve analysis across the dimension, so short elimination periods (1-6 months) and long

elimination periods (7+ months) had differentiated continuance values.

All reserve factor comparisons presented here were performed at a 4.5% discount rate and without the inclusion of any decrement margins. The intent of this work was an experience comparison, and the margin review was another topic deferred to a potential subsequent project for development of a new valuation standard.

6.2 COMPARATIVE RESULTS AND ANALYSIS

6.2.1 SUMMARY

In summary, the Committee observed that the survey experience was favorable (i.e. resulted in lower reserves) on a present-value basis versus both the 2005 GLW Table and the 1970 Krieger Tables, even after removal of decrement margins from each table.

Honing in on the central comparison, the analysis that follows will focus on illustrative reserve comparisons between the mean experience perspective and the 2005 GLW Table. Appendices B2 and B3 are each tables of ranged comparisons based on the decrement confidence-interval work. Exhibits of comparison to the 1970 Krieger factors are available in appendices B1 and B3, and mean experience factors were commonly 30% below the marginless 1970 Krieger factors.

Due to favorable experience, present-value mean industry experience reserve factors were 70%-115% of the 2005 GLW marginless present-value factors, and confidence intervals of 65%-120%. Average, median, and mode differences each represented reductions of 5% or more versus the current valuation basis absent margins. Summarily across the selected reserve cells, experience was favorable. Duration years less than 5 were broadly favorable across gender, elimination period, and incurral age. However, mean experience reserve factors from claim duration years 5 and 10 were often equivalent to, if not higher than, the 2005 GLW values. As was true of prior valuation basis updates, the degree of change each carrier may see from a potential industry update of the valuation basis will depend on nuances of the basis development work and each carrier's liability mix.

6.2.2 GENDER

For incurral ages 40-54, the 2005 GLW reserve factors for men were much larger than the liability estimates for women, and this was consistent in the mean experience data. However, mean experience reserves had a diminished early-duration gender differential for incurral ages 40-44. The final column of Exhibit 6.2.2.1 demonstrates that—relative to 2005 GLW factors—new factors derived from industry survey experience could reduce the present value of some male liability more than for females. The effect fades durationally and did not manifest for the other sampled incurral ages, so a potential new table may require reshaping by gender versus the 2005 GLW basis.

Exhibit 6.2.2.1
Illustrative Reserve Factor Relativities Vs 2005 GLW @ 4.5% Discount
Gender Differentials, Incurral Ages 40-44
(Rounded to the nearest 5%)

Claim Duration Year	Benefit Pattern	Elimination Period Category	Ratio of Mean Industry Experience to 2005 GLW PV of \$1,000		Difference vs 2005 GWP (Ratio - 1)		Male Diff Less Female Diff
			Male	Female	Male	Female	
1	Lifetime	1-6mos	70%	80%	-30%	-20%	-10%
1	Lifetime	7mos+	80%	90%	-20%	-10%	-10%
1	End at 65	1-6mos	70%	80%	-30%	-20%	-10%
1	End at 65	7mos+	80%	95%	-20%	-5%	-15%
2	Lifetime	1-6mos	80%	85%	-20%	-15%	-5%
2	Lifetime	7mos+	85%	90%	-15%	-10%	-5%
2	End at 65	1-6mos	80%	90%	-20%	-10%	-10%
2	End at 65	7mos+	85%	100%	-15%	0%	-15%
10	Lifetime	1-6mos	95%	95%	-5%	-5%	0%
10	Lifetime	7mos+	95%	95%	-5%	-5%	0%
10	End at 65	1-6mos	105%	100%	5%	0%	5%
10	End at 65	7mos+	105%	100%	5%	0%	5%

6.2.3 ELIMINATION PERIOD

In certain ways, group term life waiver continuance is akin to group long-term disability continuance, where the industry’s valuation basis and research have been more expansive historically. Continuance differentials on the dimension of elimination period have remained critical to long-term disability liability valuation through several basis updates, and the dimension represented a key area of learning opportunity to the current Group Term Life Experience Committee. As noted previously, the exposure represented in this report’s data survey was fairly evenly split between claims with an elimination period of 6 months or less (“short-elim”) versus those with periods of 7 months or greater (“long-elim”), enabling the Committee to perform present-value analysis on a hypothetical elimination period split.

In construction of the experience-based continuance, elimination period considerations were constrained to adjustments for claim durations under 10 years, as there was neither expectation nor observation of meaningful elimination period impact beyond duration year 10.

With a fair amount of consistency across the cells considered, short-elimination period reserve factors were 10% below long-elimination period factors at claim duration year 1, with half of that difference recurring in the second durational year. Exhibits 6.2.3.1 and 6.2.3.2 display the comparisons, with the final column showing present-value-reserve differentials across elimination periods relative to the 2005 GLW basis. As expected, the dimension is less consequential in later durations.

Exhibit 6.2.3.1
Illustrative Reserve Factor Relativities Vs 2005 GLW @ 4.5% Discount
Elimination Period Differentials, Claim Duration Year 1
(Rounded to the nearest 5%)

Benefit Pattern	Claimant Sex	Disability Incurral Age Range	Ratio of Mean Industry Experience to 2005 GLW PV of \$1,000		Difference vs 2005 GWP (Ratio - 1)		Short Elim Diff Less
			Elim 1-6 Months	Elim 7+ months	Elim 1-6 Months	Elim 7+ months	Long Elim Diff
Lifetime	Male	40-44	70%	80%	-30%	-20%	-10%
Lifetime	Male	45-49	75%	85%	-25%	-15%	-10%
Lifetime	Male	50-54	85%	90%	-15%	-10%	-5%
Lifetime	Female	40-44	80%	90%	-20%	-10%	-10%
Lifetime	Female	45-49	75%	85%	-25%	-15%	-10%
Lifetime	Female	50-54	85%	90%	-15%	-10%	-5%
End at 65	Male	40-44	70%	80%	-30%	-20%	-10%
End at 65	Male	45-49	80%	90%	-20%	-10%	-10%
End at 65	Male	50-54	90%	100%	-10%	0%	-10%
End at 65	Female	40-44	80%	95%	-20%	-5%	-15%
End at 65	Female	45-49	80%	90%	-20%	-10%	-10%
End at 65	Female	50-54	90%	95%	-10%	-5%	-5%

Exhibit 6.2.3.2
Illustrative Reserve Factor Relativities Vs 2005 GLW @ 4.5% Discount
Elimination Period Differentials, Claim Duration Year 2
(Rounded to the nearest 5%)

Benefit Pattern	Claimant Sex	Disability Incurral Age Range	Ratio of Mean Industry Experience to 2005 GLW PV of \$1,000		Difference vs 2005 GWP (Ratio - 1)		Short Elim Diff Less
			Elim 1-6 Months	Elim 7+ months	Elim 1-6 Months	Elim 7+ months	Long Elim Diff
Lifetime	Male	40-44	80%	85%	-20%	-15%	-5%
Lifetime	Male	45-49	80%	85%	-20%	-15%	-5%
Lifetime	Male	50-54	90%	90%	-10%	-10%	0%
Lifetime	Female	40-44	85%	90%	-15%	-10%	-5%
Lifetime	Female	45-49	85%	90%	-15%	-10%	-5%
Lifetime	Female	50-54	90%	90%	-10%	-10%	0%
End at 65	Male	40-44	80%	85%	-20%	-15%	-5%
End at 65	Male	45-49	85%	90%	-15%	-10%	-5%
End at 65	Male	50-54	95%	100%	-5%	0%	-5%
End at 65	Female	40-44	90%	100%	-10%	0%	-10%
End at 65	Female	45-49	85%	95%	-15%	-5%	-10%
End at 65	Female	50-54	95%	95%	-5%	-5%	0%

Despite the caveats and limitations of this illustrative reserve comparison, it is evident to the Committee that the 2005 GLW Valuation Table includes an observable amount of unintended margin relative to experience of the past several years. A subsequent project to refresh the valuation basis would provide opportunities to review and update these margins in addition to (a) refining continuance relativities across dimensions of the existing valuation basis and (b) advancing the accuracy of group term life waiver valuation via moderate expansion of the basis to consider dimensions such as elimination period.

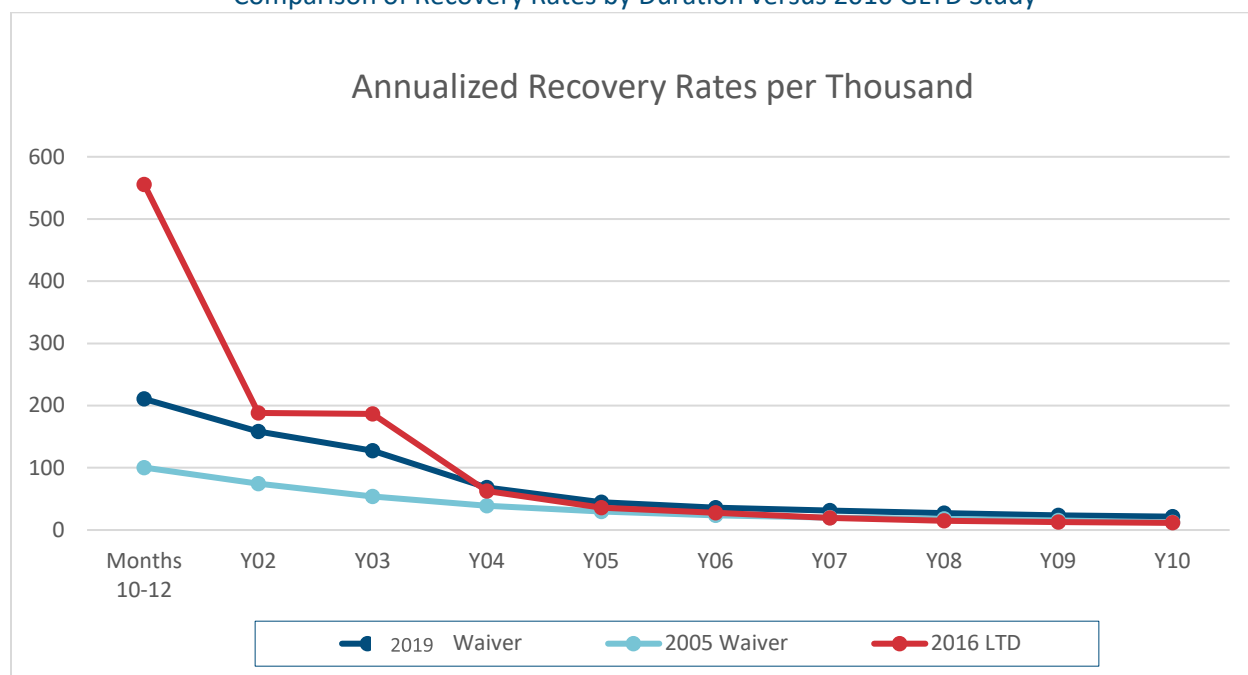
Section 7: Comparison to 2016 Group Long Term Disability Experience Study

7.1 OVERALL RESULTS

The 2016 GLTD Study, with its final report published in 2018, included a comparison of 2016 GLTD experience to the 2005 GLW Table. The 2016 GLTD results showed slightly fewer deaths than expected from the 2005 GLW Table, but significantly more recoveries than expected from the 2005 GLW Table. Higher LTD recoveries were especially prevalent during the first four years of claim duration, with 2016 GLTD recoveries being up to 600% of 2005 GLW recoveries at some of the early durations. LTD claim recoveries showed a significant increase over the Study period, with the rate of change increasing in recent years. Thus, the Committee wanted to understand whether updating the Group Life Waiver experience results from the 2005 GLW Table to the 2019 GLW experience study would close the gap in recovery results between the two products.

The chart below presents overall recovery rates for the 2019 GLW experience study, 2005 GLW Table, and 2016 GLTD Study.

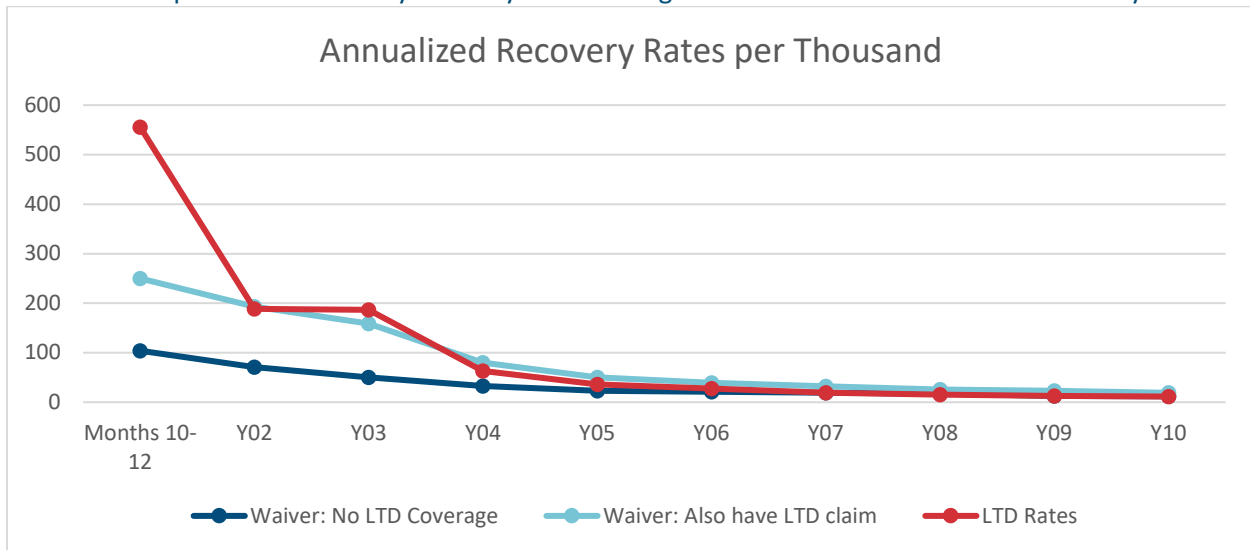
Chart 7.1.1
Comparison of Recovery Rates by Duration versus 2016 GLTD Study



We were not able to precisely reproduce the comparison chart from the 2016 GLTD Study, likely due to different demographic mixes of claims in the LTD Study as compared to the age and gender weightings in this 2019 GLW experience study. The 2019 and 2005 overall Waiver results in all of our charts are weighted by the exposures in the 2019 GLW experience study, while the 2016 GLTD results are weighted by the LTD exposures. However, with this limitation in mind, our results are directionally consistent with the LTD Study findings, and they illustrate that the gap between early duration LTD recoveries and Waiver recoveries has now been cut roughly in half by reflecting this 2019 GLW experience study.

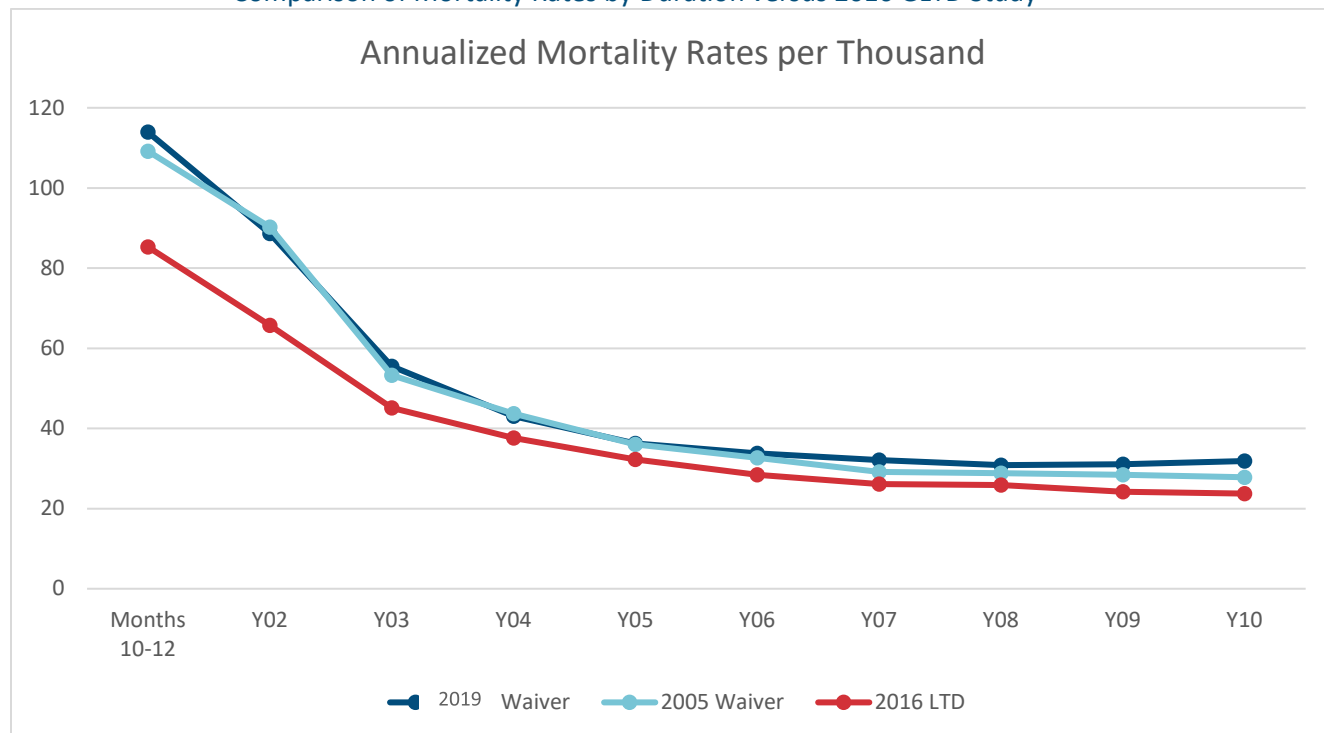
The chart below removes the 2005 GLW Table results, and it separates the 2019 GLW experience study recoveries into those having corresponding LTD claims and those with no LTD coverage. As expected, the Waiver claims with corresponding LTD claims more closely mirror the LTD recoveries, although the gap during the first year is still prominent.

Chart 7.1.2
Comparison of Recovery Rates by LTD Coverage and Duration versus 2016 GLTD Study



Death rates from the 2019 GLW experience study, 2005 GLW Table, and 2016 GLTD Study are presented below. LTD death rates were lower than 2005 GLW death rates and they continue to be below the 2019 Waiver death rates. This is likely driven by the fact that waiver claims predominantly have an Any Occupation definition of disability versus LTD claims, which have a mix of Any Occupation and Own Occupation definitions of disability.

Chart 7.1.3
Comparison of Mortality Rates by Duration versus 2016 GLTD Study



Many of the new segmentation variables in the 2019 GLW experience study are consistent with variables used in the 2016 GLTD Study, and this allows for further comparison between the two studies. Study year, employer group size, and company exposure (i.e., carrier size) are three segments where the Waiver and LTD recovery patterns display similarities, while diagnosis is the segment where deaths show the most similar patterns.

