



SOCIETY OF
ACTUARIES



2016 Group Life Insurance Experience Committee Report

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2016 Group Life Insurance Experience Committee Report

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 Society of Actuaries

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Group Life Insurance Mortality and Morbidity Study Abstract

Executive Summary

This report presents the results of the 2016 Group Term Life Experience Study (“2016 Study”), conducted by the Society of Actuaries’ (“SOA”) Group Life Insurance Experience Committee (“the Committee” or “We”). Data was solicited from insurers regarding Group Term Life Insurance policies in force anytime during the study period of 2010 to 2013. The four-year study period is one year longer than the three year period from the previous study. We did this to be as complete as possible, however in no way does this mean we endorse this as a standard; we leave that to the reader’s discretion (three is often used as a standard for experience studies of this kind due to the “freshness” of the data, i.e., not stale).

Benefits included are: Death, Disability Waiver of Premium (“Waiver” or “Disability”), and Accidental Death and Dismemberment (“AD&D”). This year, we were able to collect much more data on Supplemental and Voluntary Lives than the 2013 study. Additionally, Ported life data was captured as well and is presented. In each study, we continue to try to progress forward with additional data requirements based on the changing capabilities of carriers. We also have included new fields, including Salary ranges, State, three-digit ZIP code and an indicator of groups with both Basic and Supplemental or standalone Voluntary coverage.

The 2016 Study includes eight Microsoft® Excel pivot tables:

- Individually Billed Group Basic Life (three separate pivot tables)
- Supplemental and Voluntary Group Life (two separate pivot tables)
- Ported Group Life
- Basic Group AD&D
- Supplemental and Voluntary AD&D.

These pivot tables will enable companies to perform their own analysis to supplement the findings provided in this report.

Introduction

The Group Life Insurance Experience Committee (the “Committee”) of the Society of Actuaries (“SOA”) is pleased to present the results of the 2016 Group Term Life Experience Study, which includes experience for policies in force anytime during 2010 through 2013. The Group Life Experience Study has been published periodically for many years. The most recent version prior to this was published in 2013 based on data from 2007 through 2009 (“2013 Study”).

The 2013 Study can be found on the SOA web site at: <http://www.soa.org/Research/Experience-Study/Group-Life/2013-group-term-life-experience-study.aspx>.

The remainder of this paper is organized as follows:

- Description of the Process
- Comments on the Data Request
- Description of the Pivot Tables
- General Conclusions
- Detailed Results
 - Basic Life
 - Supplemental/Voluntary Life
 - AD&D
 - Waiver
 - Portability
- Appendices and Contributing Companies

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Description of the Process

The request for data was issued in the third quarter of 2014, with submissions due in June of 2015. Since that time, the Committee worked with contributors and an outside data vendor to analyze and validate the data received. In some cases, contributors were able to address the concerns or resubmit the data; in cases where data problems could not be readily resolved, that submission or a portion thereof was eliminated.

Comments on the Data Request

The Committee redesigned the data request from the 2013 Study in an effort to include additional detail regarding certain characteristics such as region. For the first time, data was collected on ported lives, i.e., insureds that elect to continue group life coverage after leaving the group.

Per the data request, the following blocks were expressly excluded:

- Group Universal Life (“GUL”) and Group Variable Universal Life (“GVUL”)
- Groups for which all insureds are fully medically underwritten (e.g., under 10 lives)
- Conversions
- Buyouts of Waiver reserves
- Paid up, including coverage on retiree lives
- Dependent coverage
- Mass-marketed business
- Stand-alone AD&D
- Assumed reinsurance

The data request can be found on the SOA website at: <http://www.soa.org/Research/Research-Opps/Data-Request/research-2010-13-group-life-data-request.aspx>.

Description of the Pivot Tables

This section provides information on the specific data fields included in the pivot tables. The pivot tables reflect total exposure and claims by count and amount, segmented by a number of variables including central age, gender, industry grouping and waiver provision, among others. Actual and expected values for death and disability/waiver rates by count and amount are calculated, as well as Actual-to-Expected (“A/E”) ratios across the various fields.

Coverages Included.

The coverages included in each pivot table are as follows:

- Individually Billed Group Basic Life (three separate pivot tables)
- Supplemental and Voluntary Group Life (two separate pivot tables)
- Ported Group Life
- Basic Group AD&D
- Supplemental and Voluntary AD&D.

The 2016 study reflects list billed data only, unlike prior studies that reported list billed and self-administered data in separate pivot tables. Historically, companies have reported issues with availability and reliability when attempting to provide self-administered data. Given these data challenges encountered by participating companies and the SOA requirement of a minimum of five companies to report results due to anti-trust concerns, the Committee opted to exclude self-administered data in the final data call (see Appendix III).

Expected Basis (E).

The expected group life death and disability rates reflected throughout the study are based on this study's Basic Life aggregate death/disability rates by count and amount segmented by age and amount. AD&D expected death rates are based on this study's Basic AD&D death rates by count and amount by age and gender.

Exposure Type.

Exposure Type reflects whether Supplemental/Voluntary coverage is included with Basic or is standalone.

Exposure.

The exposure data is captured by count and amount. Exposure count is expressed in life years and labeled as "Exposure #." Exposed volume is labeled as "Exposure \$."

LYE.

Life Years Exposed

Claims.

The claims data are also shown by count and amount. Death claims are labeled as “Dth #” for counts and “Dth \$” for amounts. Disability (Waiver) claims are labeled as “Dis #” for counts and “Dis \$” for amounts.

Definition of Disability Rate.

As with the 2013 Study, this study includes data on waiver incidence rates, i.e., the probability that a claim will occur. In March 2006, the Committee released its report on the 2005 Group Term Life Waiver Reserve Table (the “2005 Group Term Life Waiver Study”), which is available on the SOA's website, www.soa.org. The information presented in that report can be used to assess the cost of a Waiver claim, given that a claim has occurred.

Prior to the 2006 Study, group term life experience studies attempted to reflect the cost of the Waiver claim by adjusting the Waiver incidence rates by a factor of 75%, which is considered to be quite conservative. The Committee felt that it was more appropriate to display the full, unadjusted Waiver incidence rate and allow companies to assign their own cost to the Waiver benefit. Companies should NOT simply add the Waiver rate and the death rate to develop a total rate, which would materially overstate the cost. To determine a total rate, the Waiver rate needs to be adjusted to reflect the present value of the claim.

General Conclusions

This study used four years of data instead of three years. The Committee felt that for completeness and given the SOA's desire to update studies every three to five years, this was the best approach, although three is typical. This led to an increase in the data compared to prior studies. It is the recommendation of this committee that full blown group life mortality studies by companies be performed every three to five years so the data does not get stale, but yet is plentiful enough to yield meaningful and credible results. Additionally, companies have made strides in doing a better job to collect certain data, such as Supplemental and Portability data, both of which are presented in this paper. The Committee tried very hard to present the data in a clear, concise and meaningful manner with the use of Excel pivot tables. We believe this is the best medium for the industry to be able to analyze and compare the data. We hope you find the following results useful.

Finally, the committee would like to thank Joe Kandarappallil of Prudential for his significant contributions to this study.

John A Bettano

Group Life Insurance Experience Committee Chairman

Section I: Basic Life Results

Introduction

This section of the report will analyze experience for Basic Term Life. Results will be compared to the 2013 Study and various variables within the study (e.g., area, industry) will be examined as well. This study will be compared to population data and experience by calendar year will be examined.

The overall breadth and depth of the group life experience study builds on the success of past studies and is far more expansive in exposure than prior studies. The following statistics illustrate the broad industry participation contained within this study:

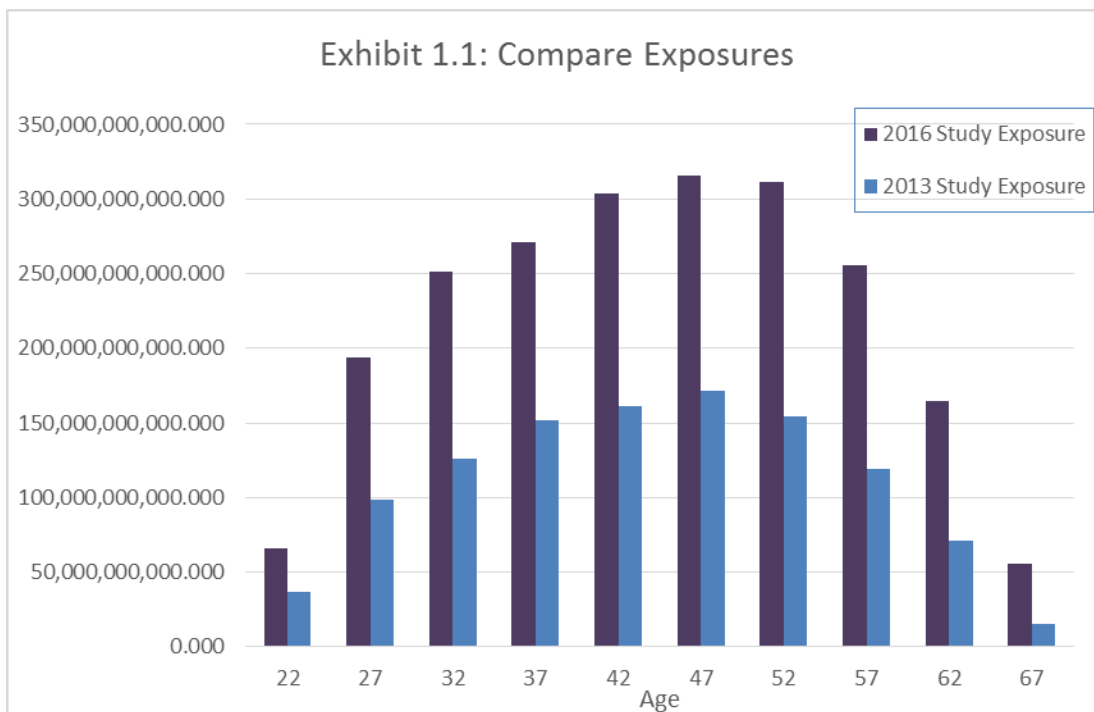
- 44.5 million exposures (counts)
- 2.2 trillion exposures (face)
- 96.9 thousand death claims
- 2.8 billion in death claim paid
- Overall death rates for the study were 2.179 per 1,000 (counts) and 1.271 per 1,000 (face)

This study contains A/E ratios. The expected basis varies by age and gender and is provided in the definitions earlier in this paper. Unless otherwise noted, values presented are weighted by face amount, not count.