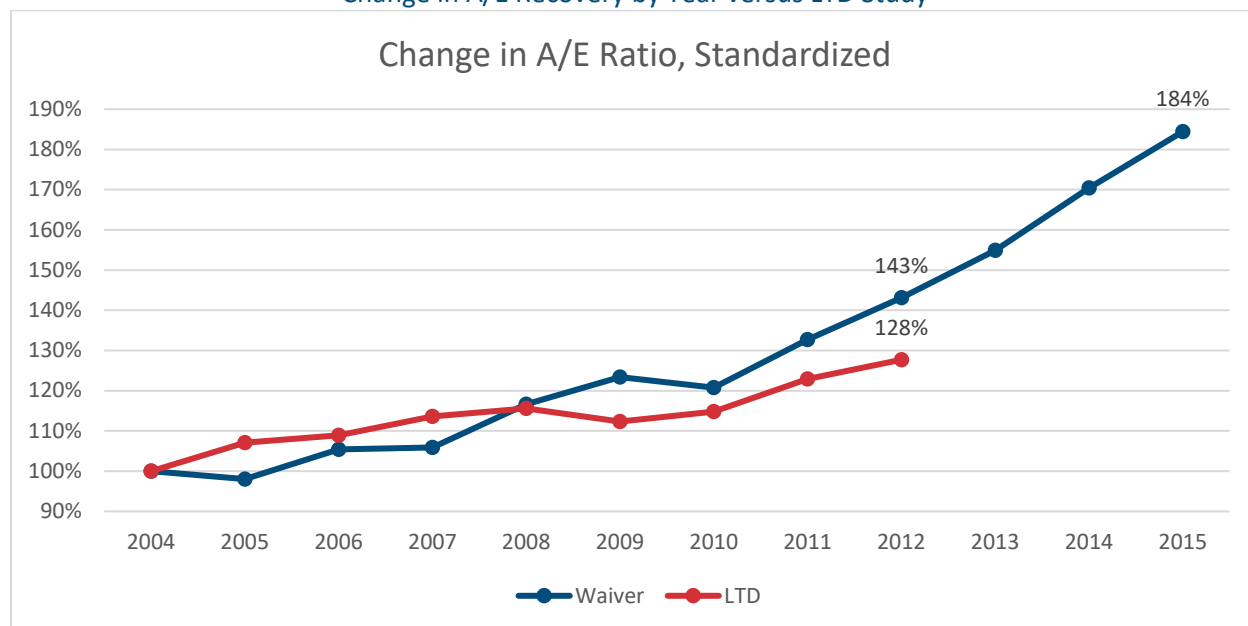
7.2 STUDY YEARS

The 2016 GLTD Study showed a pronounced upward trend in A/E recovery ratios by calendar year, where expected rates were based on the prior 2008 Study. Specifically, the LTD A/E recovery ratio graded steadily upward from nearly 100% in 2004 to more than 125% in 2012.

With this in mind, the Committee was interested to see whether the 2019 Waiver A/E recovery ratios, as compared to the 2005 GLW Table, also displayed this steady upward trend. To facilitate the Waiver versus LTD comparison, the Committee used 2004 as the starting point and compared each subsequent year's A/E ratio to the 2004 A/E ratio. The graph below shows that Waiver recovery ratios showed an even steeper increase than LTD ratios over the period 2004 to 2012, and then the Waiver A/E ratios continued to grow even more rapidly from 2013 through 2015.

One implication of this steep Waiver A/E recovery curve is that Waiver claim cost or reserve calculations based on recovery rates from just the past few years will be very different than calculations using recovery rates from the entire 17-year Study period.

Chart 7.2.1
Change in A/E Recovery by Year versus LTD Study

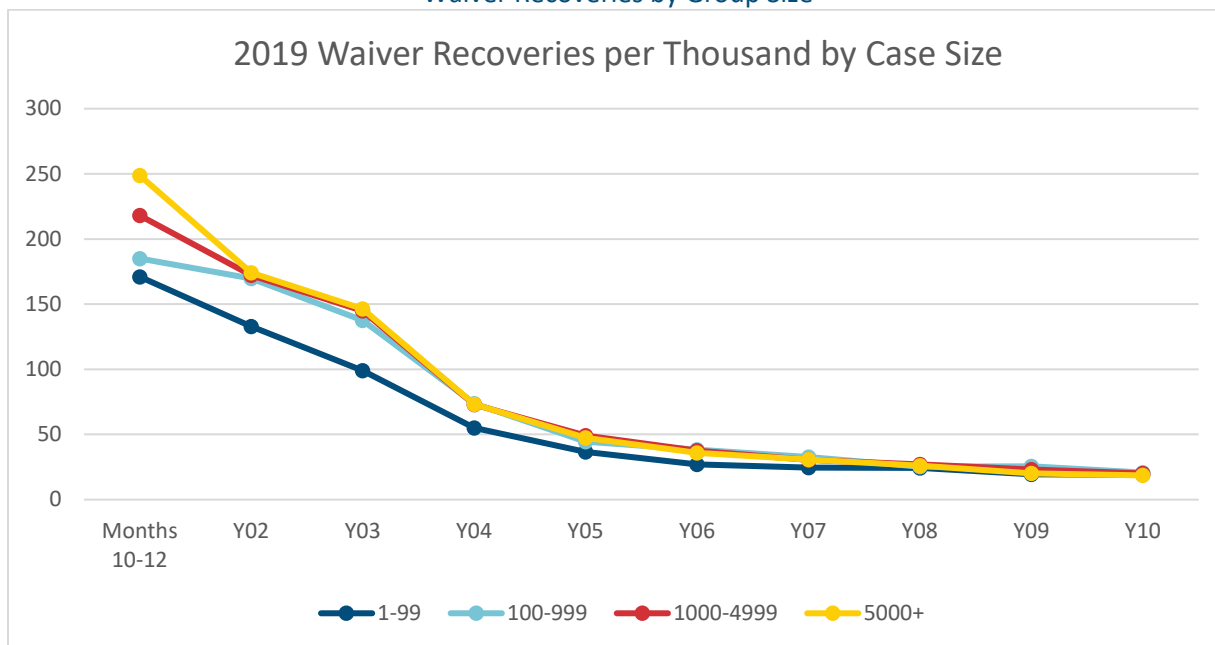


It is interesting to note that recoveries for both Waiver and LTD do appear to have been influenced by the 2008 recession and 2009-2010 post recession years, but the timing of the impacts is slightly different. LTD recoveries decreased between 2008 and 2009, whereas Waiver recoveries decreased a year later.

7.3 GROUP SIZE

Page 38 of the 2016 GLTD Study report showed a distinct pattern of larger case sizes having higher claim termination rates, with a steady increase in terminations as case sizes progressed from less than 250 lives, up through 1,000 lives, and finally up to 10,000 or more lives. The graph below shows a similar pattern for 2019 Waiver recoveries by case size, with the widest gap in recoveries by case size occurring during the first three years of a claim.

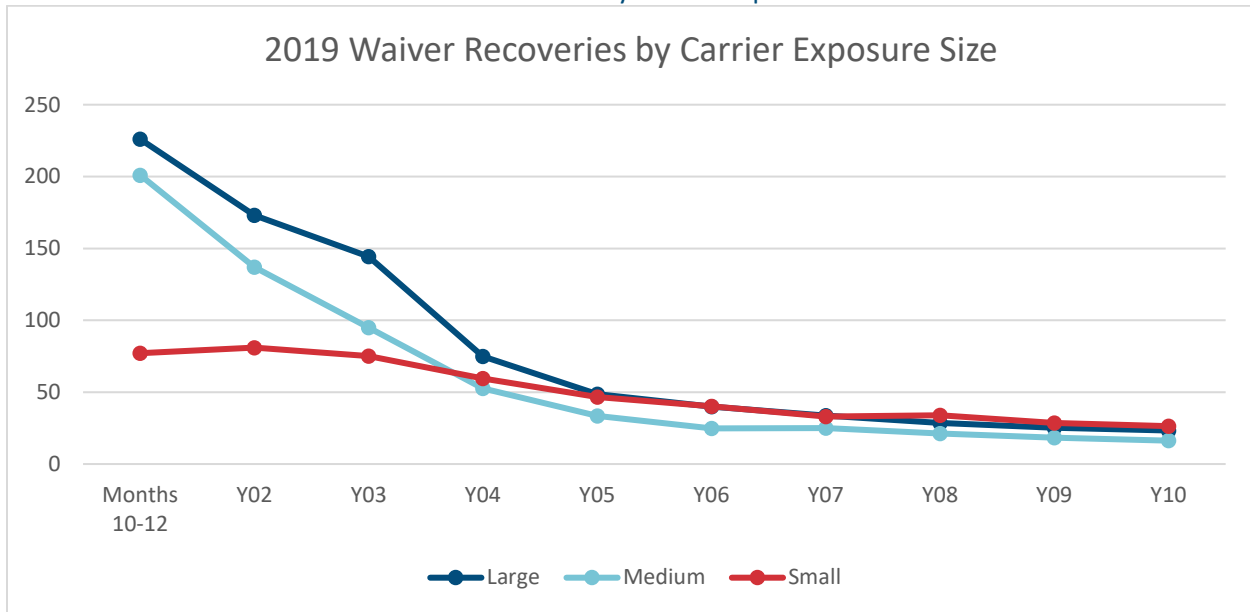
Chart 7.3.1
Waiver Recoveries by Group Size



7.4 COMPANY EXPOSURE

The 2016 GLTD Study showed a notable difference in recovery rates by carrier size, with large and medium-sized carriers having similar recovery rates that were materially greater than the small carrier LTD recovery rates. The 2019 Waiver Study shows a more distinct recovery difference between the three carrier size groupings. The seven largest carriers had early duration recovery rates more than 20% higher than the seven medium carriers, which in turn were well above 50% higher than the six smallest carriers.

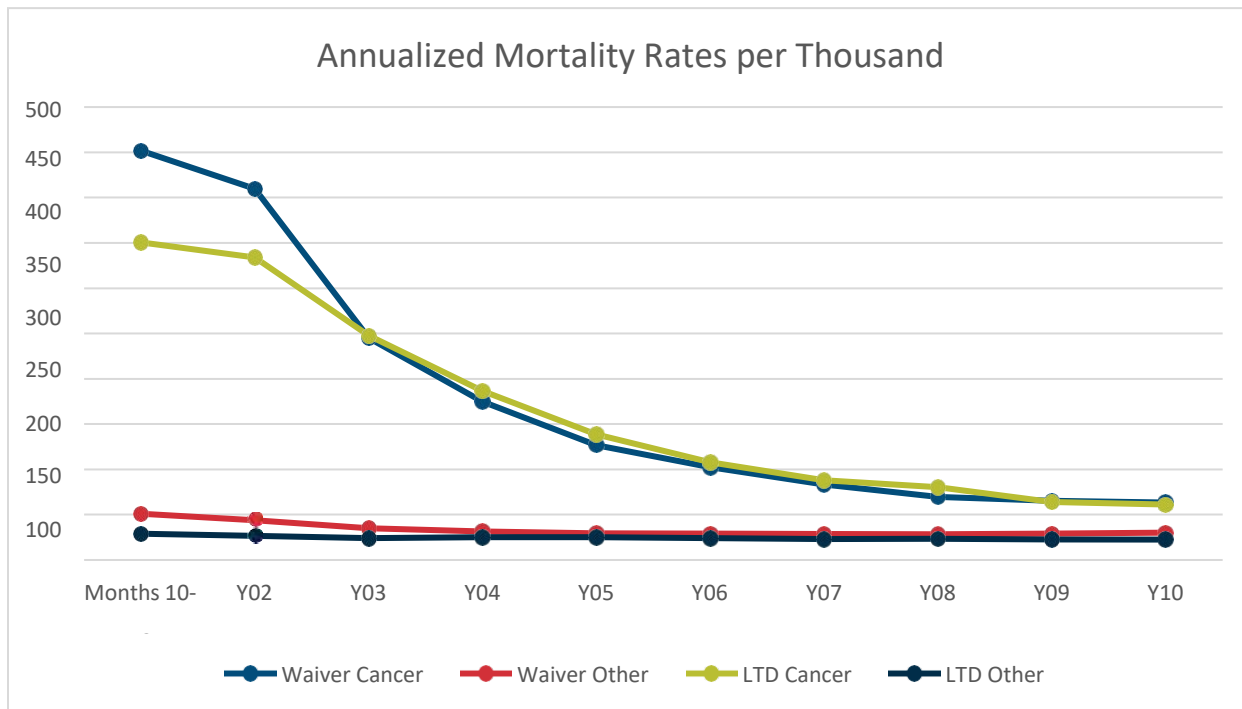
Chart 7.4.1
Waiver Recoveries by Carrier Exposure Size



7.5 DIAGNOSIS

The most striking discovery is that LTD and Waiver both have clear differences in mortality rates for cancer claims versus all other claims.

Chart 7.5.1
Mortality Rates by Diagnosis versus LTD Study



7.6 OTHER SEGMENTATION VARIABLES

The Committee also reviewed the Waiver and LTD recovery patterns for other segmentation variables such as Elimination Period, collar color, and definition of disability, but the patterns were less pronounced.

Section 8: 2019 Experience Study by New Segmentation Variables

This section summarizes results from the 2019 Experience Study for segmentation variables that have not been included in previous studies. Each dimensional segmentation presents durational death and recovery rates for duration years 1-10. Termination rates for year one are reflected as annualized Q4 termination rates and annual rates are shown for years 2 through 10. Both charts and tables of these rates are provided.

8.1 ELIMINATION PERIOD

Termination rates for death and recovery by length of elimination period are presented. The 4-6-month and 7-9-month elimination period groups represent the majority of the Study exposure and terminations. In year one (which reflects Q4 only), 7-9-month EP deaths were consistent with 4-6-month EP deaths, while 7-9-month EP recoveries were 36% lower than 4-6-month EP recoveries. During years 2+, the ratio of 7-9-month to 4-6 month EP termination rates remained relatively constant, with 7-9 month EPs reflecting 113% of 4-6 month EP deaths and 85% of 4-6 month EP recoveries.

Chart 8.1.1
Death Termination Rates by Elimination Period

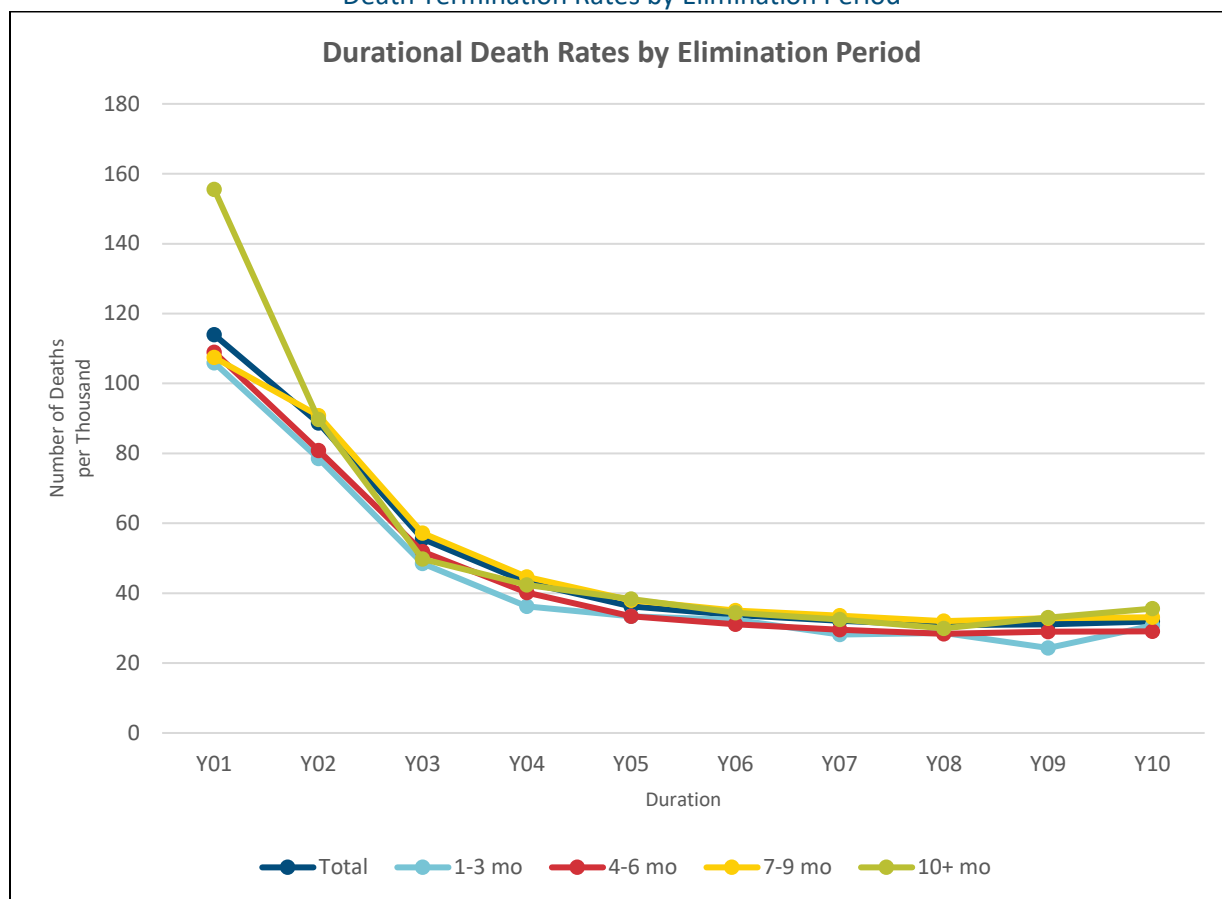


Table 8.1.1
Death Termination Rates per 1,000 by Elimination Period

c	Total	1-3 mo	4-6 mo	7-9 mo	10+ mo
Y01	114	106	109	107	156
Y02	89	79	81	91	90
Y03	56	49	52	57	50
Y04	43	36	40	45	42
Y05	36	33	33	38	38
Y06	34	32	31	35	34
Y07	32	28	30	34	32
Y08	31	29	28	32	30
Y09	31	24	29	33	33
Y10	32	31	29	33	36

Chart 8.1.2
Recovery Termination Rates by Elimination Period

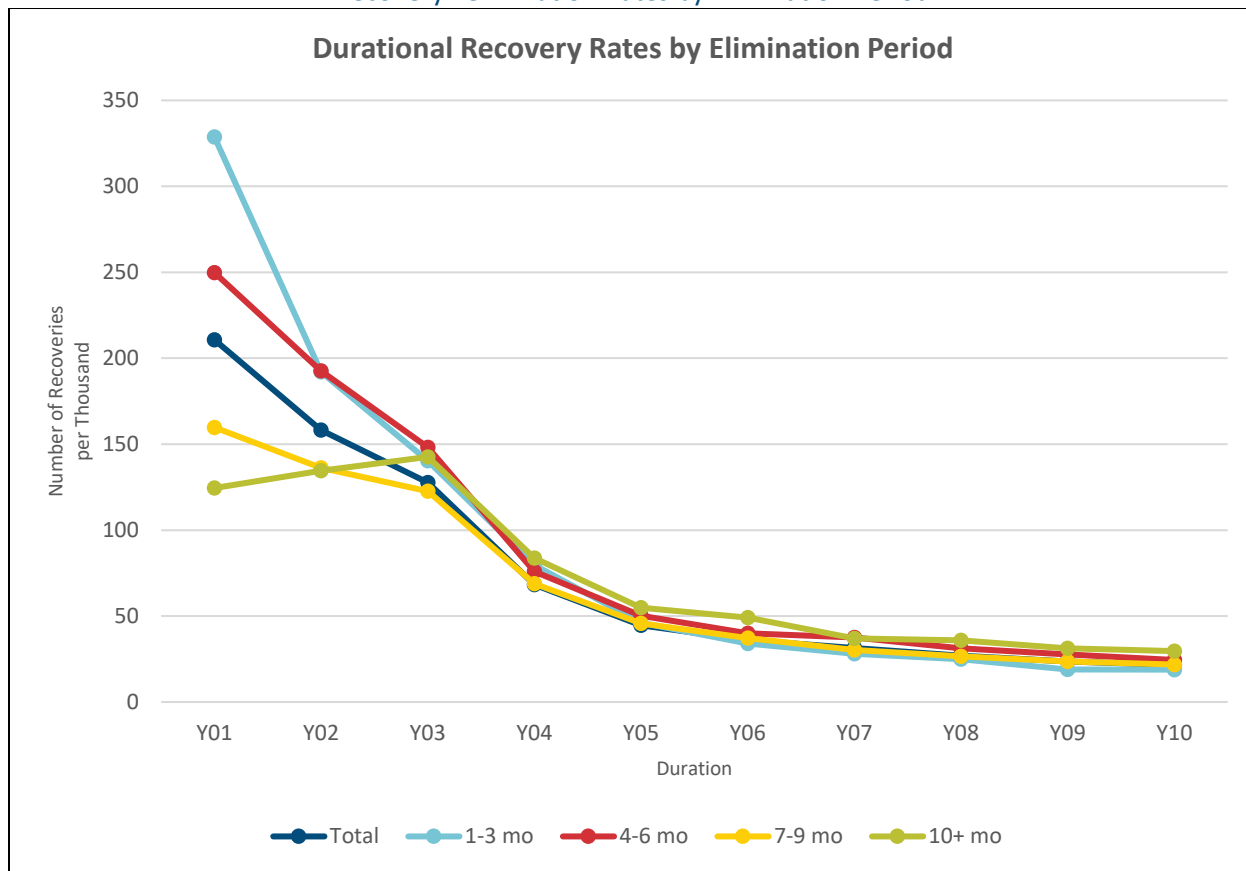


Table 8.1.2
Recovery Termination Rates per 1,000 by Elimination Period

Duration	Total	1-3 mo	4-6 mo	7-9 mo	10+ mo
Y01	211	329	250	160	125
Y02	158	192	193	136	135
Y03	128	140	148	123	143
Y04	68	80	76	69	84
Y05	45	46	50	46	55
Y06	36	34	40	37	49
Y07	31	28	38	30	37
Y08	27	25	31	27	36
Y09	24	19	28	24	31
Y10	22	19	24	22	30

8.2 BENEFIT PERIOD

Termination rates for death and recovery by length of benefit period are presented. For clarity of illustration, some benefit period categories have been combined. A small amount of time-based benefit periods (e.g. 6+ years) are available but not presented.

While there does not appear to be a material difference in death rates by benefit period, recovery rates for benefit periods to age 71+, which include lifetime benefits, are on average 35% lower than to age 65 benefit period recoveries during durations 2+. Some terminations in durations 6+ were observed in the 1-5 years benefit period category. These may be data anomalies and could warrant possible exclusion from analysis.

Chart 8.2.1
Death Termination Rates by Benefit Period

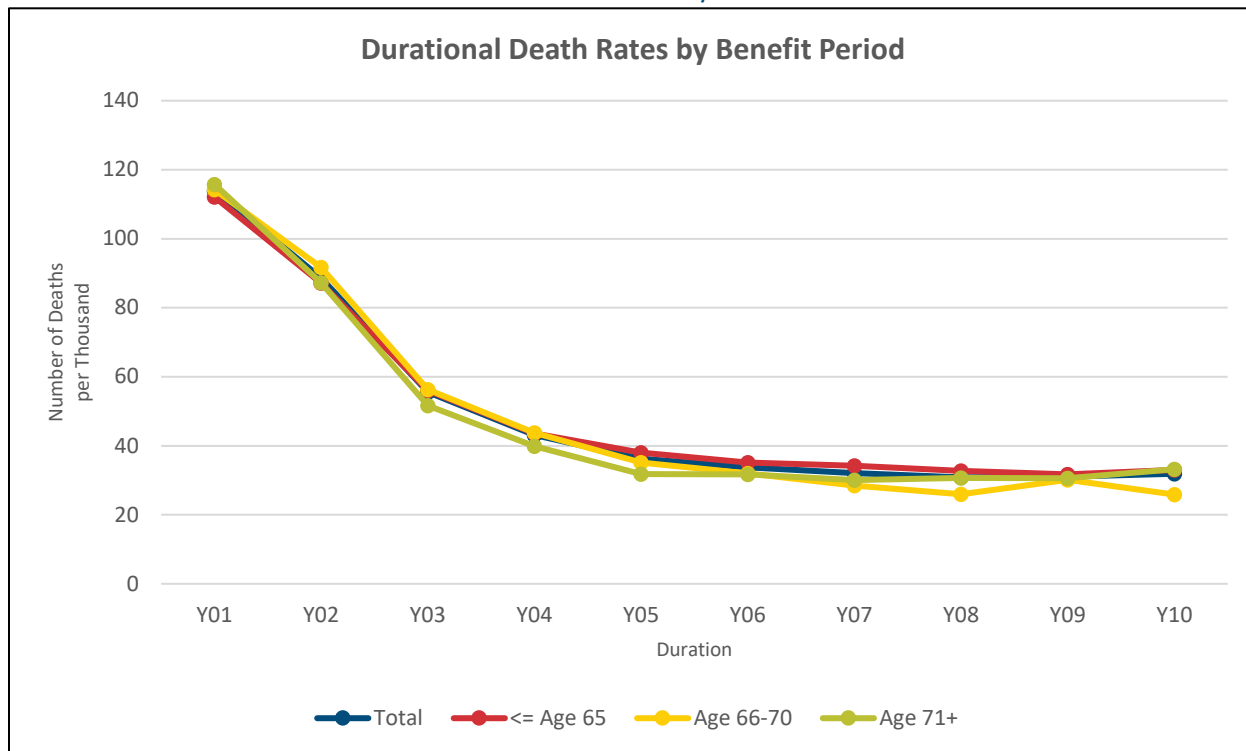


Table 8.2.1
Death Termination Rates by Benefit Period

Duration	Total	1-5 yrs	<= Age 65	Age 66-70	Age 71+
Y01	114	191	112	114	116
Y02	89	112	87	92	87
Y03	56	65	56	56	52
Y04	43	71	44	44	40
Y05	36	135	38	35	32
Y06	34	45	35	32	32
Y07	32	153	34	28	30
Y08	31	0	33	26	31
Y09	31	0	32	30	31
Y10	32	0	33	26	33

Charts 8.2.2
Recovery Termination Rates by Benefit Period

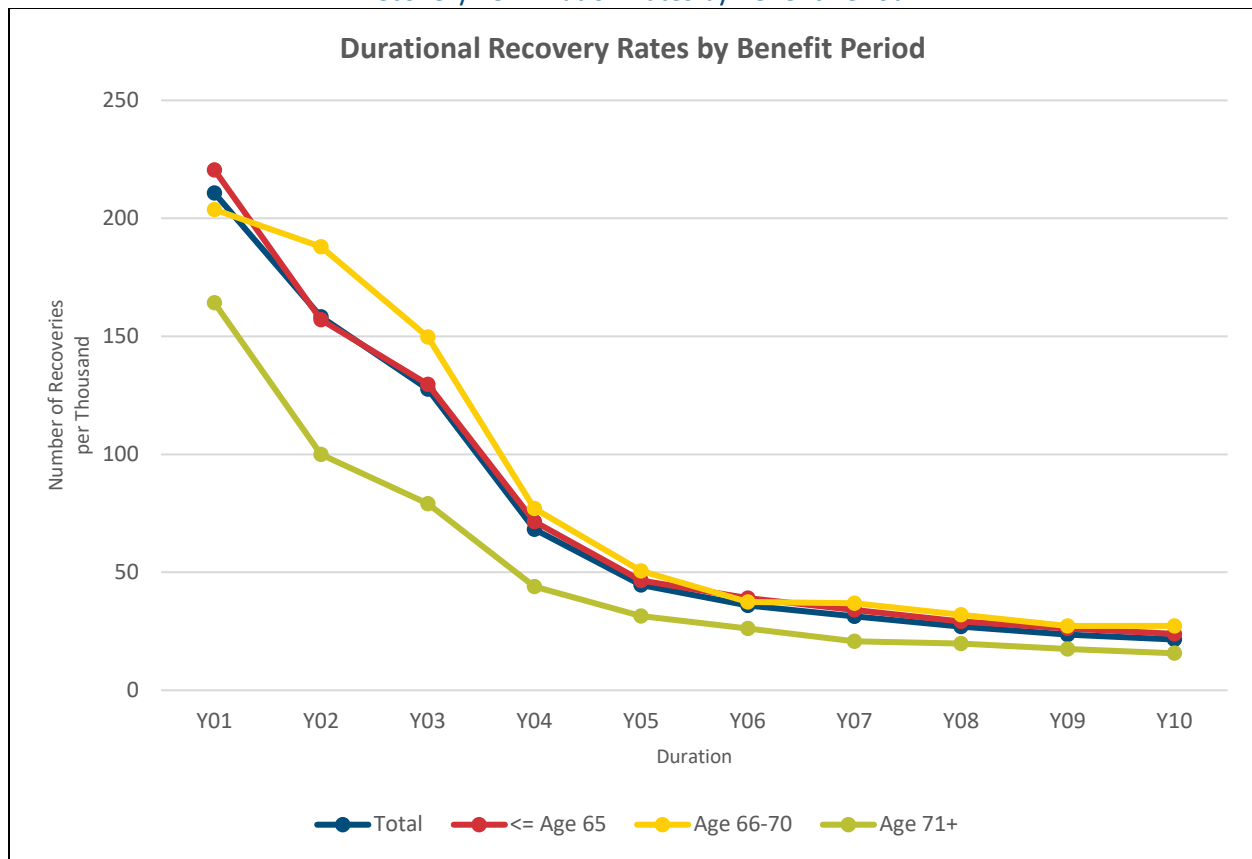


Table 8.2.2
Recovery Termination Rates by Benefit Period

Duration	Total	1-5 yrs	<= Age 65	Age 66-70	Age 71+
Y01	211	323	220	204	164
Y02	158	182	157	188	100
Y03	128	140	130	150	79
Y04	68	36	71	77	44
Y05	45	0	47	51	31
Y06	36	86	39	37	26
Y07	31	0	34	37	21
Y08	27	0	29	32	20
Y09	24	0	26	27	18
Y10	22	0	24	27	16

8.3 DEFINITION OF DISABILITY

Termination rates for death and recovery by definition of disability are presented. For clarity of illustration, some categories have been combined. Two Year Own Occ definitions are shown to have significantly lower mortality than Any Occ, with the difference reducing over the first five years of duration. Conversely, recoveries are 33% higher for 2 Year Own Occ in Year 1, but drop to 50% of Any Occ recoveries in years 5+.

While there is a significant amount of exposure in the Other / Missing category, it is assumed that the majority of the claims in these categories has an Any Occ definition of disability, which has historically been the standard waiver of premium definition of disability.

Charts 8.3.1
Death Termination Rates by Definition of Disability

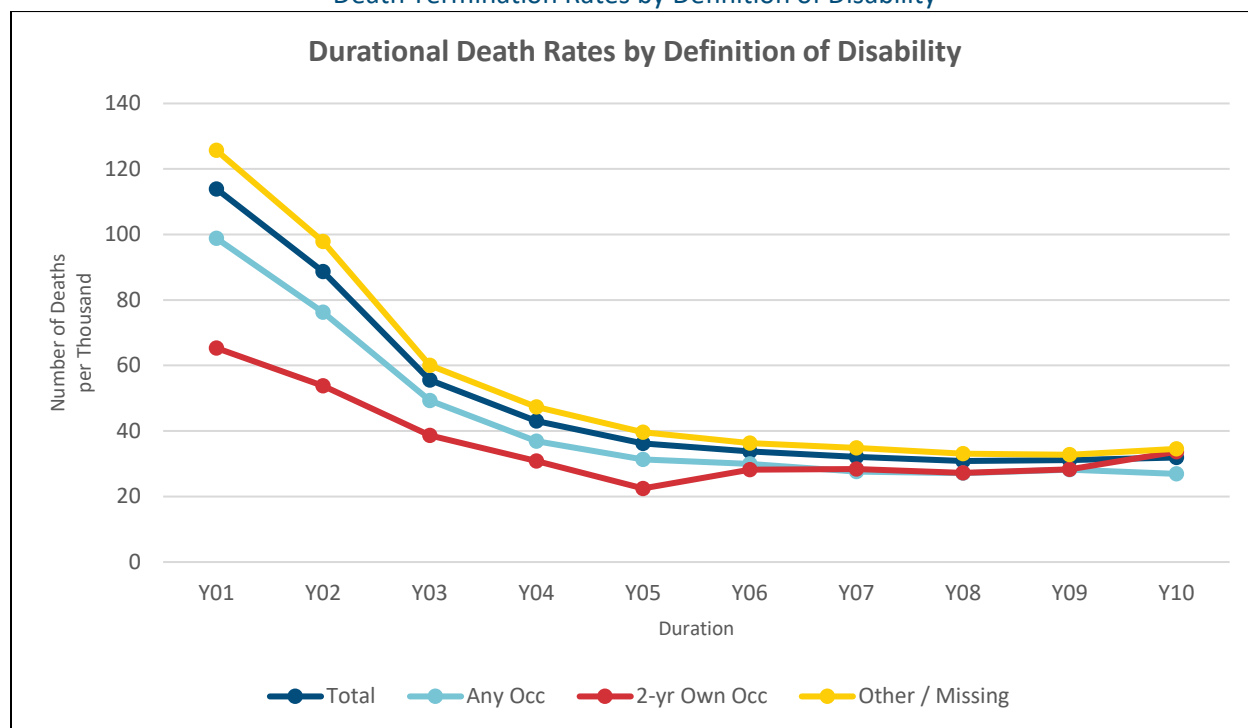


Table 8.3.1
Death Termination Rates by Definition of Disability

Duration	Total	Any Occ	2-yr Own Occ	Other / Missing
Y01	114	99	65	126
Y02	89	76	54	98
Y03	56	49	39	60
Y04	43	37	31	47
Y05	36	31	22	40
Y06	34	30	28	36
Y07	32	28	28	35
Y08	31	27	27	33
Y09	31	28	28	33
Y10	32	27	34	35

Chart 8.3.2
Recovery Termination Rates by Definition of Disability

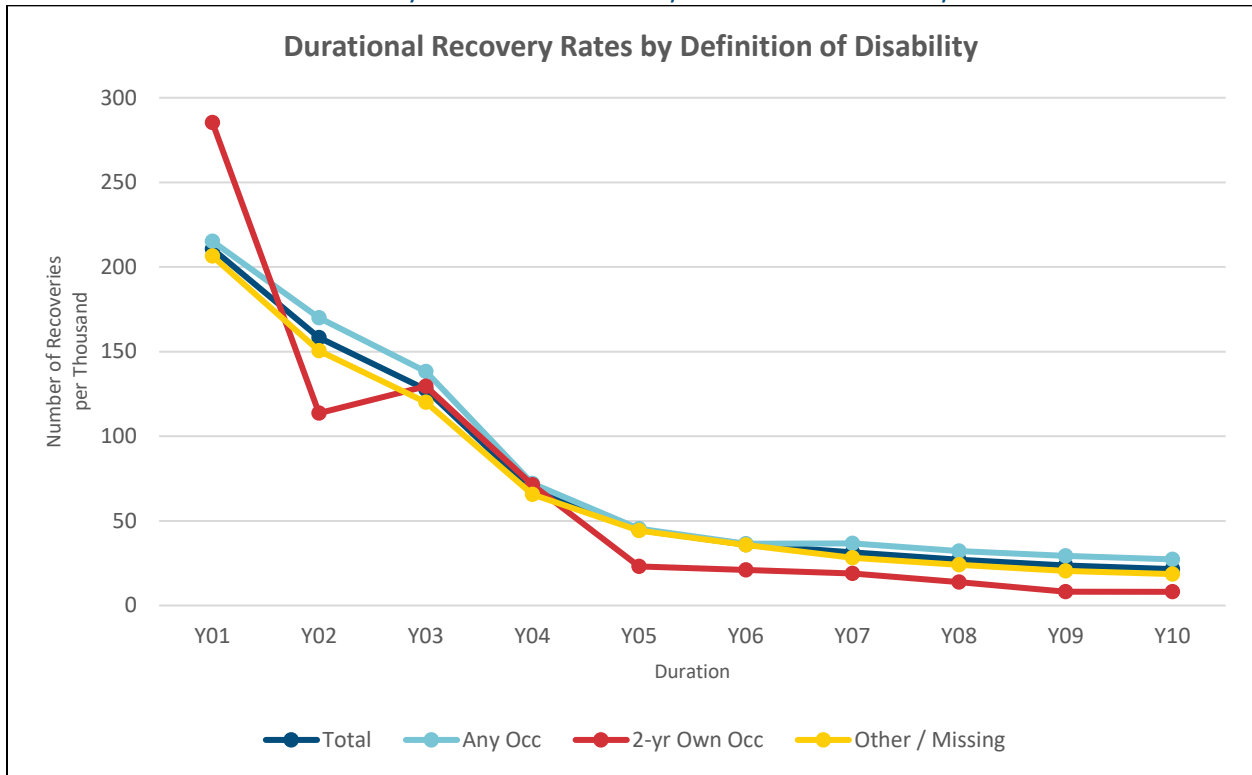


Table 8.3.2
Recovery Termination Rates by Definition of Disability

Duration	Total	Any Occ	2-yr Own Occ	Other / Missing
Y01	211	215	285	206
Y02	158	170	114	150
Y03	128	138	130	120
Y04	68	72	71	66
Y05	45	45	23	44
Y06	36	37	21	36
Y07	31	37	19	28
Y08	27	32	14	24
Y09	24	29	8	20
Y10	22	27	8	19

8.4 GROUP SIZE

Termination rates for death and recovery by size of group are presented. For the purpose of clarity of illustration, some group size categories have been bundled together. The Study results indicate that case size is correlated with both mortality and recovery rates. Differences in death rates by group size are the greatest in years 1-3, with spreads decreasing in years 4+. Recovery rates exhibit larger differences by case size for at least the first seven years of duration. This may be driven by larger companies with more robust return to work programs, more exposure with richer 2-year own occ definitions of disability, or based on contributing companies' mixes of business (large case versus small case).