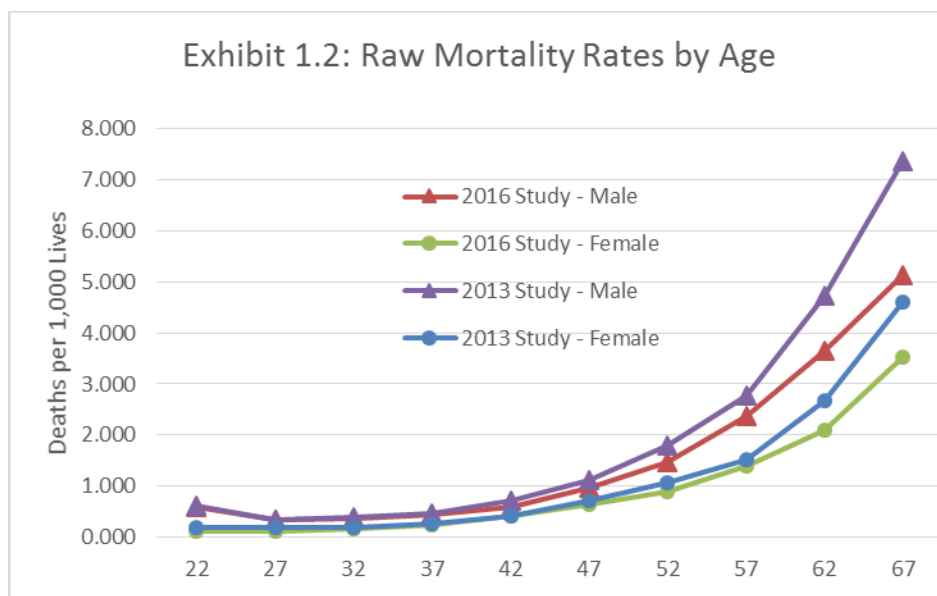
Comparison to Prior Study

This section will compare the 2016 Study to the 2013 Study by age and gender. Note that since the expected basis has changed, this section will examine raw mortality rates. This section will also examine results by age and gender for the 2016 Study. Only common working ages (22-67) were considered.

Exposure for the 2016 Study has roughly doubled compared to the 2013 Study. When examining the exposure by age (Exhibit 2.1), it can be seen that this growth is consistent across age bands. On a percentage basis, the older ages (55-69) grew at the highest rate.



Mortality rates by age and gender were examined next. The overall level of mortality rates is 10-15% lower in the 2016 Study compared to the 2013 Study. While mortality improvement could be a contributor to this decline, it may not be the only cause; practitioners should be cautious not to interpret this as solely mortality improvement as the underlying data and company participation between the 2016 and 2013 Studies have changed.



Mortality rates in the 2016 Study have a steeper slope than the 2013 Study. This was confirmed via regression modeling after log transformation.

In conclusion, the 2016 Study contains an unprecedented amount of experience, which has led to different results when compared to the 2013 Study.

Results by Industry

The study was split by industry in several different dimensions. The study contains two-digit SIC, industry grouping and collar category (blue/grey/white). All of these dimensions are different ways to aggregate and analyze experience by industry. The table below examines experience by industry, as well as demographic characteristics. Female percent is the percentage of face amount exposure made up by females within a particular cell. Average age is also face amount-weighted and assumes a uniform distribution of ages within the central ages provided in the pivot tables.

Industry	Exposure Distribution	Female Percent	Average Age	qx	A/E Death Rate
A. Agriculture, Forestry, and Fishing	0.4%	34%	44	1.390	116%
B. Mining	0.8%	15%	43	1.449	119%
C. Construction	2.5%	16%	44	1.586	127%
D. Manufacturing – Food	1.1%	30%	45	1.390	114%
E. Manufacturing – Clothes, Textile	0.3%	42%	45	1.258	94%
F. Manufacturing – Wood Products	0.8%	23%	46	1.664	124%
G. Manufacturing – Paper, Drugs, Chemicals	3.2%	31%	45	1.502	116%
H. Manufacturing – heavy, steel etc.	5.8%	20%	46	1.645	117%
I. Manufacturing – Precision Equipment	1.5%	30%	45	1.137	92%
J. Transport, Communication, Utilities	3.9%	27%	44	1.484	117%
K. Wholesale Trade Durable Goods	4.1%	24%	45	1.533	121%
L. Wholesale Trade Non-Durable Goods	2.5%	30%	45	1.284	105%
M. Retail – Trade	3.7%	33%	43	1.194	110%
N. Banks & Securities	6.1%	53%	44	0.867	80%
O. Insurance, Other Finance	5.7%	47%	45	1.008	87%
P. Service – Personal	0.6%	48%	43	1.122	104%
Q. Computers	9.2%	31%	42	0.751	85%
R. Services – Other	1.6%	28%	43	1.249	108%
S. Health Services	8.4%	69%	45	0.827	82%
T. Legal Services	3.8%	44%	47	1.028	73%
U. Educational Services	5.4%	64%	45	1.012	86%
V. Services – Public	6.2%	62%	45	1.056	94%
W. Services – Technical	11.3%	36%	44	0.886	80%
X. Public Administration	3.5%	34%	45	1.593	128%
Z. Unknown	7.5%	29%	48	3.108	115%
Grand Total	100.0%	40%	45	1.270	100%

Exhibit 1.4: Experience by Collar Category					
Collar Category	Exposure Distribution	Female Percent	Average Age	qx	A/E Death Rate
Blue	15.5%	22%	45	1.554	118.4%
Grey	24.7%	30%	45	1.875	112.9%
White	59.7%	48%	44	0.946	86.2%
Grand Total	100.0%	40%	45	1.270	100.0%

Exhibit 1.5: Top-10 Two-Digit SICs				
Two Digit SIC	Basic Life Exposure	Female Percent	Average Age	A/E Death Rate
87 = Engineering, Accounting, Research, and Management Services	11.2%	36%	43.6	80.0%
73 = Business Services	9.2%	31%	41.6	84.7%
80 = Health Services	8.4%	69%	44.7	81.5%
82 = Educational Services	5.4%	64%	45.3	86.1%
50 = Wholesale Trade – Durable Goods	4.1%	24%	44.8	121.4%
60 = Depository Institutions	4.0%	62%	45.1	81.8%
81 = Legal Services	3.8%	44%	46.6	73.4%
86 = Membership Organizations	3.2%	53%	45.8	79.0%
83 = Social Services	2.8%	73%	43.7	117.5%
51 = Wholesale Trade – Nondurable Goods	2.5%	30%	44.7	104.6%

The above exhibits are largely in line with expectations. Blue collar industry groups are heavily male-concentrated and tend to run at higher A/E ratios. One interesting observation is the largest SIC groupings tend to run at low A/E ratios. If you sum the exposure of the top 10 SIC groupings, it accounts for 55% of the face amount exposure and seven out of ten are running below 100% A/E. It is possible that this is a function of group life carriers focusing marketing and sales efforts in industry categories with attractive mortality risk characteristics. Alternatively, appropriate pricing of industry categories with less favorable mortality risk characteristics may diminish the extent to which group life coverage is purchased by employers. These are hypotheses that an individual company would have to explore and validate.

Results by Geography

The study was split by geographic area in many different ways. The study contains high-level region, state and three-digit zip code. All of these items are different ways to aggregate and analyze experience by geographic area and are useful in different applications. The below exhibits examine experience by area, as well as demographic characteristics. Similar to the industry section, experience is also summarized for the top 10 states.

In addition, exposure concentration is compared to Bureau of Labor Statistics (BLS) data. The column “BLS Employment” uses June 2016 employment data from the below link and is “counts-based”.

<http://www.bls.gov/sae/#tables>

Exhibit 1.6: Experience by Region				
Region	Exposure	Death Claims	Death Rate	A/E Death Rate
A. Division 1: New England	165,388,001,022	154,401,887	1.181	79.0%
B. Division 2: Middle Atlantic	403,208,237,294	466,025,752	1.242	93.1%
C. Division 3: East North Central	341,110,661,412	415,314,399	1.162	104.7%
D. Division 4: West North Central	165,691,824,768	196,928,170	1.206	98.5%
E. Division 5: South Atlantic	279,498,338,839	331,373,137	1.156	102.5%
F. Division 6: East South Central	107,805,222,252	147,552,580	1.184	115.6%
G. Division 7: West South Central	209,381,088,828	273,015,696	1.141	114.2%
H. Division 8: Mountain	100,378,150,552	100,383,423	1.081	92.5%
I. Division 9: Pacific	292,722,447,248	257,779,206	1.064	82.8%
J. Division 10: Canada	1,111,622,725	1,298,000	1.069	109.3%
K. Unknown	145,833,716,388	465,958,202	2.788	114.6%
Grand Total	2,212,129,311,328	2,810,030,452	1.270	100.0%

Exhibit 1.7: Top-10 States					
State	Basic Life Exposure	BLS Employment	Female Percent	Average Age	A/E Death Rate
California	11.1%	11.4%	39%	43.5	81.8%
New York	7.4%	6.5%	42%	44.0	82.6%
Texas	7.3%	8.3%	39%	43.7	106.4%
Illinois	5.2%	4.2%	41%	44.2	103.7%
Pennsylvania	4.8%	4.1%	38%	45.2	104.9%
Ohio	4.5%	3.8%	38%	45.3	108.5%
Massachusetts	4.5%	2.5%	38%	44.0	78.9%
Florida	4.0%	5.8%	44%	44.8	103.0%
Virginia	3.8%	2.7%	39%	44.0	92.1%
Michigan	3.2%	3.0%	40%	44.8	101.4%

The study shows that mortality varies by region after adjusting for age and gender in the expected table. The coastal regions (New England, Pacific) tend to have the best mortality experience.

Comparing Basic Life exposure to BLS employment data shows that the largest concentrations of employment by states align with concentrations of group life exposure. The group life exposure notably exceeds BLS employment in New York, Illinois, Massachusetts and Virginia.

Results by Case Size, Salary and Face Amount

The study is split by case size, salary and face amount band. Experience by case size shows higher A/E ratios for the smallest and largest groups. The results by both salary and face amount band show decreasing A/E ratios as size increases.

It should be noted that there is likely correlations and dependencies embedded into these uni-dimensional splits that traditional experience studies cannot capture. To truly understand the impacts of correlated variables, one would need to employ more advanced modeling techniques.

Exhibit 1.8: Experience by Case Size				
Case Size	Exposure	Death Claims	Death Rate	A/E Death Rate
A. < 2 or Unknown	6,069,930,199	6,482,964	1.843	57.9%
B. 2-9	44,724,128,027	89,401,324	1.503	133.0%
C. 10-24	168,039,636,891	234,021,641	1.307	106.5%
D. 25-49	251,804,959,213	302,371,268	1.215	98.8%
E. 50-99	364,198,395,348	397,915,195	1.159	94.2%
F. 100-249	536,526,469,457	556,940,141	1.129	91.9%
G. 250-499	322,644,389,686	318,736,287	1.085	91.1%
H. 500-999	175,871,844,955	185,133,886	1.106	95.2%
I. 1,000-4,999	126,265,010,583	158,604,570	1.259	99.8%
J. 5,000+	215,984,546,970	560,423,176	2.196	118.2%
Grand Total	2,212,129,311,328	2,810,030,452	1.270	100.0%

Exhibit 1.9: Experience by Salary Band				
Region	Exposure	Death Claims	Death Rate	A/E Death Rate
A. < 25	326,630,694,256	625,542,708	1.382	138.6%
B. 25-49	523,438,159,958	712,567,593	1.103	123.5%
C. 50-74	384,259,094,052	445,464,107	1.143	101.4%
D. 75-99	259,106,791,170	280,059,942	1.204	89.8%
E. 100-149	278,028,030,405	251,270,783	1.309	69.0%
F. 150-249	178,814,741,103	158,457,188	1.503	58.9%
G. 250-499	82,904,862,719	82,153,176	1.640	60.4%
H. 500-749	14,104,299,630	9,772,000	1.802	38.5%
I. 750-999	3,925,947,283	2,551,000	1.641	39.6%
J. 1,000-1,999	4,025,343,062	2,492,750	1.464	42.3%
K. 2,000+	2,541,328,226	2,545,500	1.328	75.4%
L. Unknown	154,350,019,462	237,153,705	1.429	107.5%
Grand Total	2,212,129,311,328	2,810,030,452	1.270	100.0%

Exhibit 1.10: Experience by Face Amount Band				
Region	Exposure	Death Claims	Death Rate	A/E Death Rate
A. < 25	225,216,573,104	513,693,903	1.759	129.7%
B. 25-49	386,451,775,762	680,732,788	1.413	124.6%
C. 50-74	470,260,154,558	527,025,080	1.038	108.0%
D. 75-99	176,262,808,234	198,036,552	1.109	101.3%
E. 100-149	327,025,202,126	337,797,557	1.155	89.5%
F. 150-249	314,692,907,774	298,649,839	1.218	77.9%
G. 250-499	235,230,911,071	193,701,734	1.326	62.1%
H. 500-749	54,876,843,299	42,241,499	1.423	54.1%
I. 750-999	9,658,351,284	7,069,500	1.521	48.1%
J. 1,000-1,999	11,970,715,092	9,082,000	1.470	51.6%
K. 2,000+	483,069,025	2,000,000	2.398	172.6%
L. Unknown	0	0	-	-
Grand Total	2,212,129,311,328	2,810,030,452	1.270	100.0%

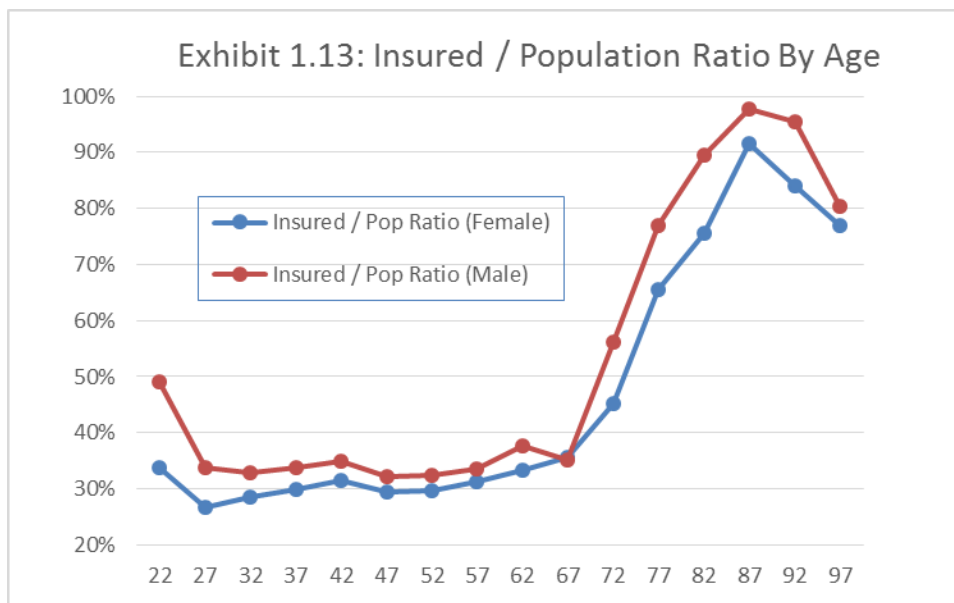
Comparison to Population Mortality

The results of the study were also compared to population mortality, which can be found at the below link. Note that mortality rates here are counts-based rather than face amount-weighted to provide a better comparison to population statistics.

http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_11.pdf

Gender	Central Age	Group Life qx	Population Data	Insured / Pop Ratio
Female	22	0.150	0.445	0.338
Female	27	0.147	0.553	0.266
Female	32	0.219	0.766	0.286
Female	37	0.305	1.017	0.300
Female	42	0.484	1.535	0.316
Female	47	0.733	2.486	0.295
Female	52	1.118	3.776	0.296
Female	57	1.631	5.234	0.312
Female	62	2.553	7.665	0.333
Female	67	4.318	12.124	0.356
Female	72	8.546	18.896	0.452
Female	77	20.485	31.225	0.656
Female	82	40.135	53.181	0.755
Female	87	86.976	95.072	0.915
Female	92	137.000	162.859	0.841
Female	97	197.689	257.228	0.769

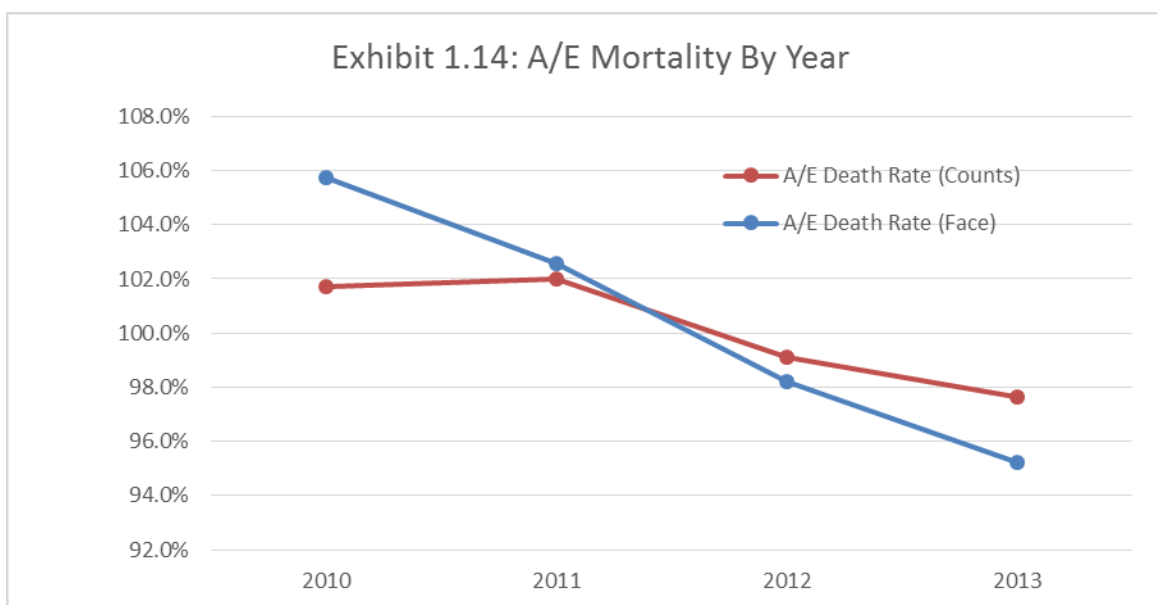
Gender	Central Age	Group Life qx	Population Data	Insured / Pop Ratio
Male	22	0.642	1.310	0.490
Male	27	0.457	1.353	0.338
Male	32	0.493	1.496	0.330
Male	37	0.597	1.764	0.339
Male	42	0.842	2.414	0.349
Male	47	1.265	3.922	0.322
Male	52	1.990	6.122	0.325
Male	57	3.045	9.074	0.336
Male	62	4.716	12.489	0.378
Male	67	6.460	18.330	0.352
Male	72	15.581	27.794	0.561
Male	77	33.606	43.720	0.769
Male	82	65.388	72.956	0.896
Male	87	120.223	123.146	0.976
Male	92	190.725	199.676	0.955
Male	97	239.223	297.713	0.804



In the key working ages, insured mortality is 30-40% of population mortality. This confirms the value of activity at work requirements, which are embedded into many of the contributing company’s contracts. As age increases, it is reasonable to assume that retiree coverages make up an increasing portion of the experience.

Mortality Improvement

The study was split by calendar year to examine the impact (if any) of mortality improvement within the study. The graph below shows A/E ratios on both a face amount-weighted and counts-weighted basis.



The decline in A/E ratio would suggest mortality improvement of 3.4% per year on a face amount weighted basis and 1.4% on a counts-weighted basis. It should be noted that the underlying expected table accounts for age and gender and not all other drivers of risk. Practitioners should exercise caution when applying historical results to pricing or other forms of actuarial work.

Conclusion

The 2016 Study has an unprecedented breadth and depth of experience. The results shown here are for illustrative purposes only.

Section II: Supplemental Results

Introduction

This section of the report will analyze experience for Supplemental and Voluntary group term life. In addition to comparing mortality results to the 2013 Study, we will also examine the results in relation to Basic Life and examine the impact of a number of segmentation variables, including industry, salary, face amount and geographic area. Finally, we will analyze the impact of guaranteed issue limits on mortality results.

The following are some highlights of the overall exposure and claim results:

- 10.7 million exposures (counts)
- \$1.1 trillion exposures (face)
- 21.6 thousand death claims
- \$1.4 billion in death claim paid
- Overall death rates for the study were 2.013 per 1,000 (counts) and 1.289 per 1,000 (face)

Supplemental/Voluntary Life in this study includes both supplemental life sold in conjunction with basic employer paid coverage, and true voluntary standalone group life coverage. The table below illustrates the distribution of exposure and claims for lives under age 70 by each of the three “type of coverage” indicators within the summary pivot tables.

1. BS = Supplemental or Voluntary (also has Basic with submission)
2. S = Supplemental or Voluntary only (standalone coverage, i.e., no Basic with submission)
3. Unknown

Coverage Type	LYE	Volume \$M	Claim Count	Claim Amount \$M	Annual	Annual	A/E	A/E
					Death Rate per 1,000 by Count	Death Rate per \$1,000 by Amount	Death Rate by Count	Death Rate by Amount
Supp/Vol with Basic	6,342,238	664,289	7,915	676	1.248	1.018	108.1%	116.4%
Supp/Vol Only	4,038,101	389,623	5,944	471	1.472	1.209	126.2%	138.6%
Unknown	3,876	315	0	0	0.000	0.000	0.0%	0.0%
Total	10,384,215	1,054,227	13,859	1,147	1.335	1.088	115.2%	124.5%

As noted previously, the A/E metric for Supplemental Life incorporates an expected basis, which reflects aggregate Basic mortality by count and face amount, segmented by age and gender. As with the Basic analysis, we have reflected A/E ratios based on face amount unless otherwise noted.