Chart 8.4.1
Death Termination Rates by Group Size

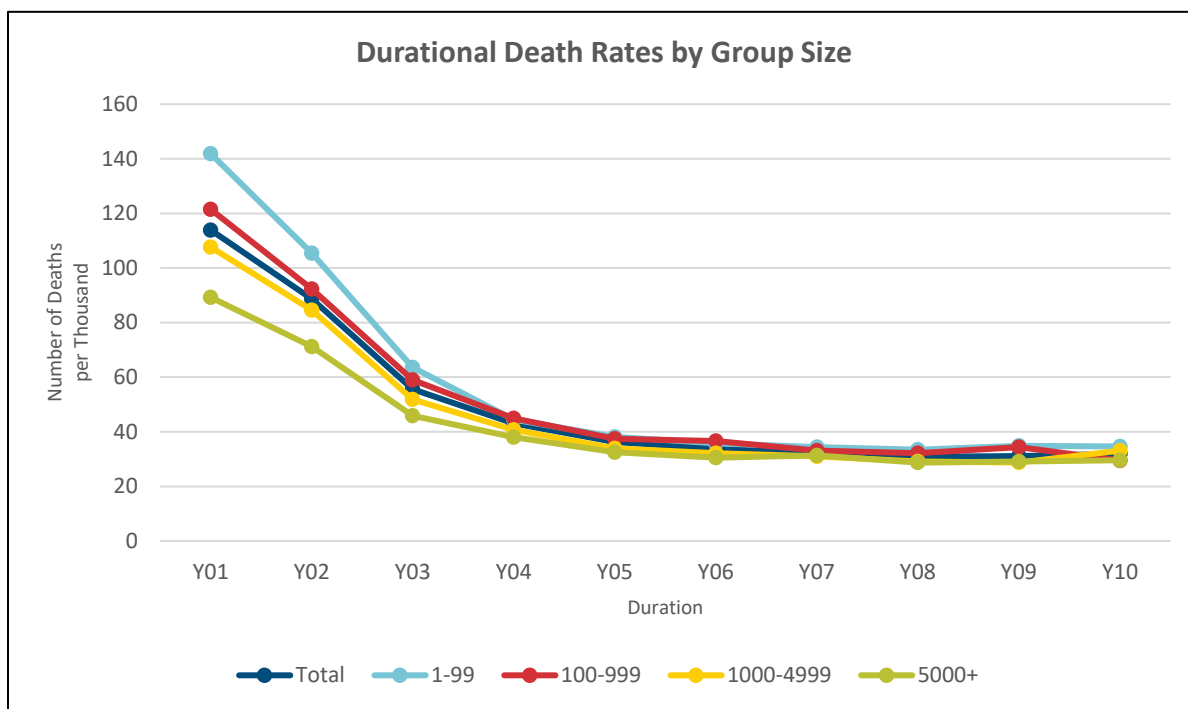


Table 8.4.1
Death Termination Rates by Group Size

Duration	Total	1-99	100-999	1000-4999	5000+
Y01	114	142	121	108	89
Y02	89	105	92	84	71
Y03	56	64	59	52	46
Y04	43	44	45	41	38
Y05	36	38	37	34	33
Y06	34	36	37	32	30
Y07	32	34	33	31	31
Y08	31	33	32	29	29
Y09	31	35	34	29	29
Y10	32	35	29	33	30

Chart 8.4.2
Recovery Termination Rates by Group Size

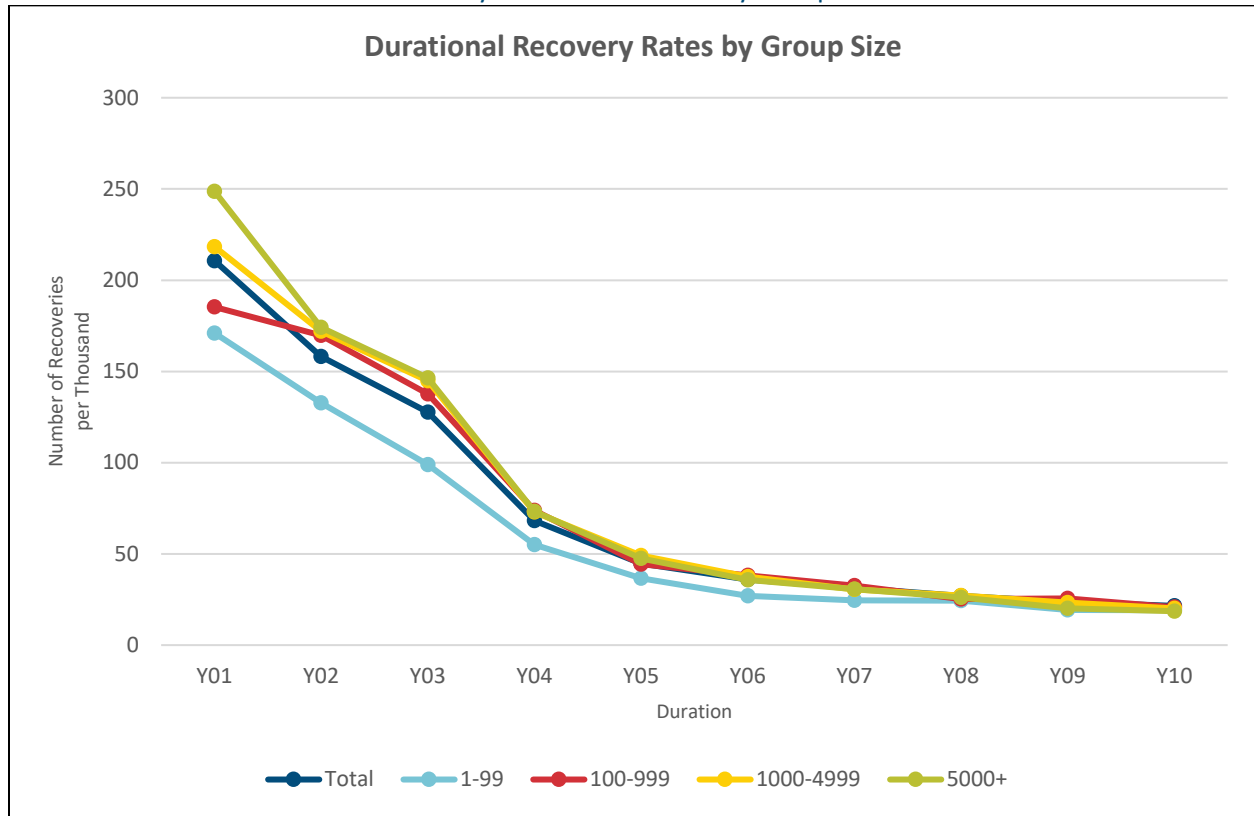


Table 8.4.2
Recovery Termination Rates by Group Size

Duration	Total	1-99	100-999	1000-4999	5000+
Y01	211	171	185	218	249
Y02	158	133	170	172	174
Y03	128	99	138	145	146
Y04	68	55	74	73	73
Y05	45	37	44	49	47
Y06	36	27	38	38	36
Y07	31	25	33	31	31
Y08	27	24	25	27	26
Y09	24	19	25	23	20
Y10	22	19	21	20	19

8.5 INITIAL FACE AMOUNT

Termination rates for death and recovery by initial face amount of claim (in \$000) are presented. For clarity of illustration, some face amount size categories have been combined. There appears to be slight increases in both death and recovery rates as initial face amounts increase. This is possibly driven by a greater male percentage with higher face amounts.

Chart 8.5.1
Death Termination Rates by Initial Face Amount

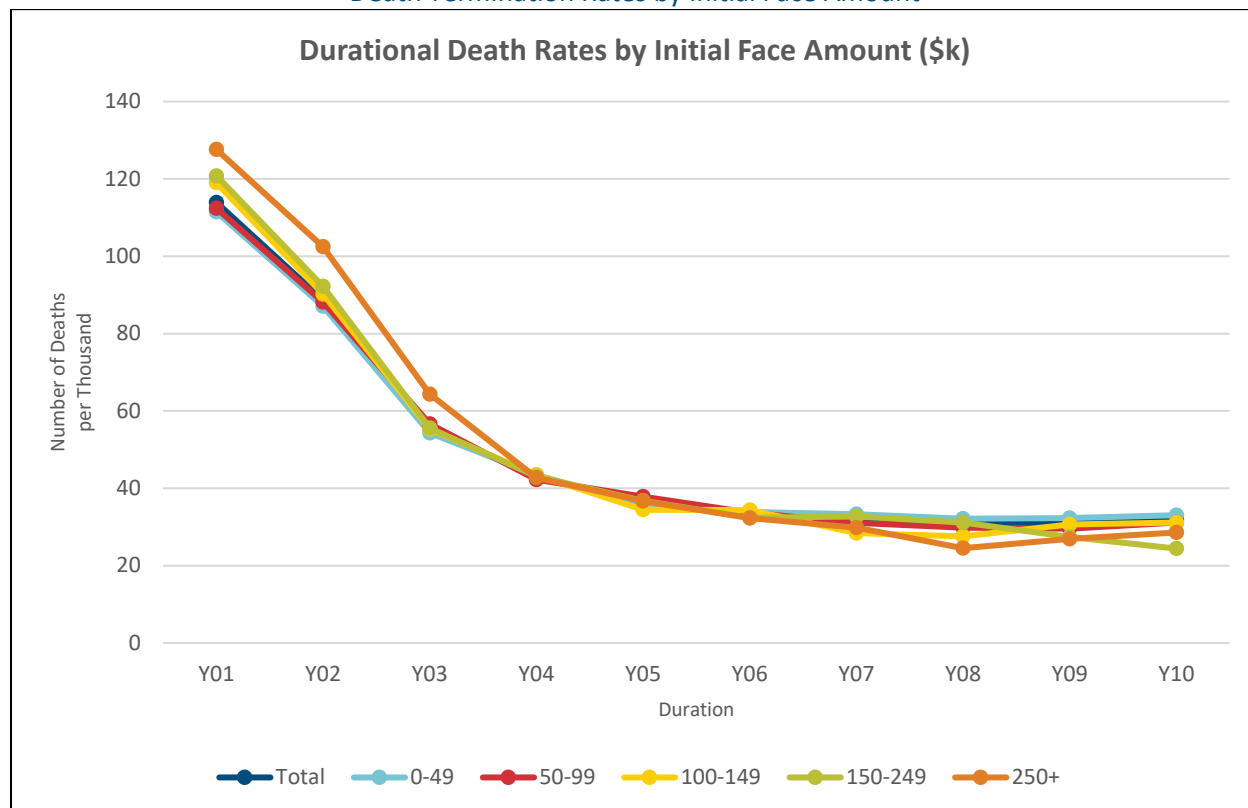


Table 8.5.1
Death Termination Rates by Initial Face Amount

Duration	Total	\$0-49k	\$50-99k	\$100-149k	\$150-249k	\$250+k
Y01	114	111	112	119	121	128
Y02	89	87	88	90	92	102
Y03	56	54	57	55	56	64
Y04	43	43	42	44	43	43
Y05	36	36	38	34	37	37
Y06	34	34	34	34	32	32
Y07	32	33	31	28	33	30
Y08	31	32	30	28	31	25
Y09	31	32	30	31	27	27
Y10	32	33	31	31	24	29

Chart 8.5.2
Recovery Termination Rates by Initial Face Amount

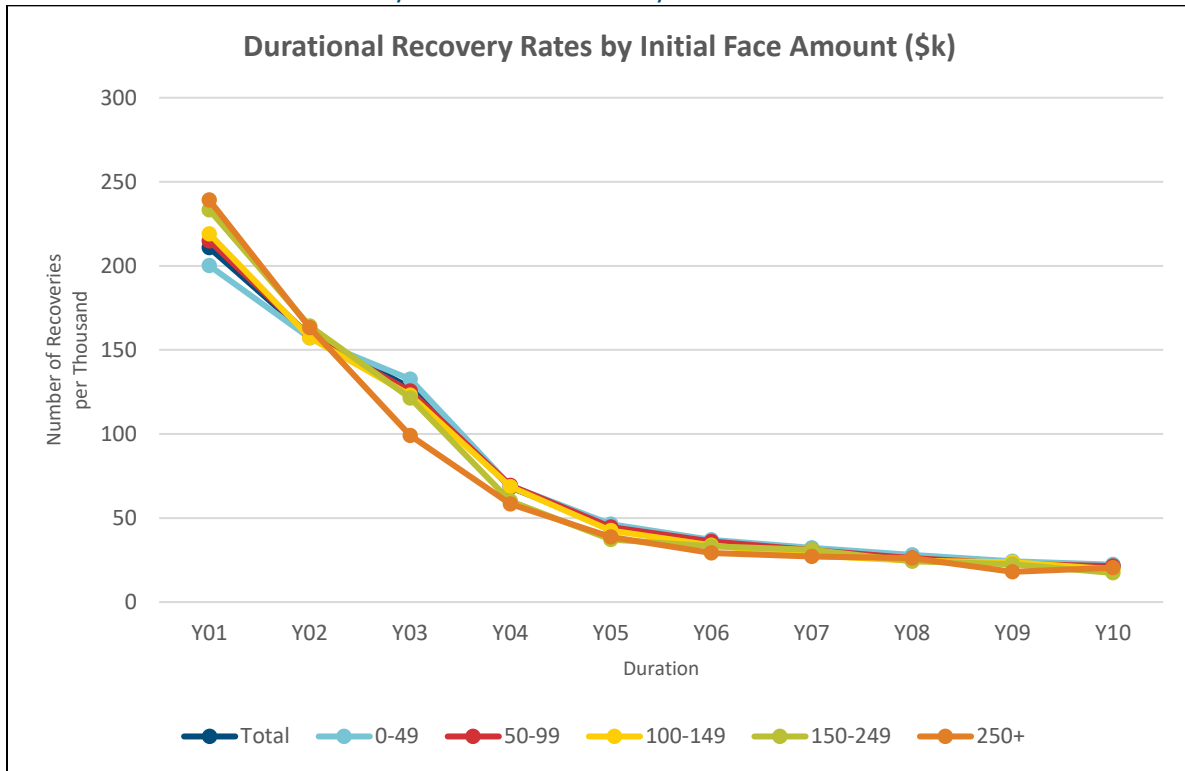


Table 8.5.2
Recovery Termination Rates by Initial Face Amount

Duration	Total	\$0-49k	\$50-99k	\$100-149k	\$150-249k	\$250+k
Y01	211	200	215	219	233	239
Y02	158	157	158	157	164	163
Y03	128	133	125	123	121	99
Y04	68	69	69	69	60	58
Y05	45	46	45	42	37	39
Y06	36	37	36	34	33	29
Y07	31	32	31	28	31	27
Y08	27	28	26	25	24	26
Y09	24	24	23	24	23	18
Y10	22	22	21	19	17	20

8.6 INDUSTRY SEGMENTATION

Termination rates for death and recovery by the industry of the group are presented. For clarity of illustration, some group industry categories have been combined. Differences in termination rates between industries were greatest during the first three years of duration, with smaller variation for durations beyond year 3. For death rates, there was an average spread of 34% during the first three duration years, which decreased to an average spread of 24% for years 4+. For recovery rates, there was an average spread of 58% over the first three years, followed by an average spread of 31% for years 4+.

Chart 8.6.1
Death Termination Rates by Industry Segment

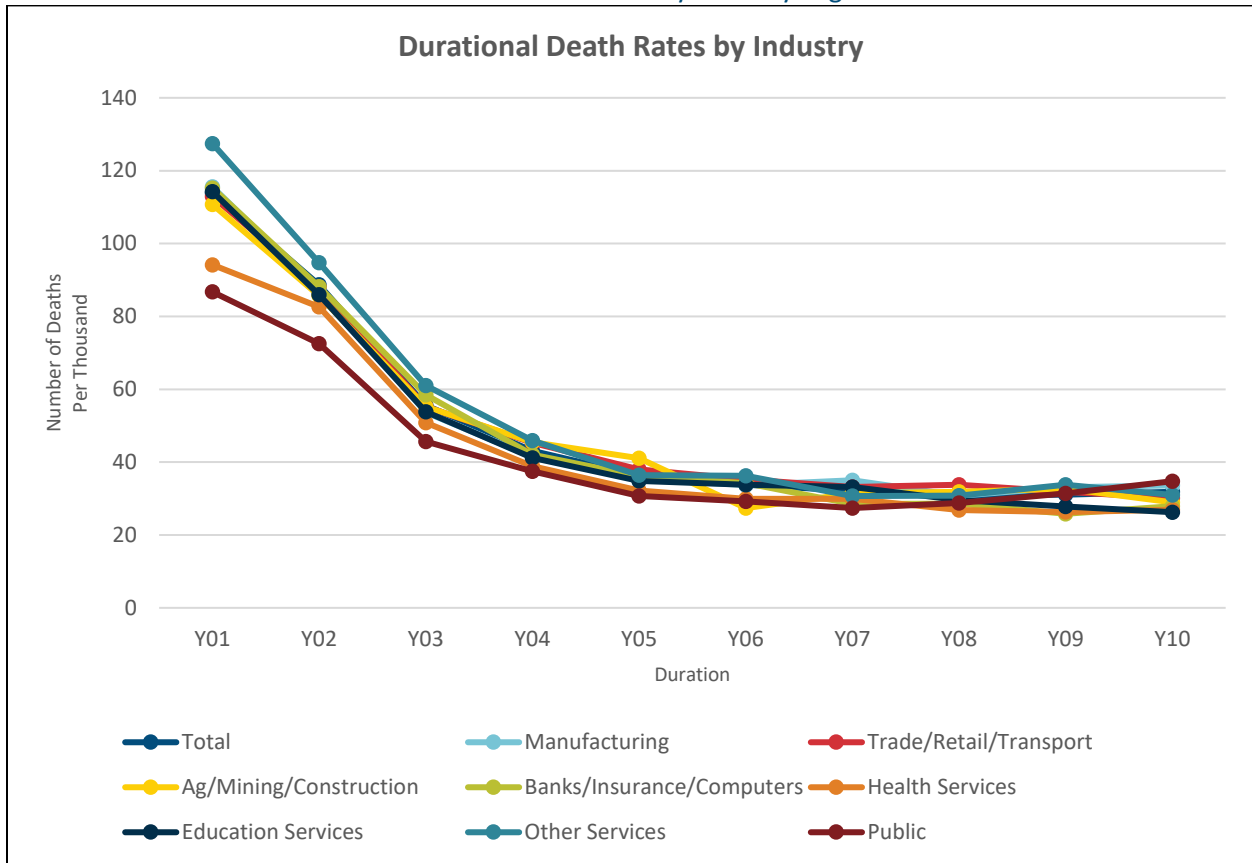


Table 8.6.1
Death Termination Rates by Industry Segment

Duration	Total	Manufacturing	Trade / Retail / Transport	Agriculture / Mining / Construction	Banks / Insurance / Computers	Health Services	Education Services	Other Services	Public	Other
Y01	114	116	113	111	115	94	114	127	87	143
Y02	89	87	88	86	88	83	86	95	73	107
Y03	56	54	55	55	59	51	54	61	46	64
Y04	43	41	45	45	42	39	41	46	37	50
Y05	36	35	38	41	36	32	35	36	31	42
Y06	34	34	35	27	34	30	34	36	29	37
Y07	32	35	33	31	29	30	33	31	27	35
Y08	31	31	34	32	29	27	30	31	29	34
Y09	31	33	32	33	26	26	28	34	31	33
Y10	32	34	30	29	28	27	26	31	35	35