The Tables 2.1 A and 2.1 B below illustrate in detail the Supplemental group life exposure, claims and resulting mortality rates by age and gender:

Table 2.1 A
Supplemental Group Life Mortality by Age - Male

Attained Age	Male					
	LYE	Volume \$000	Claim Count	Claim Amount \$000	Annual Death Rate per 1,000 by Count	Annual Death Rate per \$1,000 by Amount
20 - 24	142,804	10,433,194	83	5,127	0.581	0.491
25 - 29	419,893	38,510,927	186	14,558	0.443	0.378
30 - 34	635,613	72,730,707	303	29,161	0.477	0.401
35 - 39	747,827	95,659,396	450	47,139	0.602	0.493
40 - 44	852,632	110,956,934	731	77,706	0.857	0.700
45 - 49	870,731	107,190,940	1,179	121,774	1.354	1.136
50 - 54	821,608	92,789,506	1,771	162,544	2.156	1.752
55 - 59	628,956	64,097,909	2,226	192,176	3.539	2.998
60 - 64	376,391	33,563,188	2,221	179,404	5.901	5.345
65 - 69	134,875	9,195,782	1,343	90,123	9.957	9.801

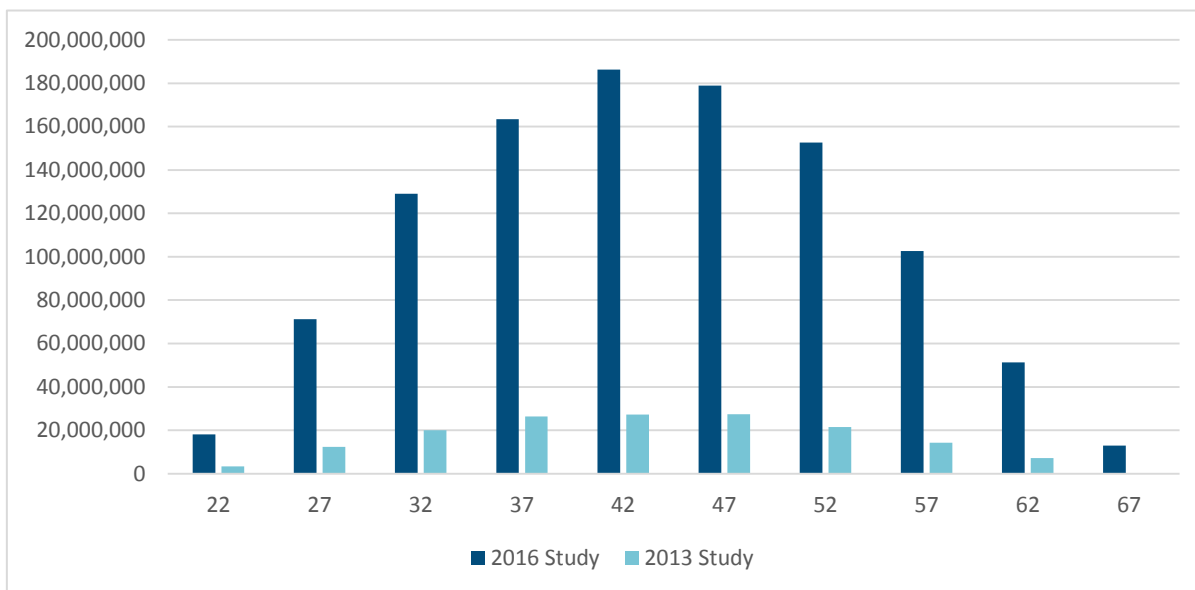
Table 2.1 B
Supplemental Group Life Mortality by Age - Female

Attained Age	Female					
	LYE	Volume \$	Claim Count	Claim Amount \$	Annual Death Rate by Count	Annual Death Rate by \$ Amount
20 - 24	117,917	7,732,082	19	1,155	0.161	0.149
25 - 29	405,593	32,705,256	71	5,423	0.175	0.166
30 - 34	586,768	56,346,871	138	11,397	0.235	0.202
35 - 39	655,363	67,718,577	195	17,723	0.298	0.262
40 - 44	746,674	75,318,129	392	32,106	0.525	0.426
45 - 49	773,919	71,765,519	657	51,555	0.849	0.718
50 - 54	733,538	59,803,024	994	68,035	1.355	1.138
55 - 59	548,841	38,593,955	1,109	70,860	2.021	1.836
60 - 64	309,296	17,698,328	1,125	58,829	3.637	3.324
65 - 69	92,701	3,746,331	664	25,073	7.163	6.693

The 2016 Study reflects a significant increase in Supplemental group life study exposure from the 2013 Study. The total exposure of 10.6 million life years (LYE) under age 70 in the 2016 Study represents a 758% increase over the 1.2 million life years in the 2013 Study. Total face amount under age 70 in the 2016 Study is \$1.07 trillion versus \$0.16 trillion in the 2013 Study. Further, the 2016 Study reflects exposure over age 65, whereas the 2013 Study only reflected exposure through age 65.

Chart 2.2

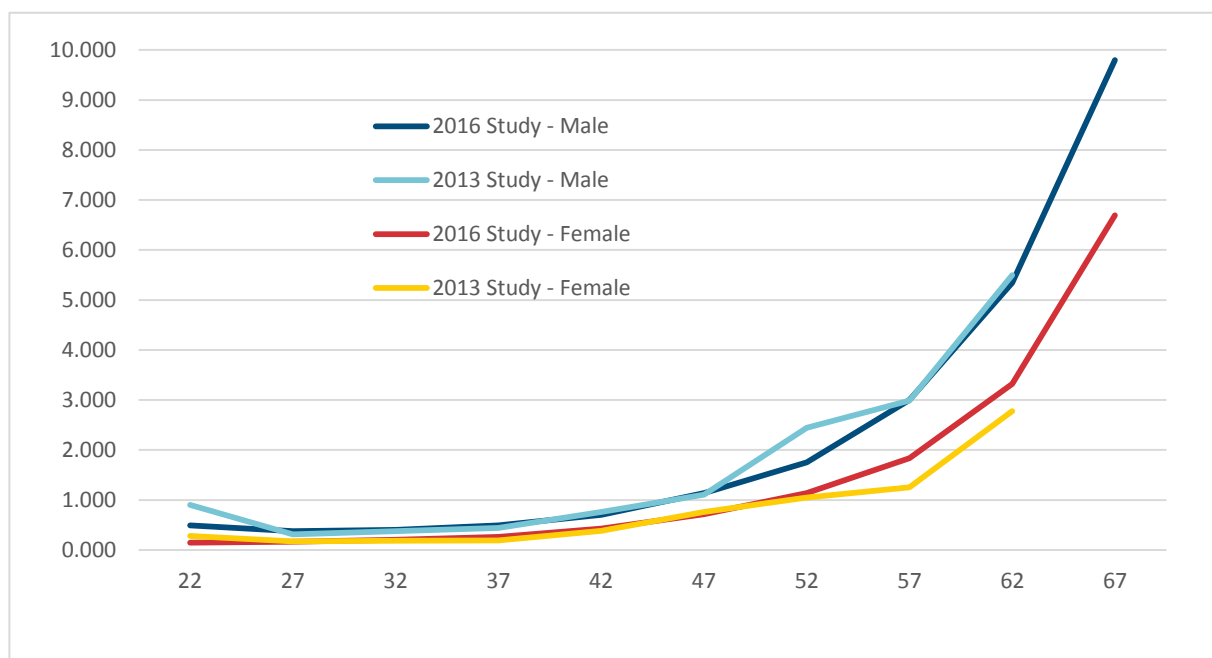
Supplemental Group Life Study Exposure (\$000) 2016 versus 2013 Studies



The chart below illustrates the mortality rates by face amount in the 2016 Study in relation to the 2013 Study by age and gender. Mortality rates for both males and females have increased from the 2013 Study in a number of age segments and decreased in others. Due to the significant increase in exposure compared to the 2013 Study and changes in the mix of contributing companies, with different mixes of business, participation rates, enrollment strategies and underwriting approaches, one cannot infer any credible conclusions from a comparison of the two studies' mortality rates. The results shown are for illustrative purposes only.

Chart 2.3

Supplemental Group Life Annual Mortality per \$000 2016 versus 2013 Studies



Comparison to Basic Results

A review of the A/E mortality results for Supplemental group life mortality will provide a high level of the mortality differences between Basic and Supplemental group life. A high-level comparison by age and gender is shown in the table below. The A/E rates in the following table indicate that Supplemental group life mortality by count is approximately 19% higher than Basic group life, and mortality rates by face amount are approximately 30% higher. This difference is indicative of the impact of selection, participation rates, guaranteed issue limits and medical underwriting on Supplemental group life mortality. It is important to note that this comparison only takes into account age and gender, and does not account for differences in Basic versus Supplemental group life exposure distribution by other key mortality drivers such as salary, industry and geographic area.

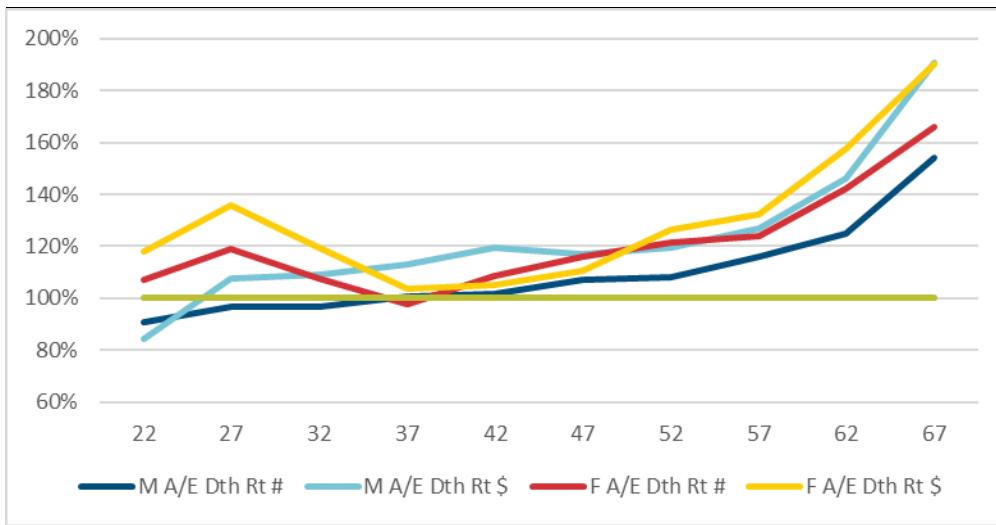
Table 2.4 A

Supplemental Group Life A/E Mortality by Age and Gender

Attained Age	Male		Female	
	A/E Death Rate by Count	A/E Death Rate by \$ Amount	A/E Death Rate by Count	A/E Death Rate by \$ Amount
20 - 24	90.6%	84.5%	107.3%	118.0%
25 - 29	96.9%	107.7%	119.1%	135.9%
30 - 34	96.7%	109.0%	107.5%	119.5%
35 - 39	100.7%	113.1%	97.5%	103.5%
40 - 44	101.8%	119.6%	108.4%	105.3%
45 - 49	107.1%	117.1%	115.8%	110.8%
50 - 54	108.3%	119.5%	121.2%	126.6%
55 - 59	116.2%	126.8%	123.9%	132.1%
60 - 64	125.1%	146.0%	142.5%	157.8%
65 - 69	154.2%	190.6%	165.9%	190.1%

Chart 2.4 B

Supplemental Group Life A/E Mortality by Age and Gender



Results by Industry

The following table shows results by industry and collar color. A/E death rates are generally lower in white collar industries and highest in blue collar industries. Some of the industries with the lowest A/E ratios include Legal and Computer services, while some of the industries with the highest A/E ratios include Construction, Transportation and Public Administration.

Table 2.5
Supplemental Group Life A/E Mortality by Industry and Collar Color

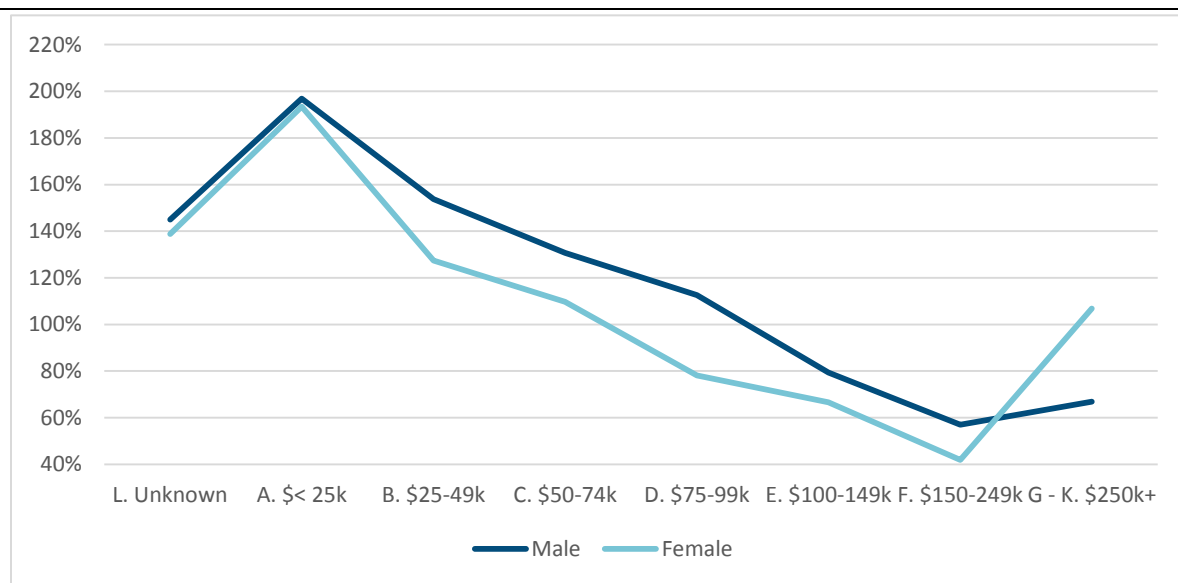
Industry		A/E Death Rate by Count	A/E Death Rate by \$ Amount
Blue Collar	A. Agriculture, Forestry, and Fishing	94.2%	120.8%
	B. Mining	108.3%	123.2%
	C. Construction	132.0%	160.5%
	D. Manufacturing - Food	112.1%	123.7%
	E. Manufacturing - Clothes, Textile	117.1%	136.4%
	F. Manufacturing - Wood Products	115.8%	130.7%
	H. Manufacturing - heavy, steel etc.	111.1%	127.1%
	J. Transport, Communication, Utilities	135.5%	189.1%
Total Blue Collar		112.9%	120.3%
Gray Collar	G. Manufacturing - Paper, Drugs, Chemicals	87.8%	101.7%
	I. Manufacturing - Precision Equipment	87.8%	101.7%
	K. Wholesale Trade Durable Goods	110.5%	131.0%
	L. Wholesale Trade Non-Durable Goods	99.9%	125.0%
	M. Retail - Trade	110.9%	120.5%
	P. Service - Personal	86.3%	107.3%
	R. Services - Other	99.6%	111.8%
Z. Unknown	180.3%	128.6%	
Total Gray Collar		110.2%	114.0%
White Collar	N. Banks & Securities	86.0%	114.5%
	O. Insurance, Other Finance	96.5%	108.0%
	Q. Computers	97.1%	99.3%
	S. Health Services	94.6%	107.5%
	T. Legal Services	80.0%	86.8%
	U. Educational Services	102.3%	126.5%
	V. Services - Public	107.3%	124.2%
	W. Services - Technical	87.4%	93.8%
	X. Public Administration	133.0%	148.9%
Total White Collar		87.3%	87.2%

Results by Salary, Face Amount and Collar Color

Consistent with Basic Life, salary is an important driver of Supplemental Life mortality for both males and females, as illustrated in the chart below.

Chart 2.6

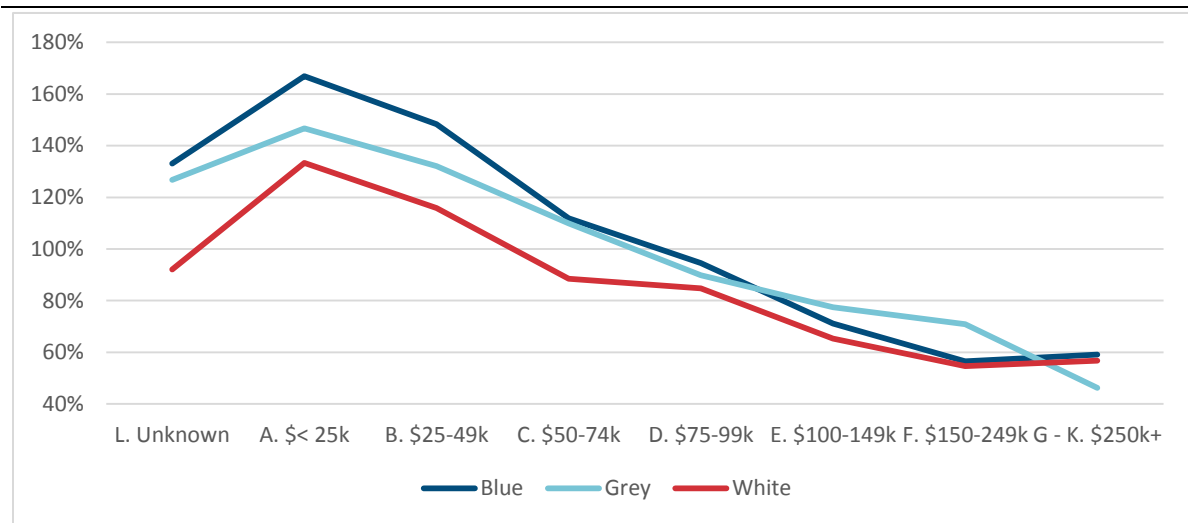
Supplemental Group Life A/E \$ Mortality by Salary and Gender



The chart below segments mortality results by salary and collar color. It is evident that salary is a key driver of Supplemental Life mortality. The consistent pattern of decreasing mortality as salary increases for each collar group indicates that both industry and salary are both significant drivers and are not 100% correlated.

Chart 2.7

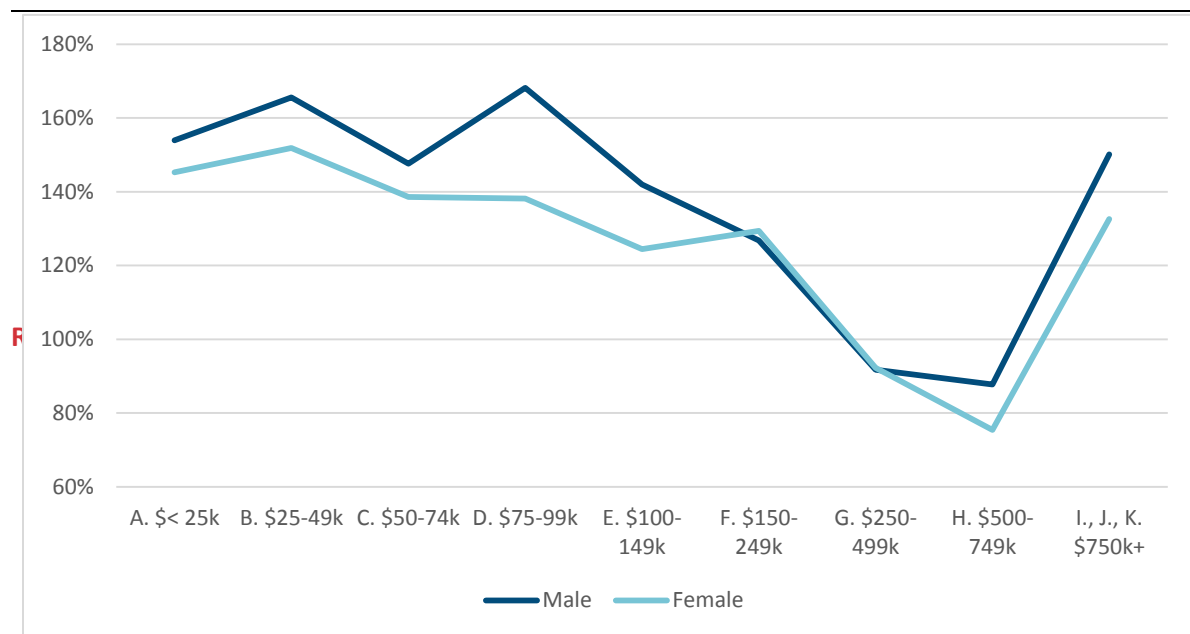
Supplemental Group Life A/E \$ Mortality by Salary and Collar Color



When studying results by face amount, one observes a similar decreasing mortality pattern as face amount increases, although the results are more volatile and show a less linear pattern than when observing mortality by salary. The results highlight some possible selection on the part of participants with incremental benefits.