Chart 8.6.2
Recovery Termination Rates by Industry Segment

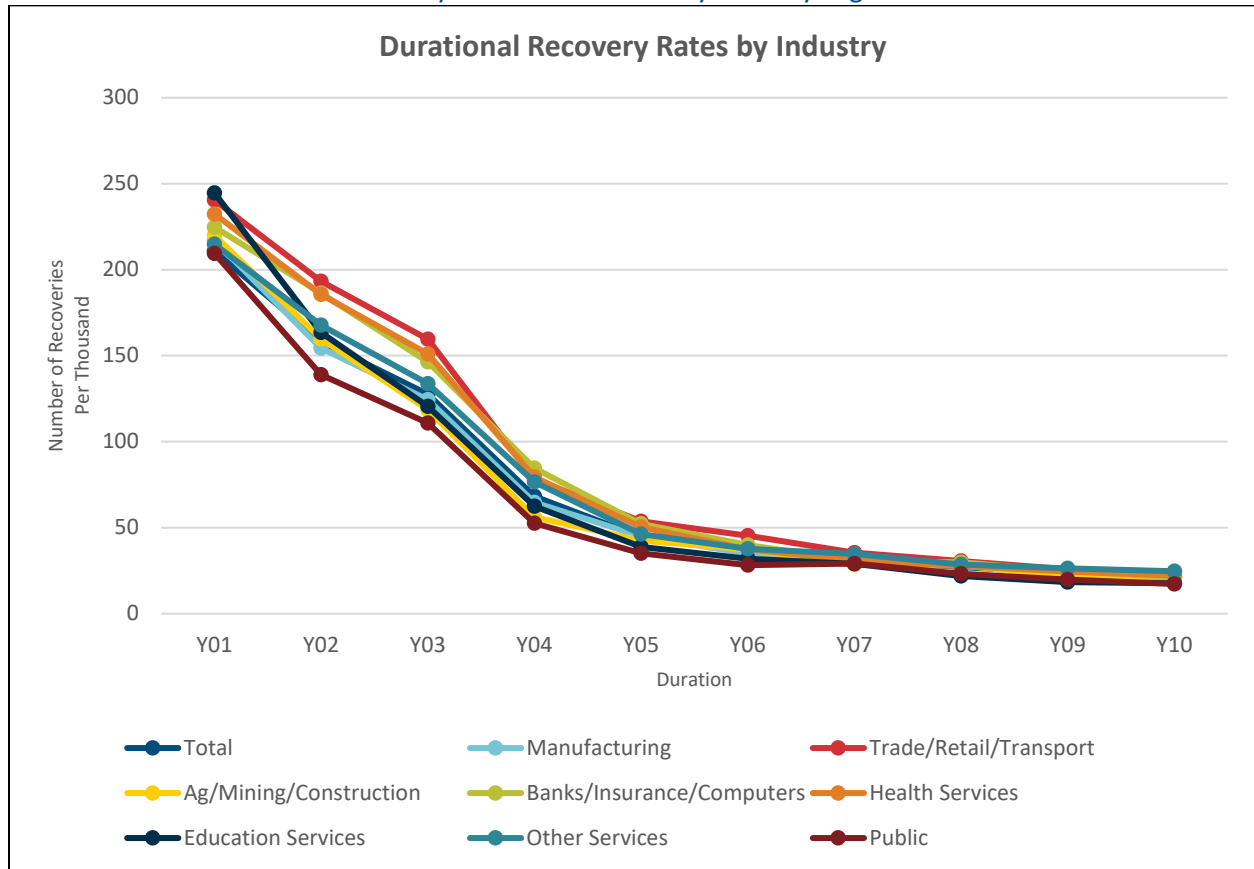


Table 8.6.2
Recovery Termination Rates by Industry Segment

Duration	Total	Manufacturing	Trade / Retail / Transport	Agriculture / Mining / Construction	Banks / Insurance / Computers	Health Services	Education Services	Other Services	Public	Other
Y01	211	217	240	220	225	232	245	215	209	99
Y02	158	154	193	160	186	186	164	168	139	74
Y03	128	124	160	119	146	151	120	134	111	76
Y04	68	65	78	56	85	79	62	77	53	54
Y05	45	45	54	43	52	50	39	46	35	37
Y06	36	35	45	37	40	37	32	38	28	34
Y07	31	33	36	29	31	31	29	35	29	29
Y08	27	29	31	28	30	28	22	29	23	26
Y09	24	23	26	22	25	24	18	26	20	25
Y10	22	21	24	22	21	22	18	25	17	23

8.7 COLLAR COLOR

Termination rates for death and recovery by the collar classification of the group are presented. Grey collar death rates appear to be moderately higher than other collar death rates in the first four years of duration. There do not appear to be material differences in recovery rates by collar.

Chart 8.7.1
Death Termination Rates by Collar Color

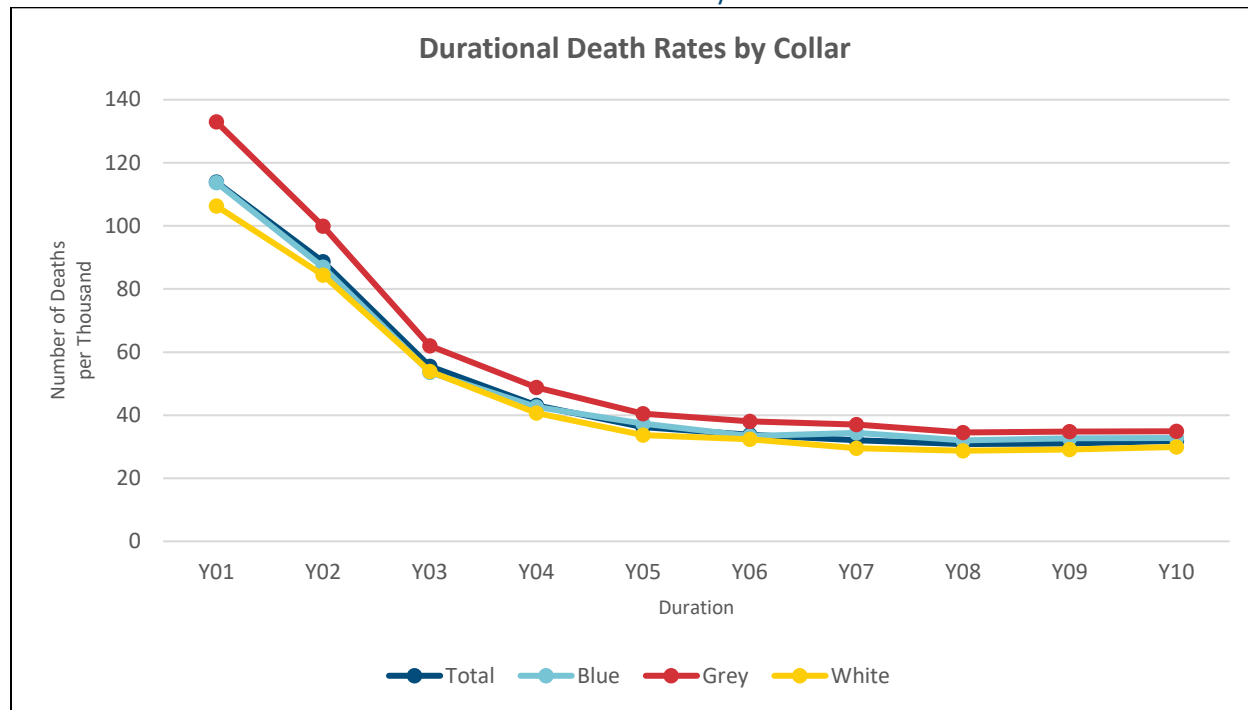


Table 8.7.1
Death Termination Rates by Collar Color

Duration	Total	Blue	Grey	White
Y01	114	114	133	106
Y02	89	87	100	84
Y03	56	54	62	54
Y04	43	43	49	41
Y05	36	37	40	34
Y06	34	33	38	32
Y07	32	34	37	30
Y08	31	32	35	29
Y09	31	33	35	29
Y10	32	33	35	30

Chart 8.7.2
Recovery Termination Rates by Collar Color

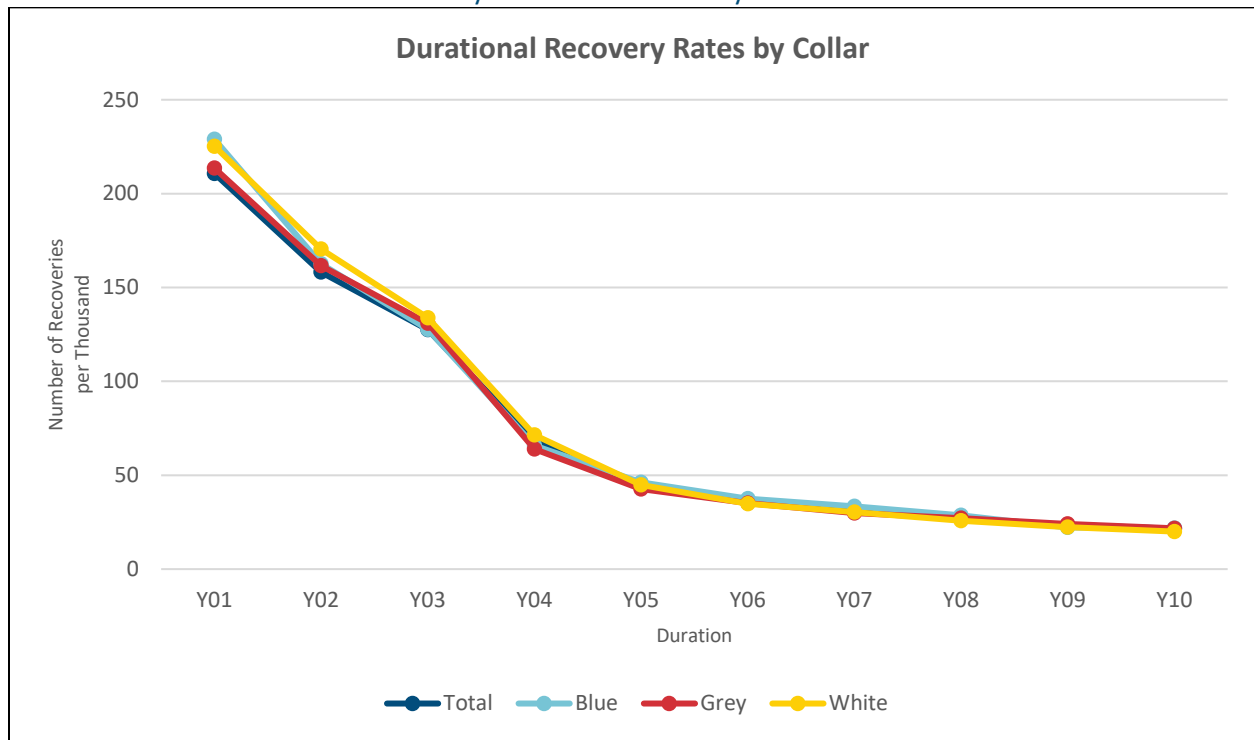


Table 8.7.2
Recovery Termination Rates by Collar Color

Duration	Total	Blue	Grey	White
Y01	211	229	214	225
Y02	158	163	162	170
Y03	128	128	131	134
Y04	68	66	64	71
Y05	45	46	43	45
Y06	36	37	35	35
Y07	31	33	30	30
Y08	27	29	27	26
Y09	24	22	24	22
Y10	22	22	22	20

8.8 COVERAGE TYPE

Termination rates for death and recovery by Life coverage type are presented. Life coverage types consist of Basic only and Supplemental only, as well as Basic and Supplemental combined. Death rates in early durations exhibited no material differences by coverage type category. In later durations, Supplemental-only death rates exhibited higher death rates, with an average increase of 28% compared to Basic and Combined in durations 7+. On average, combined-coverage recovery rates were 21% higher than those for Basic and Supplemental in the first three years of duration, while in durations 5+ they were 12% lower.

Chart 8.8.1
Death Termination Rates by Coverage Type

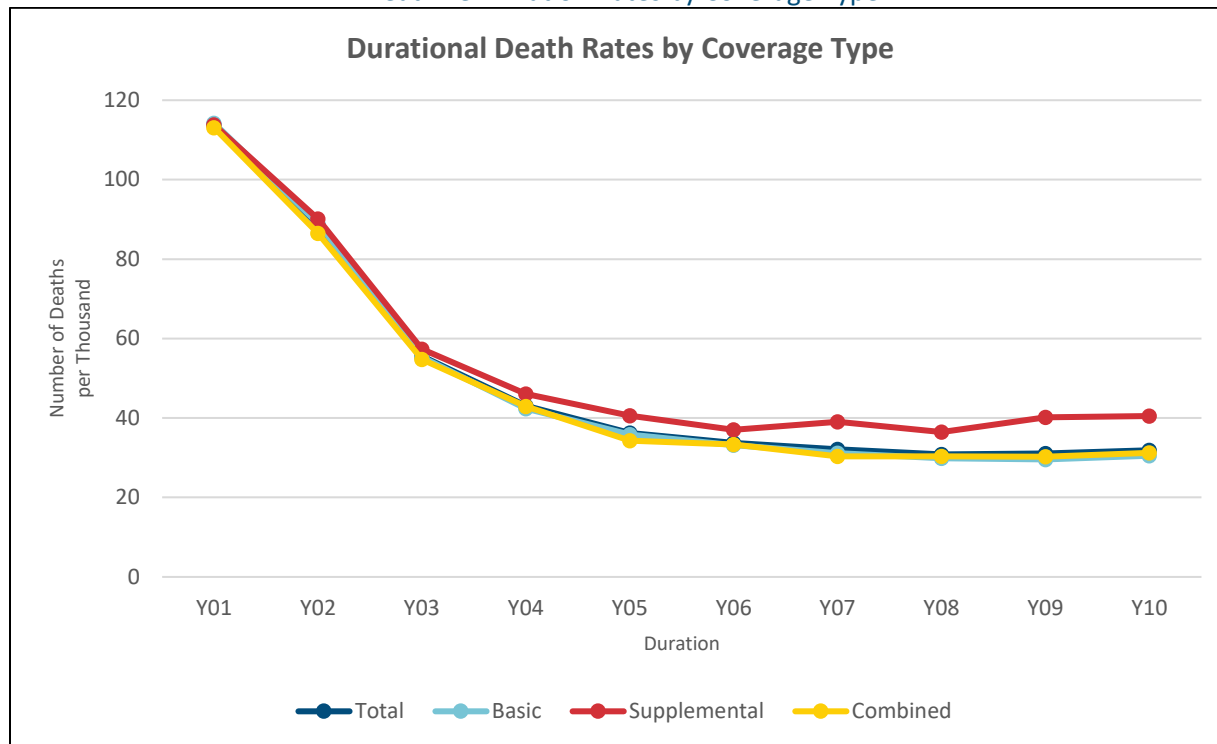


Table 8.8.1
Death Termination Rates by Coverage Type

Duration	Total	Basic	Supplemental	Combined
Y01	114	114	114	113
Y02	89	89	90	87
Y03	56	55	57	55
Y04	43	42	46	43
Y05	36	36	41	34
Y06	34	33	37	33
Y07	32	31	39	30
Y08	31	30	36	30
Y09	31	30	40	30
Y10	32	31	41	31

Chart 8.8.2
Recovery Termination Rates by Coverage Type

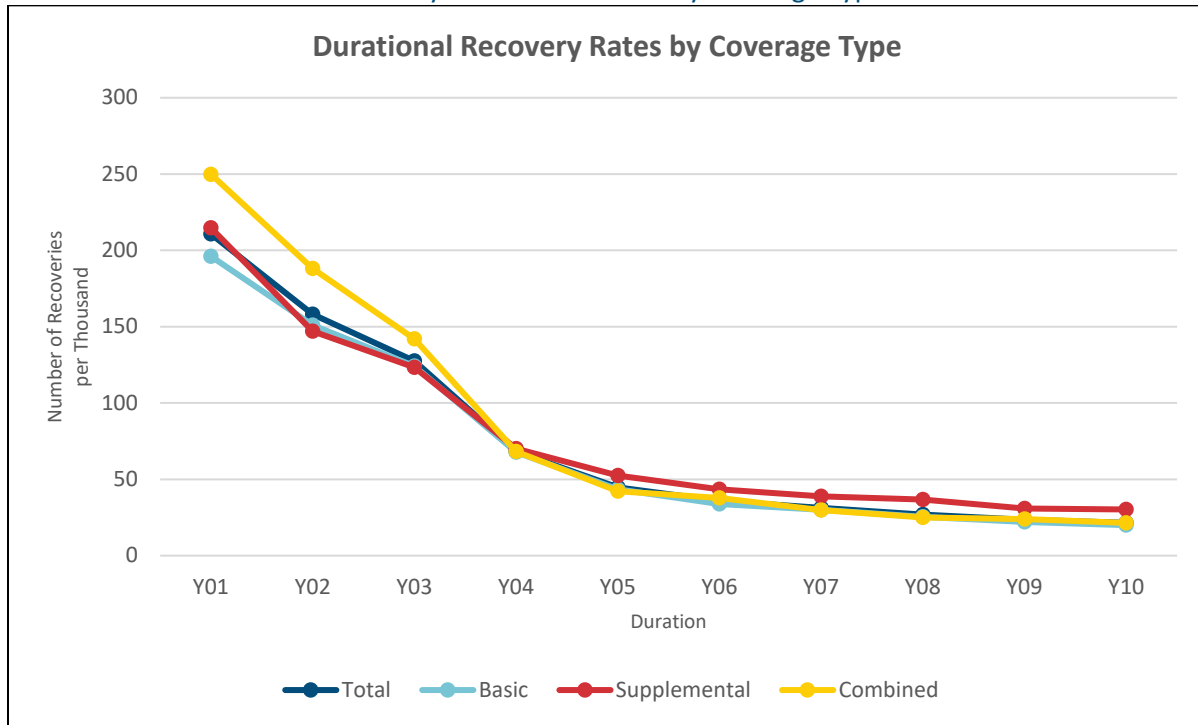


Table 8.8.2
Recovery Termination Rates by Coverage Type

Duration	Total	Basic	Supplemental	Combined
Y01	211	196	215	250
Y02	158	151	147	188
Y03	128	124	123	142
Y04	68	68	70	68
Y05	45	44	52	42
Y06	36	34	43	38
Y07	31	30	39	30
Y08	27	26	37	25
Y09	24	22	31	24
Y10	22	20	30	21

8.9 DIAGNOSIS TYPE

Charts of death and recovery rates by detailed diagnosis categories are presented. It is evident that cancer diagnoses are materially different than other diagnosis categories. For the purposes of clearer illustration, death and recovery rates grouped into cancer vs. all other diagnoses are, therefore, also presented. The tables of termination rates provide both detailed diagnosis categories, as well as an aggregated non-cancer category. Cancer death rates are seven to nine times higher than other diagnoses in the first three years of duration, and two to five times higher in durations 4+. Recoveries for cancer are also notably different than other diagnoses, on average 41% higher in the first two duration years and 49% in years 6+. As expected, recoveries for maternity claims are materially higher than other diagnoses in early durations, with nearly all maternity recoveries represented in the first two duration years.