Chart 2.8

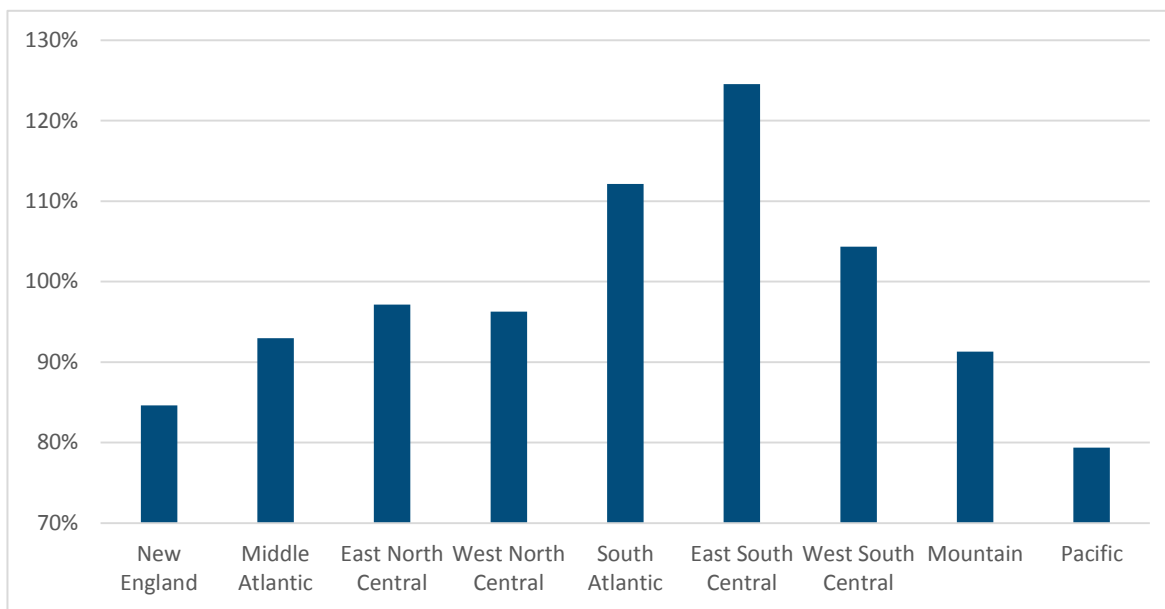
Supplemental Group Life A/E \$ Mortality by Face Amount



The table below highlights the regional differences in Supplemental Life mortality. A/E mortality for Supplemental/Voluntary is the A/E by amount by region in relation to the overall A/E mortality by amount for all Supplemental/Voluntary across all regions. The results shown a similar pattern to Basic, with mortality at a regional level within +/- 25% of the national average.

Table 2.9

Supplemental Group Life Relative A/E \$ Mortality by Region



Impact of Guaranteed Issue Limits and Participation

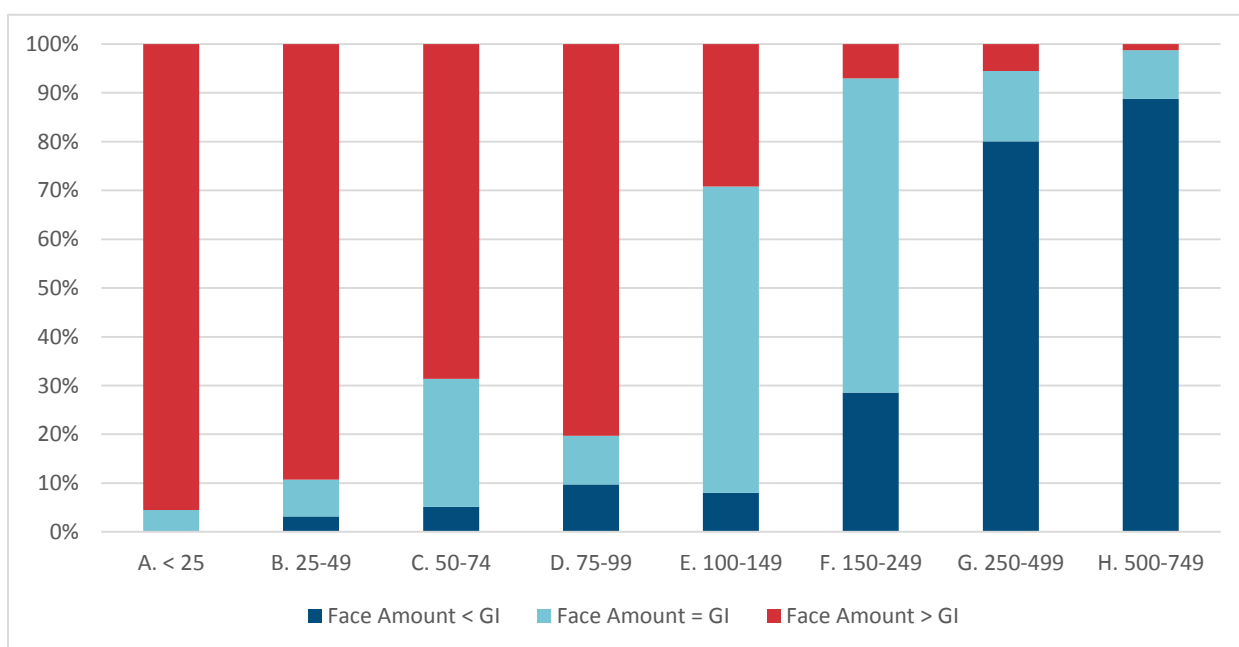
This study included a new segmentation variable not available in prior studies: guaranteed issue (GI) limits. We have studied the impact of guaranteed issue limits to assess the impact of medical underwriting on mortality.

Table 2.10
Supplemental Group Life A/E Mortality by Count by GI/Face Amount

Supplemental Face Amount Band \$000	Lives Exposed			Death Count			A/E Death Rate by Count					
	Face Amount < GI	Face Amount = GI	Face Amount > GI	Face Amount < GI	Face Amount = GI	Face Amount > GI	Face Amount < GI	Face Amount = GI	Face Amount > GI	Total Known GI	Unknown GI	Grand Total
A. < 25	0	16,576	352,347	0	18	491		77%	104%	102%	119%	115%
B. 25-49	9,791	23,156	274,612	11	18	416	78%	70%	115%	111%	141%	132%
C. 50-74	35,318	180,085	471,082	44	234	670	107%	118%	119%	118%	118%	118%
D. 75-99	13,313	13,583	109,480	19	14	133	132%	104%	112%	114%	143%	136%
E. 100-149	77,513	603,600	280,591	72	666	291	96%	115%	104%	110%	112%	111%
F. 150-249	101,757	229,633	24,937	77	240	29	83%	111%	107%	103%	112%	110%
G. 250-499	76,789	13,816	5,294	34	11	3	48%	74%	44%	52%	91%	85%
H. 500-749	14,710	1,653	205	3	3	0				N/A Due to Small Sample Size	N/A Due to Small Sample Size	N/A Due to Small Sample Size
I. 750-999	567	1	22	0	0	0	N/A due to small sample size					
J. 1000-1999	228	9	0	0	0	0	N/A due to small sample size					
K. 2000+	0	0	0	0	0	0	N/A due to small sample size					
Total	329,987	1,082,113	1,518,568	260	1,204	2,033	80%	112%	111%	108%	118%	115%

The following table shows distribution of lives exposed by those with their face amount band less than their GI limit (all GI), those with face amount equal to their GI limit (all GI, those who selected up to their limit or those declined by medical underwriting for greater amounts), and those with face amounts above their GI limit who have passed some form of medical underwriting.

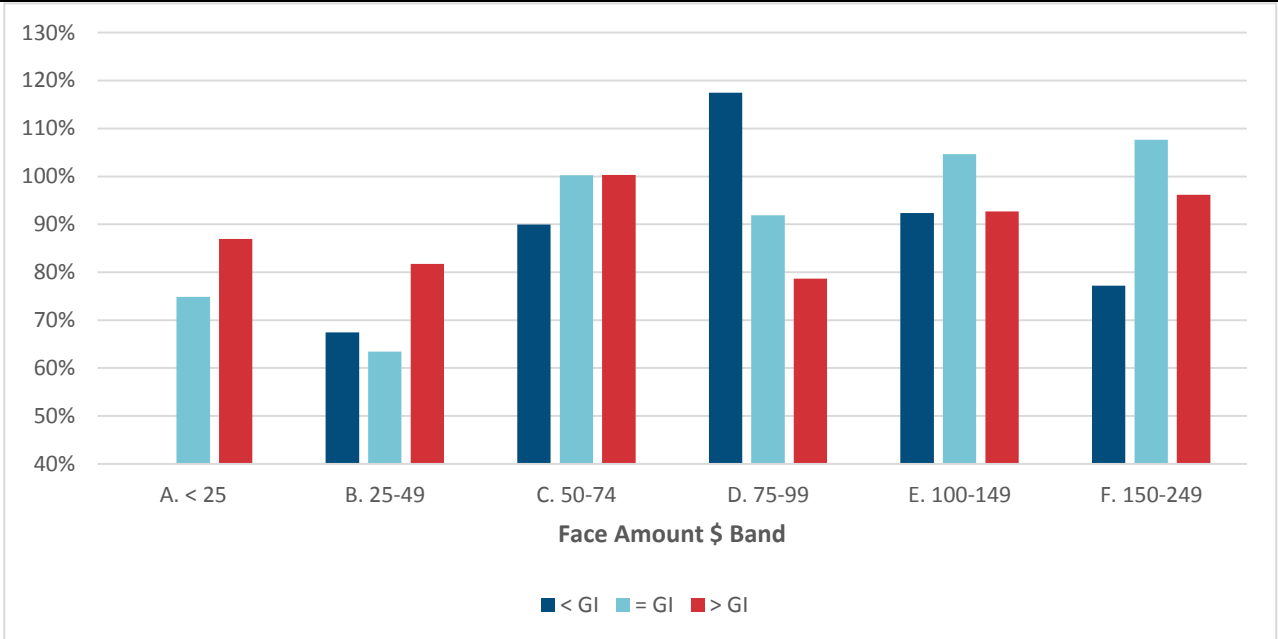
Chart 2.11
Supplemental Group Life % of Exposed Lives with Known GI Amount by GI vs. Face Amount



The following chart illustrates the A/E Supplemental group life mortality by count based on face amount in relation to GI level.

Chart 2.12

Supplemental Group Life A/E Mortality by Count by GI vs. Face Amount



Section III: AD&D Results

Introduction

This section of the report analyzes experience for Supplemental and Basic AD&D. The following segmentations are examined:

- Experience by age and gender (for both the current and previous studies)
- Basic versus Supplemental
- Industry
- Region
- Salary
- Case size

Following is a summary of Basic exposures and claims from the 2016 Study:

- 37.7 million exposures (counts)
- \$1.9 trillion exposures (face)
- 3.7 thousand death claims
- \$151 thousand paid death claims
- Overall death rates were 0.099 per 1,000 (counts) and 0.080 per 1,000 (face)

Total Supplemental exposures and claims are:

- 4.8 million exposures (counts)
- \$459.7 billion exposures (face)
- 477 death claims
- \$42 million paid death claims
- Overall death rates were 0.099 per 1,000 (counts) and 0.092 per 1,000 (face)

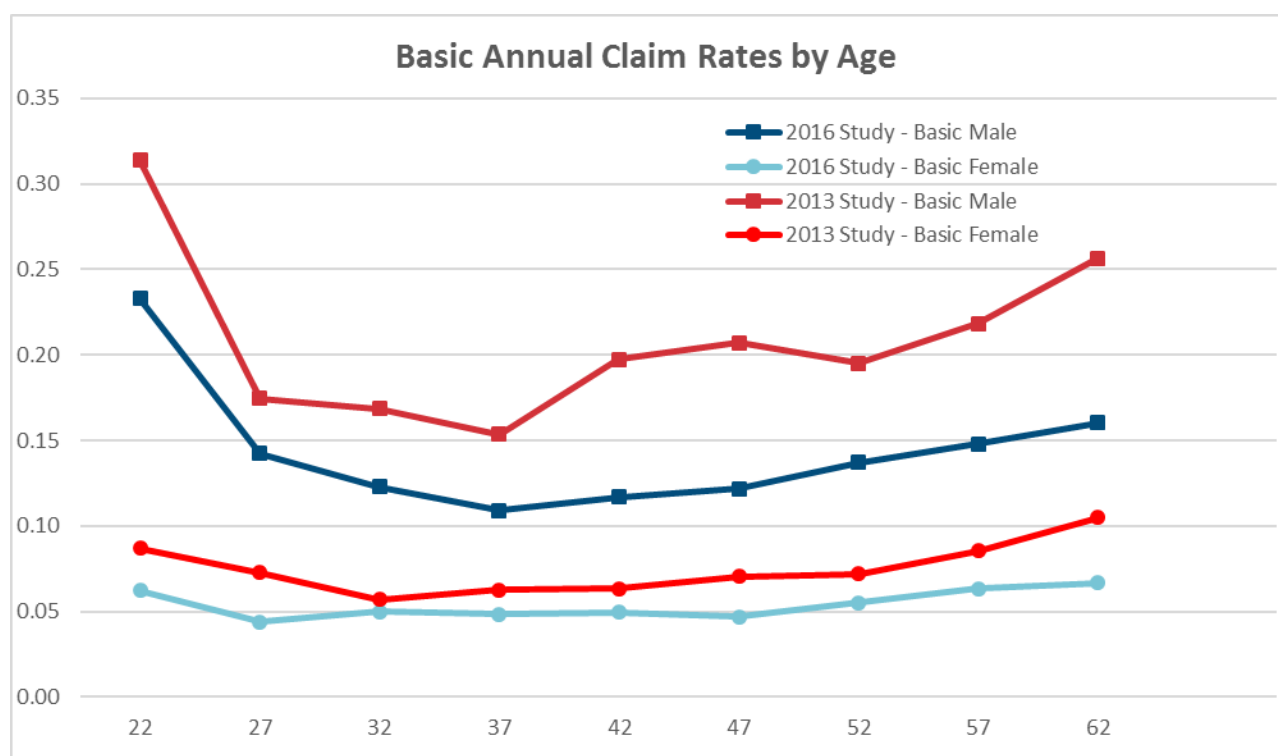
Results by Age & Gender

Exhibit 3.1 compares Basic claim rates for the 2016 and 2013 Studies. The 2013 Study included only Basic; Supplemental was excluded.

The Basic claim rates in the 2016 Study are lower than those in the 2013 Study for both males and females across all ages. Current rates are 18-41% lower. Note that exposure data changed significantly as current exposures increased by almost 250% from the previous study.

Rates from both studies are generally highest for younger and older ages.

Exhibit 3.1



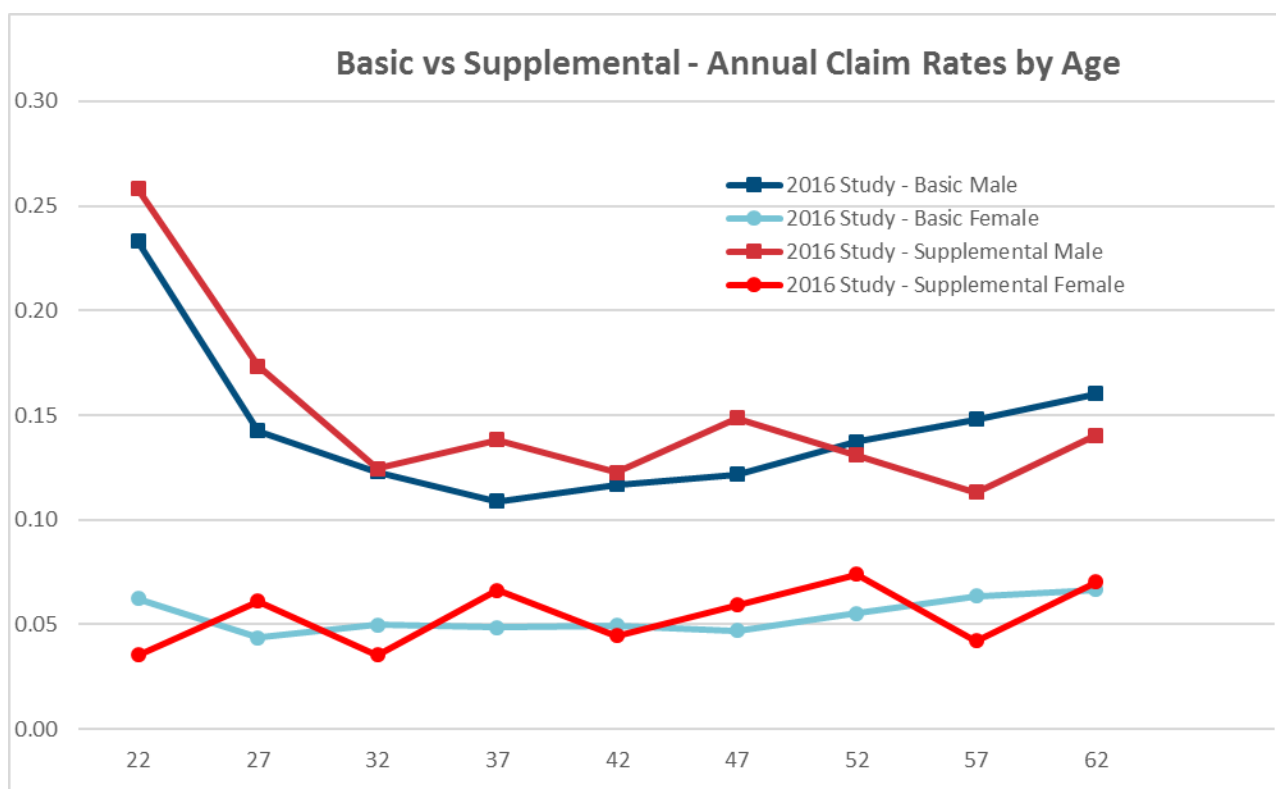
Comparison of Basic and Supplemental

Exhibit 3.2 compares Basic versus Supplemental claim rates. The study contains Basic data for only the central ages displayed in the exhibit. However, data for additional central ages is included in the study for Supplemental.

Female Supplemental rates are lower than Basic for several age groupings. The overall female Supplemental rate for the central ages included below is 6% higher than Basic.

Male Supplemental rates are lower than Basic only for ages 50+. The overall male Supplemental rate for the included central rates is only 2% higher than the Basic rate.

Exhibit 3.2



Results by Industry

Exhibit 3.3 displays summarized results for blue, white and grey collar industries. Results by 2-digit SIC code are available in the study.

As expected, blue collar has the highest claim rates and white collar has the lowest. A/E ratios for blue collar are very high, while white collar ratios are all below 100 percent. Expected claims are adjusted for age and gender only. The varying A/E ratios are in part due to lifestyle differences.

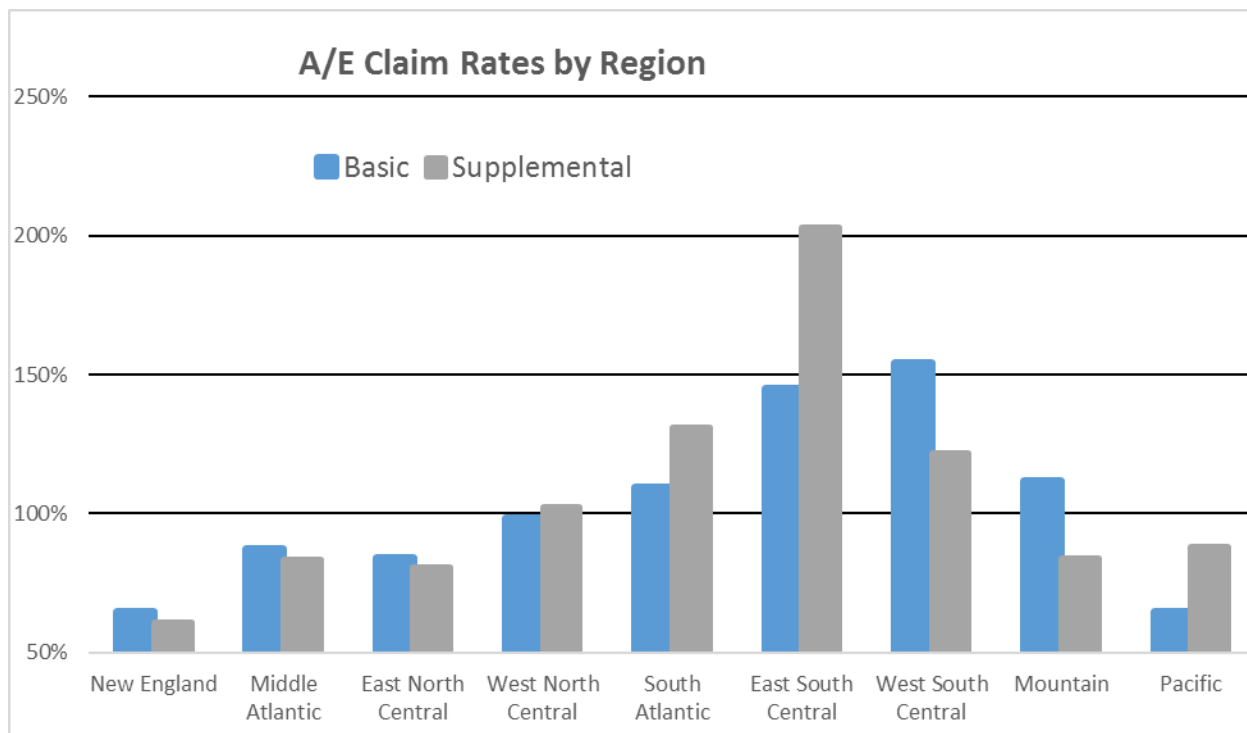
Exhibit 3.3

Industry	Basic		Supplemental	
	Claim Rate	A/E Claim Rate	Claim Rate	A/E Claim Rate
Blue	0.154	132%	0.170	150%
Grey	0.110	100%	0.099	94%
White	0.073	84%	0.079	94%

Results by Region

Exhibit 3.4 presents actual to expected claim rates by region. Canada is included in the study, but was not included in the exhibit due to limited exposures. All A/E ratios for the South are above 100%. New England, Middle Atlantic, East North Central and Pacific all have Basic and Supplemental ratios that are well below 100%.

Exhibit 3.4



Results by Salary

Claim rates and A/E ratios by salary are displayed in Exhibit 3.5. Both claim rates and A/E ratios decrease as salary increases. This pattern is expected as the proportion of white collar workers increases with salary.

The study also contains data by face amount. This data shows a similar pattern of decreasing rates as face amount increases.