Chart 8.9.1
Detailed Death Termination Rates by Diagnosis

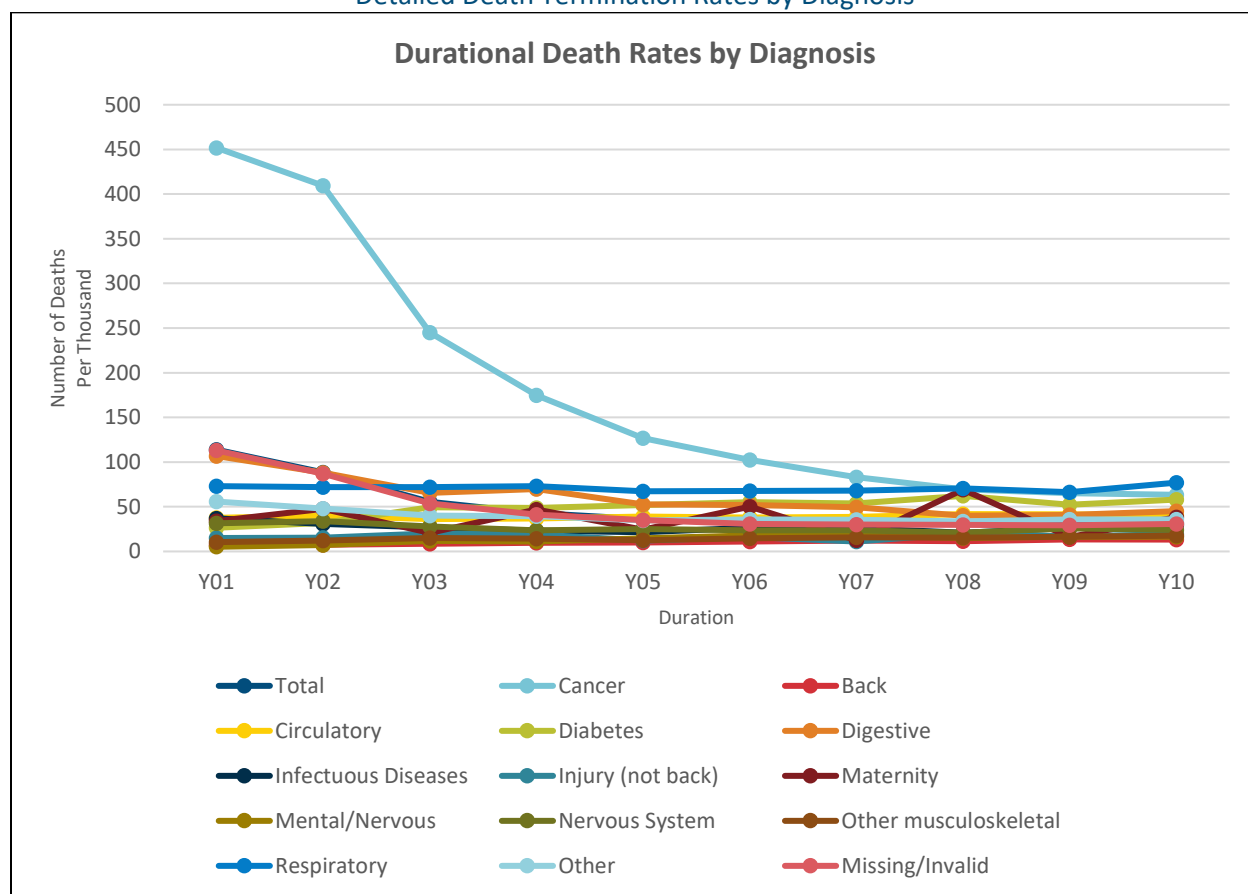


Chart 8.9.2
Summary Death Termination Rates by Diagnosis

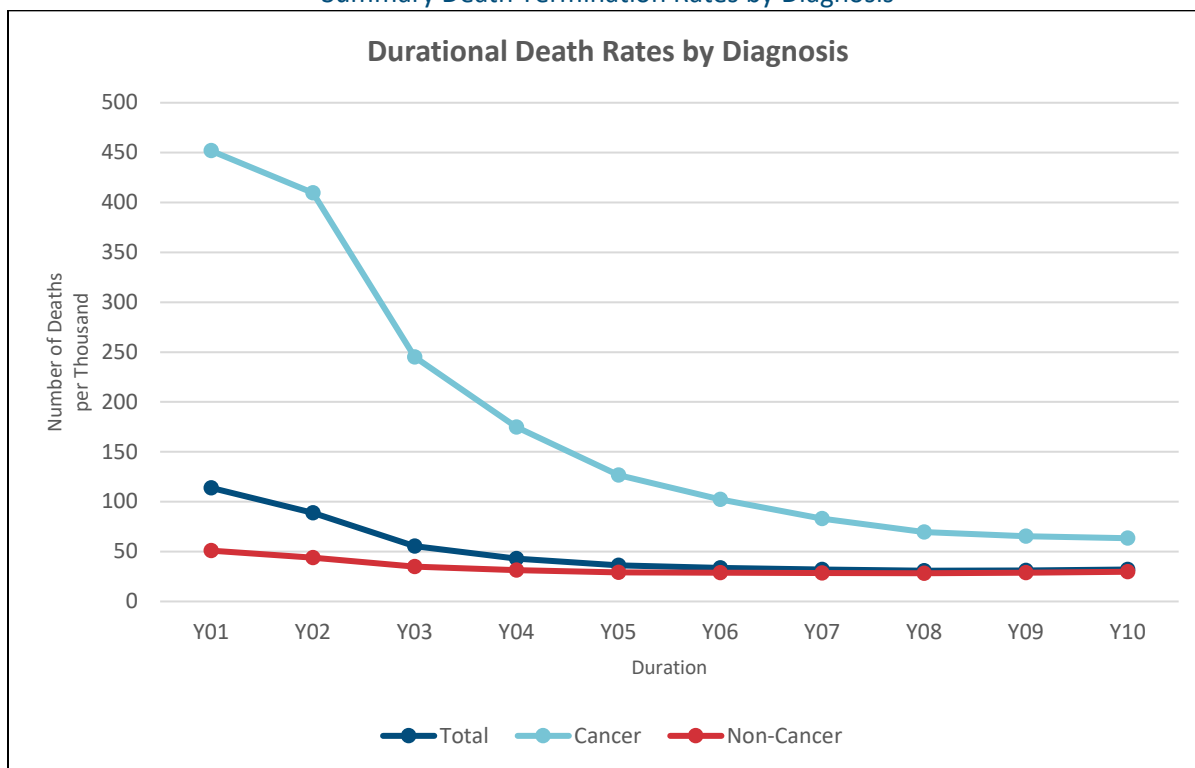


Table 8.9.1
Death Termination Rates by Diagnosis

Duration	Total	Cancer	Non-Cancer	Back	Circulatory	Diabetes	Digestive	Infectious Diseases	Injury (not back)	Maternity	Mental/Nervous	Nervous System	Other musculoskeletal	Respiratory	Other	Missing
Y01	114	452	51	7	38	27	107	37	15	34	5	32	10	73	56	113
Y02	89	410	44	8	40	32	88	31	16	48	7	34	12	72	48	87
Y03	56	245	35	9	36	50	66	27	20	21	12	28	15	72	40	54
Y04	43	175	31	10	37	49	70	23	19	47	11	24	14	73	39	41
Y05	36	127	29	10	39	52	53	22	12	24	15	25	12	67	35	35
Y06	34	102	29	11	38	55	52	27	16	50	18	24	15	68	36	31
Y07	32	83	29	12	39	54	49	26	11	12	18	24	16	68	35	30
Y08	31	69	28	12	42	62	40	21	20	69	15	21	15	71	34	30
Y09	31	65	29	13	42	52	41	26	17	16	16	26	17	66	36	29
Y10	32	63	30	13	40	58	45	30	19	38	17	24	18	77	36	31

Chart 8.9.3
Detailed Recovery Termination Rates by Diagnosis

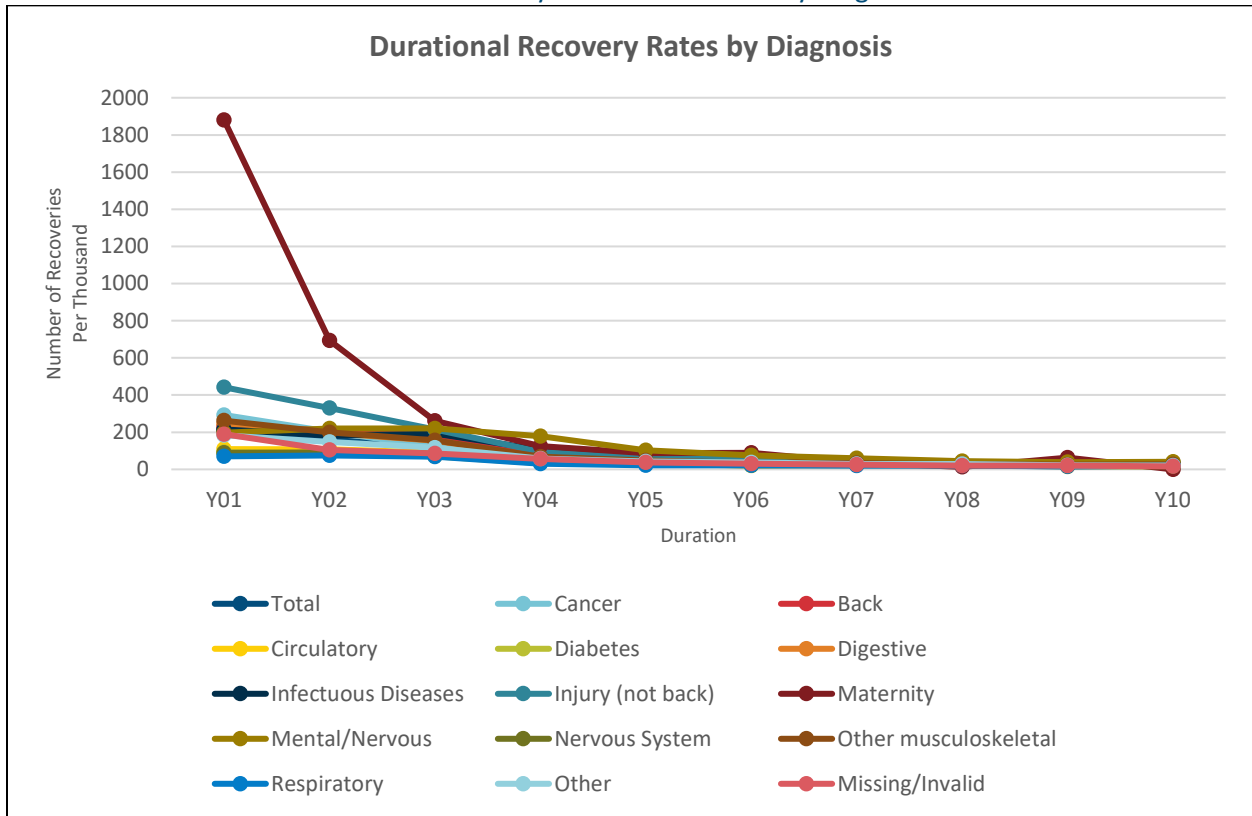


Chart 8.9.4
Summary Recovery Termination Rates by Diagnosis

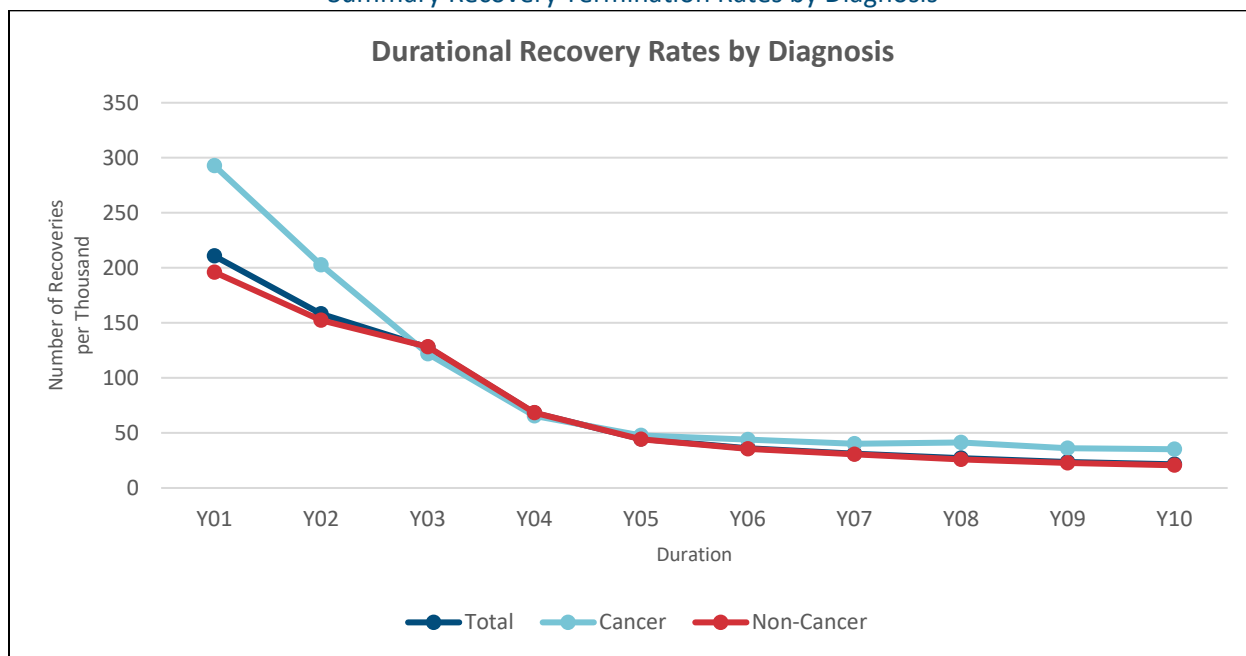


Table 8.9.2
Recovery Termination Rates by Diagnosis

Duration	Total	Cancer	Non-Cancer	Back	Circulatory	Diabetes	Digestive	Infectious Diseases	Injury (not back)	Maternity	Mental/Nervous	Nervous System	Other musculoskeletal	Respiratory	Other	Missing
Y01	211	293	196	230	109	92	246	215	442	1880	198	90	262	70	183	189
Y02	158	203	152	210	109	86	195	183	330	693	220	92	200	75	148	105
Y03	128	122	128	182	91	71	155	193	215	260	220	86	156	68	117	86
Y04	68	66	68	83	39	33	64	107	95	125	178	42	68	31	57	57
Y05	45	48	44	57	30	35	53	51	59	87	104	28	48	23	42	38
Y06	36	44	35	43	26	20	50	45	55	89	76	22	35	22	37	30
Y07	31	40	31	40	25	26	33	49	37	37	59	21	34	20	29	25
Y08	27	41	26	33	21	20	40	33	37	14	44	22	29	20	29	21
Y09	24	36	23	31	19	21	25	26	33	64	39	16	26	16	22	20
Y10	22	35	21	25	17	17	20	27	30	0	40	18	27	20	20	16

8.10 LTD COVERAGE

Termination rates are presented based on corresponding LTD coverage. LTD coverage categories consist of the group having corresponding LTD coverage and there being a known LTD claim, the group having corresponding LTD coverage and there not being a known LTD claim, a group not having known corresponding LTD coverage, and if it is unknown, whether there is LTD coverage. As seen in Section 7, there is a clear difference in waiver termination rates when there is a known corresponding LTD claim. Death rates for waiver claims with a corresponding LTD claim were on average 21% higher across the first 10 years of duration than in cases where there was not an LTD claim or corresponding LTD coverage. Recovery rates in the first four years were on average 93% higher for waiver claims with a corresponding LTD claim.

Chart 8.10.1
Death Termination Rates by LTD Coverage

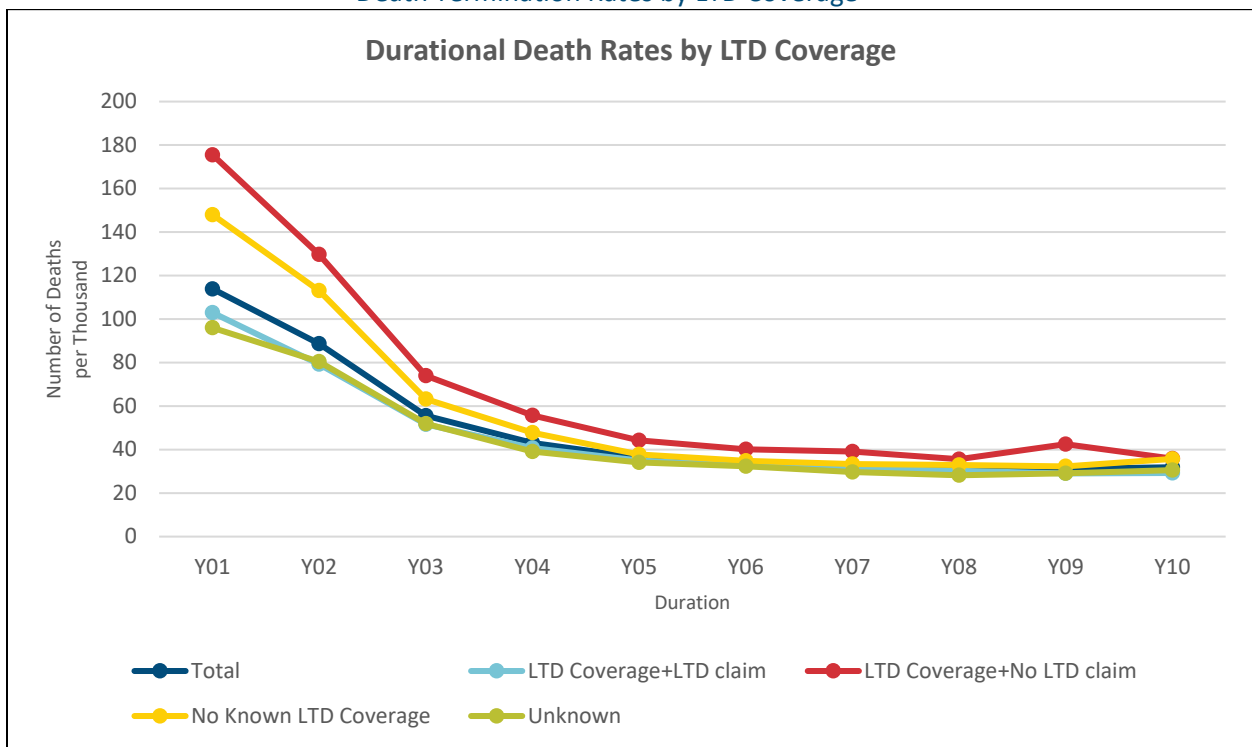


Table 8.10.1
Death Termination Rates by LTD Coverage

c	Total	LTD Coverage + LTD claim	LTD Coverage + No LTD claim	No Known LTD Coverage	Unknown
Y01	114	103	176	148	96
Y02	89	79	130	113	80
Y03	56	52	74	63	52
Y04	43	41	56	48	39
Y05	36	35	44	38	34
Y06	34	33	40	35	32
Y07	32	31	39	33	30
Y08	31	30	36	33	28
Y09	31	29	42	32	29
Y10	32	29	36	36	31

Chart 8.10.2
Recovery Termination Rates by LTD Coverage

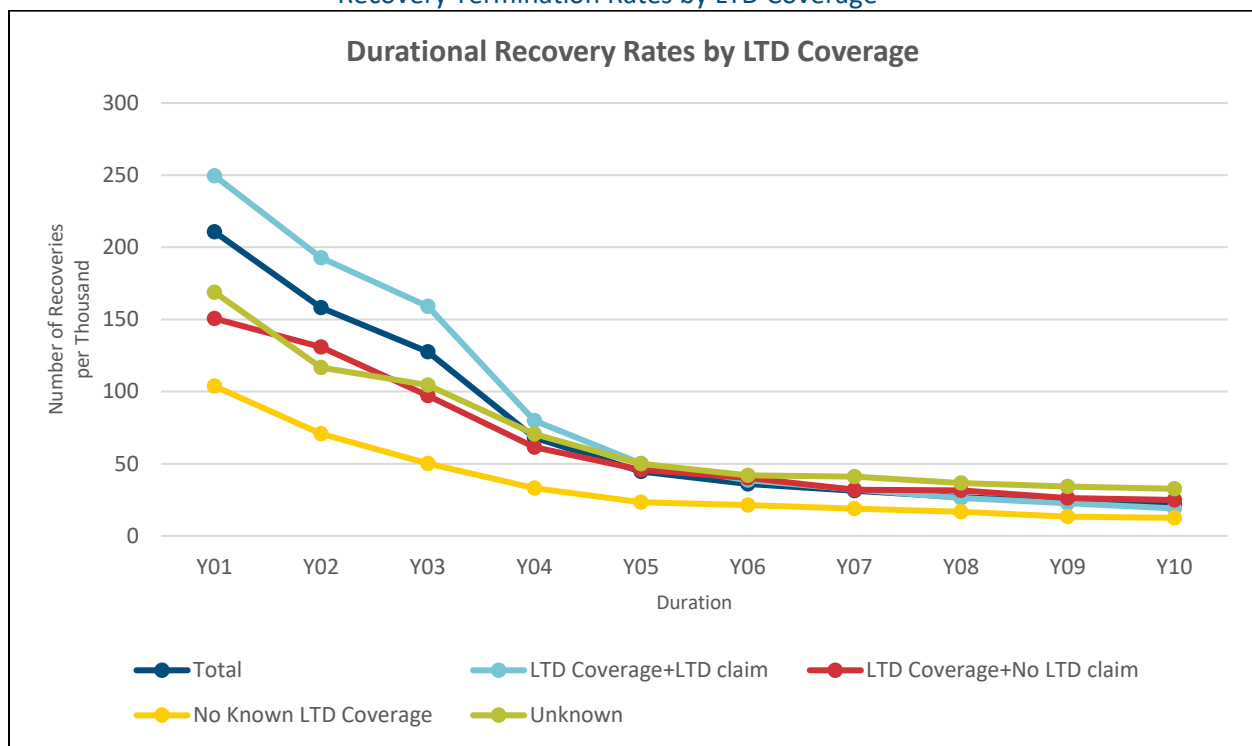


Table 8.10.2
Recovery Termination Rates by LTD Coverage

Duration	Total	LTD Coverage + LTD claim	LTD Coverage + No LTD claim	No Known LTD Coverage	Unknown
Y01	211	250	151	104	169
Y02	158	193	131	71	117
Y03	128	159	97	50	104
Y04	68	80	61	33	71
Y05	45	50	46	23	50
Y06	36	39	40	21	42
Y07	31	32	32	19	41
Y08	27	26	32	17	37
Y09	24	23	26	13	34
Y10	22	19	25	12	33

8.11 COMPANY EXPOSURE

Termination rates are presented based on the exposure of submitting carrier. Carriers are bundled based on the total face amount of reported waiver claims, with six in the small category, seven medium, and seven in the large category. Differences in termination rates are evident based on carrier exposure, with medium and large carriers exhibiting both higher death and recovery rates than small carriers. Additionally, there is a notable sloping difference for small carrier recovery rates, although this may be due to low exposure in early durations for this cohort. Differences in termination rates may be due to carrier product design and mix of business or due to claim administration differences.

Chart 8.11.1
Death Termination Rates by Company Exposure

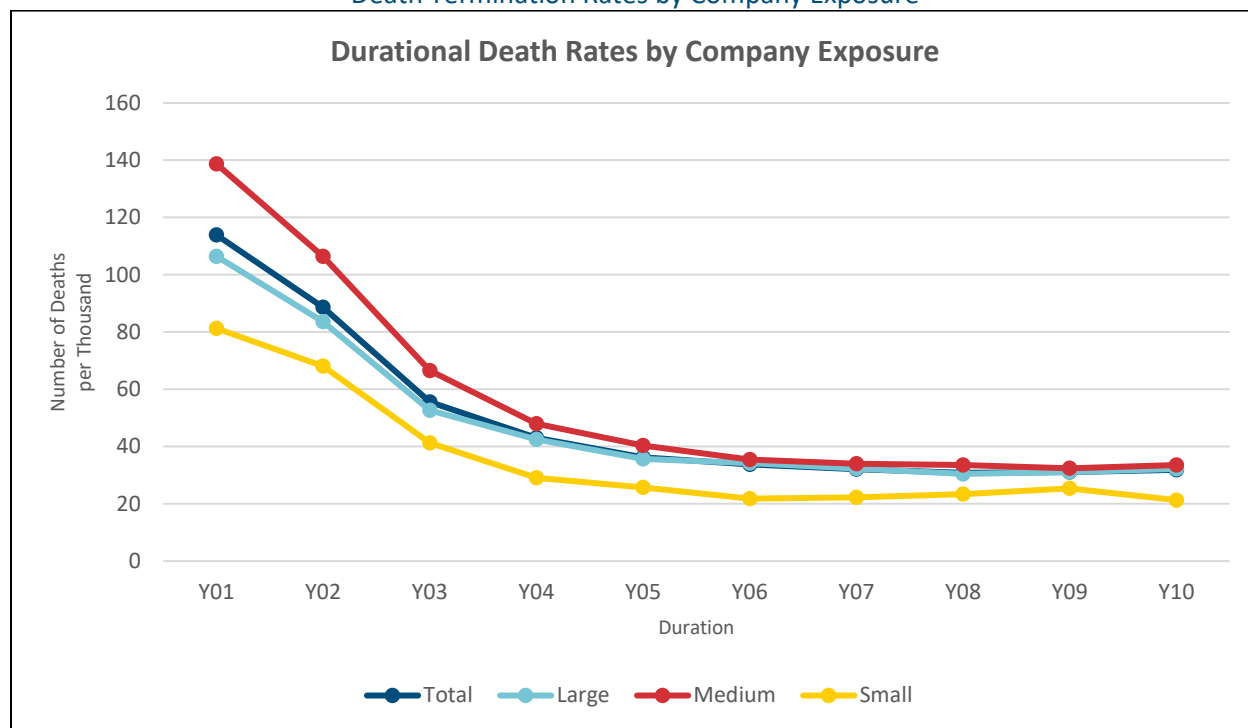


Table 8.11.1
Death Termination Rates by Company Exposure

Duration	Total	Large	Medium	Small
Y01	114	106	139	81
Y02	89	84	106	68
Y03	56	53	67	41
Y04	43	43	48	29
Y05	36	36	40	26
Y06	34	34	35	22
Y07	32	32	34	22
Y08	31	30	34	23
Y09	31	31	32	25
Y10	32	32	34	21

Chart 8.11.2
Recovery Termination Rates by Company Exposure

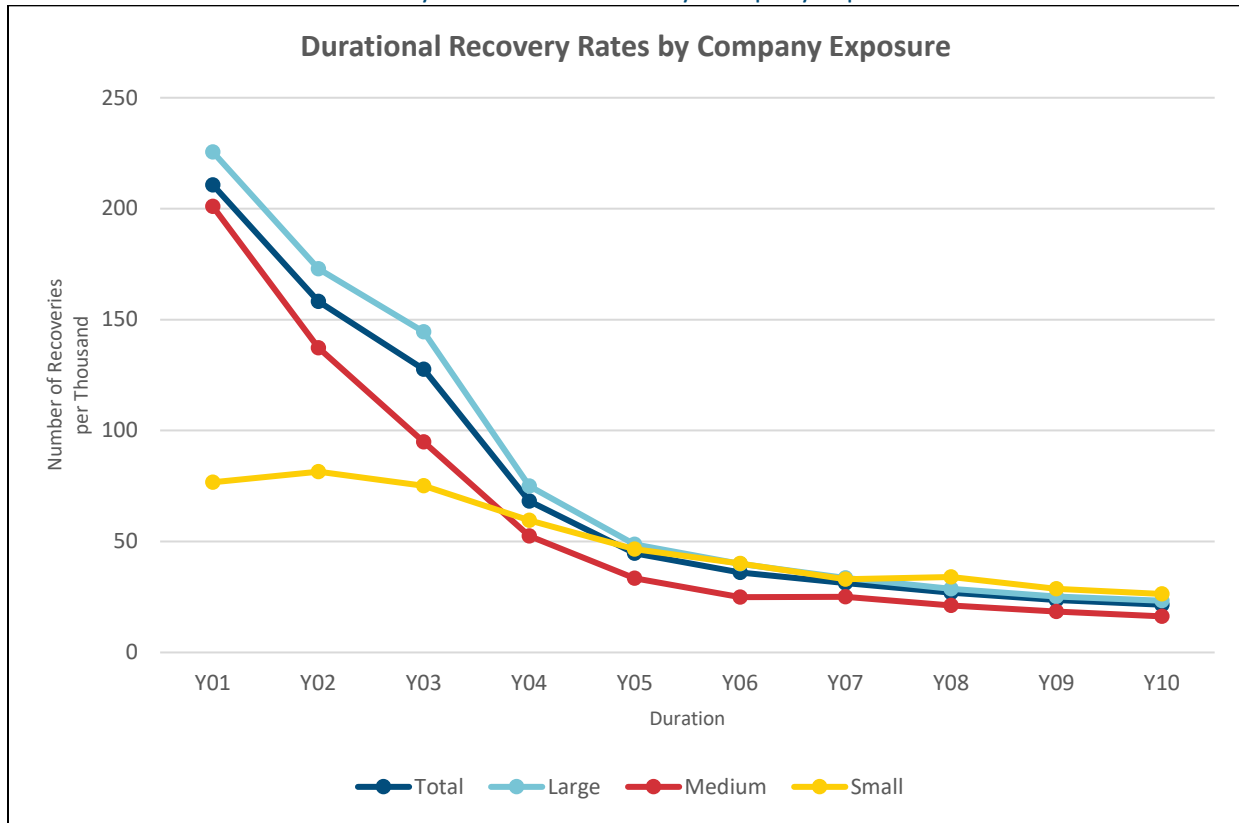


Table 8.11.2
Recovery Termination Rates by Company Exposure

Duration	Total	Large	Medium	Small
Y01	211	226	201	77
Y02	158	173	137	81
Y03	128	144	95	75
Y04	68	75	53	60
Y05	45	49	33	47
Y06	36	40	25	40
Y07	31	34	25	33
Y08	27	29	21	34
Y09	24	25	18	29
Y10	22	23	16	26

8.12 STUDY YEARS

Termination rates are presented based on study year. Years prior to 2013 are grouped together. Death rates for recent study years are moderately higher than for older years, while recovery rates for recent study years are notably higher. This may be due to differences in plan designs over time or to changes in claim administration practice.

Chart 8.12.1
Death Termination Rates by Study Year

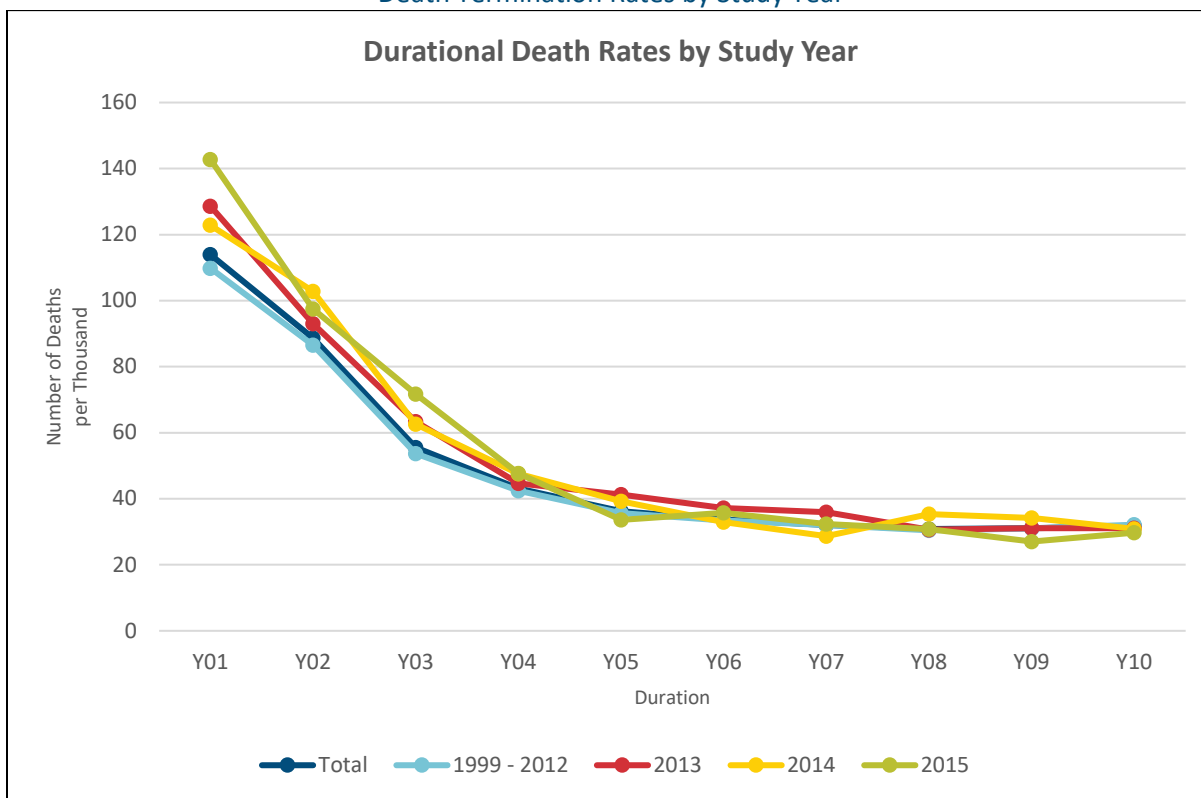


Table 8.12.1
Death Termination Rates by Study Year

Duration	Total	1999 - 2012	2013	2014	2015
Y01	114	110	129	123	143
Y02	89	87	93	103	98
Y03	56	54	63	63	72
Y04	43	42	45	48	48
Y05	36	36	41	39	34
Y06	34	33	37	33	36
Y07	32	32	36	29	32
Y08	31	30	31	35	31
Y09	31	31	31	34	27
Y10	32	32	31	31	30

Chart 8.12.2
Recovery Termination Rates by Study Year

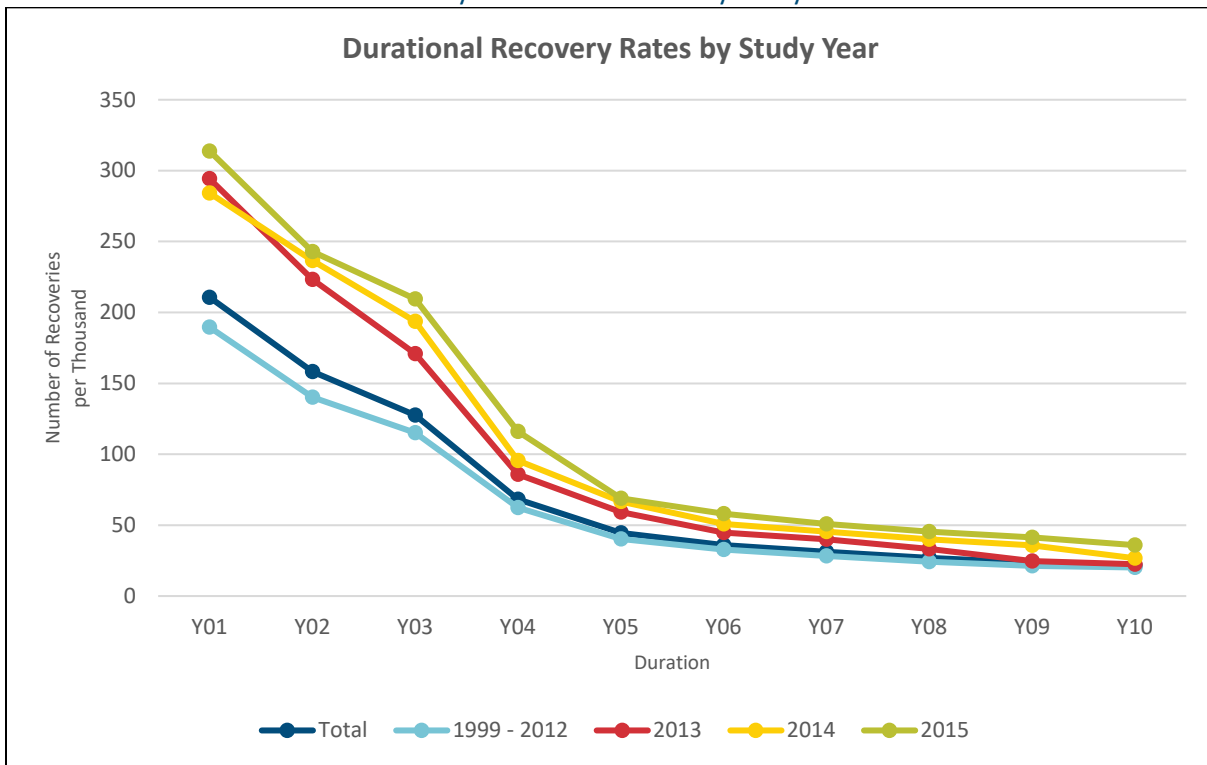


Table 8.12.2
Recovery Termination Rates by Study Year

Duration	Total	1999 - 2012	2013	2014	2015
Y01	211	190	294	284	314
Y02	158	140	223	237	243
Y03	128	115	171	194	209
Y04	68	62	86	95	116
Y05	45	40	59	67	69
Y06	36	33	45	51	58
Y07	31	28	40	45	51
Y08	27	24	33	40	45
Y09	24	21	25	36	41
Y10	22	20	22	27	36

Section 9: Next Steps

As stated at the beginning of this report, the analysis presented reflects the results of the raw waiver experience illustrated in this Study. A proposal to form a joint SOA/AAA work group to develop a new graduated Group Life Waiver Experience Table was presented to and approved by the NAIC Health Actuarial Task Force (HATF). After margin is added, we intend for this valuation table to be adopted by the NAIC as a replacement to the current 2005 Table as the minimum group life waiver valuation reserve standard.

The results of our analysis of the raw experience study results clearly demonstrate the need for a new valuation standard. Some key takeaways from the experience study that indicate the need for the development of a new valuation table are:

- Updated experience reflects more current mortality/recovery trends (study years 1993-2002 versus 2000-2015)
- The 2019 Waiver A/E recovery ratios versus the 2005 GLW showed a steep increase over the course of the 17-year Study period. Thus, a table based on data from just the latter years of this Study would show even more material differences from the prior 2005 GLW Study.
- Significantly greater volume of data in experience
- Overall higher mortality rate (110% of 2005 GLW), significantly higher recovery rate (185% of 2005 GLW) (count basis with 7-9 month elimination periods and excluding the first three quarters of duration since disability)
- The new experience Study has demonstrated a change in the slope of mortality and recovery by duration and age at disability, as shown by the table of A/E mortality and recovery by duration below.
- There has been a large increase in 6 month EP exposure in the new Study, enabling the ability to develop reserve assumptions starting at Q3 versus Q4 of the first year of disability
- The new Study allows for the potential to develop segmented reserve assumptions, such as by diagnosis type and LTD linking

A separate work group has been formed and is working jointly with the Society of Actuaries and American Academy of Actuaries to develop the new group life waiver valuation table. The work group is tasked with determining the appropriate structure and variables within the valuation table, such as age, gender, duration, and elimination period. The work group will also be responsible for graduating termination rates and determining the appropriate level of margin to be built into the valuation table.

Appendix A: Methodology Notes on Experience Continuance for Illustrative Reserve Factor Comparison

MEAN EXPERIENCE CONTINUANCE DEVELOPMENT

Step 1: Developed actual-to-expected continuance versus marginless 2005 GLW continuance

The Committee decided to use actual termination rates from counts of claimants exposed and terminating, instead of termination rates based on amount of benefit exposed and terminating. Considered were the fairly high degree of consistency between use of count and amount bases and development of the 2005 GLW Table on a count basis.

Step 2: Decided dimensions of present-value comparison to perform

- Segmentation across 2005 GLW dimensions (incurral age, sex, benefit pattern).
- Segmentation across elimination period as this was a priority topic and experience exposure was less concentrated by elimination period than in the prior survey.

Step 3: Determined a fair and useful comparison basis

- Continuance: 2005 GLW Tables, 1970 Krieger Tables
- The 1970 Krieger Tables are assumed to be in use by some pockets of the industry.
- Decrement Margins: None
- The 2005 GLW and 1970 Krieger have different levels of explicit margins on mortality and recovery. This would complicate comparisons. Further, the Committee decided not to review margins within the scope of this paper. Although valuation experts may prefer to see relationships with margin, no valuation should be performed using this report's results; hence, the decision was made to perform a comparison before the application of an explicit margin.
- Discount Rate: 4.5%
- The rate was consistent with prior report, and not unreasonable related to current assumptions per the Committee.

Step 4: Identified comparison cells based on relative credibility and emphases of the analysis.

Permutations of...

- Incurral-Age Ranges: 40-44, 45-49, 50-54
- Sex: Male, Female
- Valuation Duration-Years (End of Period): 1, 2, 3, 5, 10
- Early-duration impacts were expected from the elimination period split.
- Benefit Pattern: Lifetime benefit (no reduction) and End at age 65 benefit (0% benefit at age 65) There are several common patterns in the industry, and these represent endpoints of the extremes.
- Elimination Period: 1-6 months, 7+ months
- A binary split was selected based on the distribution of experience by elimination period. Clusters of experience occurred near 6 months and 9 months, with much less data available on claims with surrounding periods.

Step 5: Select-Period Continuance Adjustment

- Grouping of Data Across Duration-Year: 2, 3, 4-5, 6-10
- The Committee calculated actual-to-expected factors of survey experience versus 2005 GLW tabular mortality and recovery for these groupings of claimant-duration-year. The duration groupings were chosen based on consideration of claim and continuance phenomena by duration, and relative credibility of resulting cells given other simultaneous splits being applied to the data. Claim Duration Year 1 was ignored because reserve factors to be calculated were prospective as of the end of year 1.
- Adjustment: 2005 GLW Select Continuance x Actual-To-Expected Ratio for the continuance cell Experience data (for each of recovery and mortality) had simultaneous splits of Incurral Age Range, Duration-Year Grouping, Elimination Period (short vs long), and Sex. Each experience cell had a calculated actual-to-expected value. Each 2005 GLW continuance cell mapped to only one experience cell. In this way, adjustments occurred by all relevant dimensions in a single pass; however, there was no guarantee that shapes and relationships would be meaningful or consistent at a detailed level—it was a pure-data exercise. Modeling, shaping, and graduation were deferred from the project, and the selected methodology, therefore, did not employ any sophisticated or layered techniques.
- Elimination Period: Data with an elimination period of 0 months were removed from Select table development. The Committee had difficulty identifying data where a 0-month elimination period was an accurate representation of the benefit versus data where insufficient data was provided and a 0-month elimination period was assumed in the development of continuance exposure. Therefore, Select-period continuance excluded 0-month-elim data for the reserve factorwork.

Step 6: Ultimate-Period Continuance Adjustment

- Grouping of Data Across Attained-Age: 0-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80-120 The Committee determined attained-age groupings based on considerations of resultant cellular credibility relative to each other and to the credibility of cellular data used in Select period adjustments. Since the lowest reserve factor analysis cell was incurral age 40-44 where calculations would occur on the Select table for the first 10 duration-years, the Committee was not concerned about the size of the first range (spanning 50 years). Although credibility was much lower for elderly (cells with attained age 65+) recovery than for other experience cells of this work, the mortality experience had higher credibility for elderly ages, and the Committee decided to proceed with these age ranges. However, please see the Adjustment note in regard to elderly recovery.
- Adjustment: 2005 GLW Ultimate Continuance x Actual-To-Expected Ratio for the continuance cell Experience data (for each of recovery and mortality) had simultaneous splits of Attained Age Range and Sex. Each experience cell had a calculated actual-to-expected value. Each 2005 GLW continuance cell mapped to only one experience cell. The survey recovery experience for elderly (age 65+) attained ages lacked a certain amount of credibility and was a large multiple of the 2005 GLW assumption. The impact on illustrative reserve factors was notable and was not anticipated to survive future modeling and graduation efforts per the judgment of the Committee. Further judgement was applied to address the issue by using an attained age 60-64 recovery actual-to-expected adjustment for attained age ranges above age 65 on both sexes. Elderly recovery should be explored in more detail in subsequent studies.

CONFIDENCE-INTERVAL (AGGRESSIVE, CONSERVATIVE) CONTINUANCE DEVELOPMENT

The Committee recognized that the eventual table modeling and graduation work could produce an experience table with present-value relationships to the 2005 GLW table, which differ materially from the mean experience perspective. Because of that mathematical uncertainty, the Mean Industry Experience presented here is accompanied by two additional perspectives based on confidence intervals by decrement. These different values combine to range the potential changes, setting more appropriate industry expectations for the potential outcome of a table development project.

Step 1 - Step 4, Step 6: See documentation on Mean Experience Continuance Development

Step 5: Same as Mean Experience Continuance Development, excepting the below:

Actual-To-Expected Ratio: Modified Actual / Expected from 2005 GLW Table

In the mean experience work, actual termination counts were the numerator of the actual-to-expected calculation. For the confidence-interval work, the experience continuance rate for the cell was calculated and used as the probability of success in a binomial distribution. From there, standard normal approximation could be derived, resulting in lower-bound and upper-bound decrement rates from a 95% two-tailed confidence interval. The lower-bound and upper-bound decrement rates were applied to decrement exposures to produce numerators for modified actual-to-expected calculations. From that point, mechanics were identical between the use of the appropriate A/E adjustments and determination of continuance. Lower-bound mortality and upper-bound recovery continuance tables were used to form the 'aggressive' or lower-end of the reserve-factor relativity to the 2005 GLW.

APPENDIX B.1 – Mean industry experience reserve factor estimates relative to existing bases, without margin

Group Term Life Premium Waiver Appendix B.1													
Illustrative Reserve Factor Relativities @ 4.5% Discount													
(Rounded to the nearest 5%)													
Benefit Pattern	Elimination Period Category	Sex	Disability Incurred Age Range	Vs 2005 GLW Table, no margin					Vs 1970 Krieger Table, no margin				
				As of Claim Duration Year					As of Claim Duration Year				
				1	2	3	5	10	1	2	3	5	10
Lifetime	1-6mos	M	40-44	70%	80%	80%	90%	95%	65%	65%	65%	70%	75%
Lifetime	1-6mos	M	45-49	75%	80%	85%	90%	95%	65%	65%	70%	75%	80%
Lifetime	1-6mos	M	50-54	85%	90%	90%	95%	100%	70%	70%	75%	75%	85%
Lifetime	1-6mos	F	40-44	80%	85%	85%	90%	95%	50%	55%	55%	60%	65%
Lifetime	1-6mos	F	45-49	75%	85%	85%	90%	100%	55%	55%	60%	60%	70%
Lifetime	1-6mos	F	50-54	85%	90%	95%	95%	100%	60%	65%	65%	70%	75%
Lifetime	7mos+	M	40-44	80%	85%	85%	90%	95%	70%	70%	70%	70%	75%
Lifetime	7mos+	M	45-49	85%	85%	90%	95%	95%	70%	70%	70%	75%	80%
Lifetime	7mos+	M	50-54	90%	90%	95%	100%	100%	75%	75%	75%	80%	85%
Lifetime	7mos+	F	40-44	90%	90%	95%	95%	95%	60%	60%	60%	60%	65%
Lifetime	7mos+	F	45-49	85%	90%	90%	90%	100%	60%	60%	60%	65%	70%
Lifetime	7mos+	F	50-54	90%	90%	95%	95%	100%	65%	65%	65%	70%	75%
End at 65	1-6mos	M	40-44	70%	80%	85%	95%	105%	60%	65%	60%	65%	70%
End at 65	1-6mos	M	45-49	80%	85%	90%	95%	105%	60%	60%	60%	65%	70%
End at 65	1-6mos	M	50-54	90%	95%	95%	105%	110%	65%	60%	60%	65%	70%
End at 65	1-6mos	F	40-44	80%	90%	90%	90%	100%	45%	45%	45%	45%	50%
End at 65	1-6mos	F	45-49	80%	85%	90%	90%	100%	50%	45%	45%	45%	50%
End at 65	1-6mos	F	50-54	90%	95%	95%	100%	105%	50%	50%	50%	50%	50%
End at 65	7mos+	M	40-44	80%	85%	90%	95%	105%	65%	65%	65%	65%	70%
End at 65	7mos+	M	45-49	90%	90%	90%	100%	105%	70%	65%	65%	65%	70%
End at 65	7mos+	M	50-54	100%	100%	105%	115%	110%	70%	65%	65%	70%	70%
End at 65	7mos+	F	40-44	95%	100%	100%	100%	100%	55%	50%	50%	50%	50%
End at 65	7mos+	F	45-49	90%	95%	95%	95%	100%	55%	50%	50%	50%	50%
End at 65	7mos+	F	50-54	95%	95%	100%	105%	105%	55%	50%	50%	50%	50%

APPENDIX B.2 – Illustrative Reserve Factor Comparative Ranges Versus 2005 GLW Basis

Group Term Life Premium Waiver Appendix B.2								
Illustrative Reserve Factor Relativity Ranges @ 4.5% Discount								
Decrement confidence intervals used to estimate a range of potential outcomes from graduation								
(Rounded to the nearest 5%)								
Benefit Pattern	Elimination Period Category	Sex	Disability Incurral Age Range	Experience-Based Table / 2005 GLW Table, no margin				
				As of Claim Duration Year				
				1	2	3	5	10
Lifetime	1-6mos	M	40-44	65% - 75%	75% - 85%	75% - 85%	85% - 95%	95% - 100%
Lifetime	1-6mos	M	45-49	70% - 80%	75% - 85%	80% - 90%	90% - 95%	95% - 100%
Lifetime	1-6mos	M	50-54	80% - 85%	85% - 90%	90% - 95%	95% - 100%	100% - 100%
Lifetime	1-6mos	F	40-44	70% - 85%	80% - 95%	80% - 95%	85% - 95%	95% - 100%
Lifetime	1-6mos	F	45-49	75% - 80%	80% - 90%	85% - 90%	85% - 95%	95% - 100%
Lifetime	1-6mos	F	50-54	80% - 90%	85% - 95%	90% - 95%	95% - 100%	100% - 105%
Lifetime	7mos+	M	40-44	75% - 85%	80% - 90%	80% - 90%	85% - 95%	95% - 100%
Lifetime	7mos+	M	45-49	80% - 90%	85% - 90%	85% - 95%	90% - 95%	95% - 100%
Lifetime	7mos+	M	50-54	85% - 95%	90% - 95%	90% - 95%	95% - 100%	100% - 100%
Lifetime	7mos+	F	40-44	80% - 95%	85% - 100%	85% - 100%	90% - 100%	95% - 100%
Lifetime	7mos+	F	45-49	80% - 90%	85% - 95%	85% - 95%	90% - 95%	95% - 100%
Lifetime	7mos+	F	50-54	85% - 95%	85% - 95%	90% - 95%	95% - 100%	100% - 105%
End at 65	1-6mos	M	40-44	65% - 75%	75% - 85%	75% - 90%	85% - 100%	100% - 105%
End at 65	1-6mos	M	45-49	75% - 85%	80% - 90%	85% - 95%	90% - 100%	100% - 110%
End at 65	1-6mos	M	50-54	85% - 90%	90% - 100%	90% - 100%	100% - 110%	105% - 110%
End at 65	1-6mos	F	40-44	75% - 90%	80% - 100%	80% - 100%	85% - 100%	95% - 105%
End at 65	1-6mos	F	45-49	75% - 85%	80% - 95%	80% - 95%	85% - 95%	95% - 105%
End at 65	1-6mos	F	50-54	85% - 95%	90% - 100%	90% - 100%	95% - 105%	100% - 105%
End at 65	7mos+	M	40-44	75% - 90%	80% - 95%	80% - 95%	90% - 105%	100% - 105%
End at 65	7mos+	M	45-49	85% - 95%	85% - 95%	85% - 100%	95% - 105%	100% - 110%
End at 65	7mos+	M	50-54	95% - 105%	95% - 105%	100% - 110%	110% - 120%	105% - 110%
End at 65	7mos+	F	40-44	85% - 105%	90% - 110%	90% - 105%	90% - 105%	95% - 105%
End at 65	7mos+	F	45-49	85% - 95%	90% - 100%	90% - 105%	85% - 100%	95% - 105%
End at 65	7mos+	F	50-54	90% - 100%	90% - 100%	95% - 105%	95% - 110%	100% - 105%

APPENDIX B.3 - Illustrative Reserve Factor Comparative Ranges Versus Krieger Basis

Group Term Life Premium Waiver Appendix B.3								
Illustrative Reserve Factor Relativity Ranges @ 4.5% Discount								
Decrement confidence intervals used to estimate a range of potential outcomes from graduation								
(Rounded to the nearest 5%)								
Benefit Pattern	Elimination Period Category	Sex	Disability Incurral Age Range	Experience-Based Table / 1970 Krieger Table, no margin				
				As of Claim Duration Year				
				1	2	3	5	10
Lifetime	1-6mos	M	40-44	60% - 70%	60% - 70%	60% - 70%	65% - 75%	75% - 80%
Lifetime	1-6mos	M	45-49	60% - 70%	65% - 70%	65% - 75%	70% - 75%	80% - 80%
Lifetime	1-6mos	M	50-54	65% - 70%	70% - 75%	70% - 75%	75% - 80%	80% - 85%
Lifetime	1-6mos	F	40-44	45% - 55%	50% - 60%	50% - 60%	55% - 60%	65% - 70%
Lifetime	1-6mos	F	45-49	50% - 55%	55% - 60%	55% - 60%	60% - 65%	70% - 75%
Lifetime	1-6mos	F	50-54	60% - 65%	60% - 65%	60% - 65%	65% - 70%	75% - 75%
Lifetime	7mos+	M	40-44	65% - 75%	65% - 75%	65% - 75%	70% - 75%	75% - 80%
Lifetime	7mos+	M	45-49	70% - 75%	70% - 75%	70% - 75%	75% - 80%	80% - 80%
Lifetime	7mos+	M	50-54	70% - 75%	70% - 75%	75% - 80%	75% - 80%	80% - 85%
Lifetime	7mos+	F	40-44	55% - 65%	55% - 65%	55% - 65%	60% - 65%	65% - 70%
Lifetime	7mos+	F	45-49	55% - 65%	55% - 65%	60% - 65%	60% - 65%	70% - 75%
Lifetime	7mos+	F	50-54	60% - 65%	60% - 65%	65% - 70%	70% - 70%	75% - 75%
End at 65	1-6mos	M	40-44	55% - 65%	55% - 70%	55% - 65%	60% - 70%	65% - 70%
End at 65	1-6mos	M	45-49	55% - 65%	55% - 65%	60% - 65%	60% - 65%	70% - 75%
End at 65	1-6mos	M	50-54	60% - 65%	60% - 65%	60% - 65%	60% - 65%	65% - 70%
End at 65	1-6mos	F	40-44	40% - 50%	45% - 50%	40% - 50%	45% - 50%	50% - 55%
End at 65	1-6mos	F	45-49	45% - 50%	45% - 50%	45% - 50%	45% - 50%	50% - 55%
End at 65	1-6mos	F	50-54	50% - 55%	50% - 55%	45% - 50%	45% - 50%	45% - 50%
End at 65	7mos+	M	40-44	60% - 75%	60% - 75%	60% - 70%	60% - 70%	65% - 70%
End at 65	7mos+	M	45-49	65% - 70%	60% - 70%	60% - 70%	65% - 70%	70% - 75%
End at 65	7mos+	M	50-54	65% - 75%	65% - 70%	65% - 70%	65% - 70%	65% - 70%
End at 65	7mos+	F	40-44	50% - 60%	45% - 55%	45% - 55%	45% - 55%	50% - 55%
End at 65	7mos+	F	45-49	50% - 60%	50% - 55%	45% - 55%	45% - 50%	50% - 55%
End at 65	7mos+	F	50-54	55% - 60%	50% - 55%	50% - 55%	50% - 55%	45% - 50%

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