Exhibit 3.5

Salary	Basic		Supplemental	
	Claim Rate	A/E Claim Rate	Claim Rate	A/E Claim Rate
<25k	0.112	113%	0.107	119%
25-49k	0.109	117%	0.102	115%
50-74k	0.083	85%	0.087	92%
75-99k	0.064	62%	0.074	72%
100k+	0.054	48%	0.044	39%

Results by Case Size

Exhibit 3.6 presents claim rates and A/E ratios by case size. Basic A/E ratios are generally higher for groups with more than 100 lives. This does not appear to be related to industry as the ratio of blue collar workers is higher for groups with less than 100 lives.

There is no clear pattern by size for Supplemental.

Exhibit 3.6

Size	Basic		Supplemental	
	Claim Rate	A/E Claim Rate	Claim Rate	A/E Claim Rate
2-9	0.123	123%	0.071	75%
10-24	0.083	83%	0.083	86%
25-49	0.095	95%	0.110	116%
50-99	0.092	92%	0.111	117%
100-249	0.100	101%	0.102	110%
250-499	0.096	100%	0.099	108%
500-999	0.116	122%	0.085	92%
1,000-4,999	0.092	98%	0.115	119%
5,000+	0.134	126%	0.088	93%

Section IV: Waiver Results

Introduction

This report studies Group Life waiver incidence rates, which are also referred to in the 2016 Group Life Mortality Study and pivot tables as Disability Rates. The Disability incidence rates presented in the 2016 Study can be combined with waiver reserve factors, whether determined using a company's own experience or based on industry tables, to estimate the total cost of waiver benefits.

The overall breadth and depth of the 2016 Study is ground-breaking both in terms of the exposure base used to develop the Mortality Rates, as well as the exposure used to develop the Disability Rates. The following statistics illustrate the broad industry participation contained within this study, as it relates to the development of the Disability Rates:

- 25.0 million exposures (counts)
- \$1.3 trillion exposures (face)
- 14.9 thousand disability claims
- \$788.7 million in disability claims paid

The exposure is approximately three times larger than that present in the 2013 Study, and the number of disability claims paid is approximately 2.5 times greater. In both cases the breadth and depth of the 2016 Study have allowed for greater analysis and additional dimensions of data. Unless otherwise noted, values presented are weighted by face amount, not counts.

The study results presented herein contain references to A/E ratios. The expected basis was developed using the base waiver incidence rates from the 2016 Study by age and gender. This basis is then used to normalize for demographic mix differences when comparing and analyzing other dimensions of the data.

Due to the potential data reliability concerns associated with Self-Administered Group Life submissions, this report focuses on Individual Billed results only. The 2016 Study included a filter on the type of Waiver Provision. Data were coded using the following segmentation:

1. Standard, meaning disabled prior to age 60/65
2. Disableds payable as active employees or one-year extended death benefit
3. Disableds not covered
4. Other, i.e., unknown or more than one definition applies

For the purposes of the analysis shown in this report, results are shown across all data submitted for all provisions. No other filters or limitations were put on the data for purposes of the analysis presented.

As is commonly the case, a number of caveats must be considered when reviewing the analysis shown in this report, particularly for pricing or reserving purposes:

- The results shown represent raw data and have not been smoothed or adjusted in any way.
- Despite the Committee's best efforts to validate data, and the cooperation of the contributing companies to investigate and correct their submissions, it is possible that some data errors were not discovered and are, therefore, included in the results.
- Experience will vary from company to company and from year to year for a number of factors that we were unable to study. The impact of the mix of companies' exposure is likely to have a more significant impact on waiver results than mortality due to the potential for variation in companies' claim administration practices, in particular when reviewing results segmented by waiver processing with long-term disability (LTD).
- When reviewing segmented results, the smaller the exposure, the less credible the results for that segment.

Waiver Incidence Rates Overall

The following table reflects the waiver incidence rates by age and gender in both the 2016 Study and the prior 2013 Study for comparison purposes. While the exposure is somewhat more limited, the 2016 Study has claims data extended through central ages 62, 67 and 72, which were not present in the 2013 Study. The 2016 waiver incidence rates shown below are 17% lower than the rates in the 2013 Study, with a 21% decrease for females and a 13% decrease for males on a volume weighted basis. While the slopes of the waiver incidence rates by age are generally comparable to the 2013 Study, incidence rates have decreased by a larger percentage for the central ages in the 20s and 30s.

Female waiver incidence rates by volume are 29% higher than males based on the mix of exposure in the 2016 Study; this differential is smaller than observed in the 2013 Study. Female waiver incidence rates are higher than male rates for all central ages except 22 and 67, where credibility of data is lower. The differential between the female and male waiver incidence rates by age is much larger than the overall differential for the ages in the 30s and 40s, where the difference is approximately double the average, suggesting a different distribution of exposure by age between the two genders may be contributing to the smaller overall weighted average.

Table 4.1: Waiver Incidence Rates by Age and Gender

Sex	Central Age	2013 Study						2016 Study					
		Exposure		Claims		Incidence		Exposure		Claims		Incidence	
		Lives	\$ Amount	Count	\$ Amount	Count	\$	Lives	\$ Amount	Count	\$ Amount	Count	\$
F	22	249,633	8,648,343,289	20	1,111,877	0.080	0.129	565,400	19,081,478,521	50	1,655,190	0.088	0.087
	27	498,241	21,458,435,930	109	5,597,264	0.219	0.261	1,332,534	55,796,298,306	178	8,024,591	0.134	0.144
	32	472,274	23,188,849,323	175	9,534,619	0.371	0.411	1,390,579	67,182,570,513	376	18,243,774	0.270	0.272
	37	486,749	24,898,692,543	259	14,393,201	0.532	0.578	1,306,257	67,580,555,836	501	25,911,814	0.384	0.383
	42	500,690	25,412,877,766	343	19,208,283	0.685	0.756	1,400,128	72,780,827,672	845	44,304,014	0.604	0.609
	47	539,372	27,121,596,219	508	29,900,774	0.942	1.102	1,481,937	75,560,971,082	1,212	62,227,772	0.818	0.824
	52	489,845	24,214,406,076	605	33,939,439	1.235	1.402	1,488,906	74,567,124,954	1,741	91,788,014	1.169	1.231
	57	380,347	18,424,467,560	645	37,356,571	1.696	2.028	1,236,194	60,609,754,386	1,920	102,656,946	1.553	1.694
	62							796,069	37,322,609,639	354	14,699,784	0.445	0.394
	67							281,496	10,031,979,484	46	1,693,672	0.163	0.169
72							88,606	1,895,171,836	22	511,500	0.248	0.270	
F Total		3,617,152	173,367,668,705	2,664	151,042,029	0.736	0.871	11,368,105	542,409,342,230	7,245	371,717,071	0.637	0.685
M	22	267,213	9,001,289,835	20	981,939	0.075	0.109	652,115	21,730,283,519	74	2,517,780	0.113	0.116
	27	541,275	24,181,853,108	79	3,792,489	0.146	0.157	1,430,680	62,702,178,368	175	6,775,945	0.122	0.108
	32	589,837	31,986,412,175	106	6,268,366	0.180	0.196	1,632,913	86,122,280,386	284	13,466,685	0.174	0.156
	37	647,548	39,133,184,872	196	11,732,812	0.303	0.300	1,641,701	99,210,544,748	430	23,260,717	0.262	0.234
	42	653,766	40,552,432,251	287	15,359,160	0.439	0.379	1,768,472	113,240,678,333	726	43,239,631	0.411	0.382
	47	666,834	41,624,718,015	469	27,217,729	0.703	0.654	1,811,676	115,765,108,952	1,143	59,629,234	0.631	0.515
	52	582,550	36,297,409,623	705	39,738,492	1.210	1.095	1,768,524	112,050,612,010	1,881	105,140,547	1.064	0.938
	57	451,503	28,210,086,781	783	47,697,133	1.734	1.691	1,451,574	90,762,360,976	2,328	135,016,710	1.604	1.488
	62							963,701	59,706,828,163	428	22,142,320	0.444	0.371
	67							387,741	19,190,405,331	103	4,801,634	0.266	0.250
72							146,751	4,285,297,738	40	1,021,000	0.273	0.238	
M Total		4,400,527	250,987,386,660	2,645	152,788,121	0.601	0.609	13,655,849	784,766,578,524	7,612	417,012,203	0.557	0.531
Grand Total		8,017,678	424,355,055,365	5,309	303,830,149	0.662	0.716	25,023,955	1,327,175,920,754	14,857	788,729,274	0.594	0.594

While the data in both Studies is representative of a large and credible population, it is important to note that the two Studies may not be directly comparable due to the difference in carriers contributing data in the two studies or differences in carriers' mix of business and waiver claim administration processes.

Waiver Incidence Rates by Elimination Period

It is a commonly held belief that the elimination period benefit design provision has a significant influence over disability incidence rates for income replacement products such as LTD coverage. This is due primarily to the high potential for recovery in the early months of claim duration, which results in lower incidence rates for benefits that have long elimination periods. There is some belief that longer elimination periods also have the potential to discourage utilization of disability benefits, given the increased financial challenges associated with prolonged periods of time with little or no income (i.e., before income replacement begins). While these principles generally apply to waiver claims as well, the implications may be more muted.

The 2016 Study included segmentation of results based on elimination periods, with elimination period categories of: 90 Days or Less, 91-180 Days, 181-270 Days and Over 270 Days. In the following table, due to limited exposure in the Over 270 Days category, the data was grouped into three categories. Elimination periods of 90 Days or Less are less prevalent, as evidenced by the fact that this category represents only 13% of exposure by amount, whereas the 91-180 Days and the combined 181 Days or More categories represent 36% and 51% of the exposure, respectively.

The 2016 Study confirms the expected relationship of incidence rates by elimination period, with incidence rates decreasing as the elimination period increases. Relative to the overall waiver incidence rate, the incidence rates for the 90 Days or Less, 91-180 Days and 181 Days or More are 31% higher, 15% higher and 18% lower, respectively.

While the slopes of the age-based incidence rate curves appear to vary by elimination period category, the relative relationship between the categories does hold within most age categories. Most age-gender cells contain what might be viewed as reasonably credible exposure bases, so it is difficult to conclude whether the age-gender slopes are truly different within the elimination period categories, or whether smoothing is simply necessary due to credibility levels.

It is worth noting that claims administration practices can influence the impact elimination periods have on incidence rate levels. Carriers are encouraged to study their own block to determine the magnitude of this correlation and how it impacts their own experience.

Table 4.2: Waiver Incidence Rates by Elimination Period

Sex	Central Age	Total		90 Days or Less		91-180 Days		181 Days or More				
		Incidence Count	Incidence \$	Exposure \$ Amount	Incidence Count	Incidence \$	Exposure \$ Amount	Incidence Count	Incidence \$			
F	22	0.088	0.087	2,102,633,795	0.246	0.204	7,231,347,752	0.101	0.081	9,747,496,974	0.045	0.066
	27	0.134	0.144	6,737,585,214	0.284	0.246	20,339,443,769	0.163	0.174	28,719,269,323	0.077	0.098
	32	0.270	0.272	8,689,466,598	0.553	0.535	24,650,924,372	0.326	0.301	33,842,179,543	0.157	0.183
	37	0.384	0.383	9,420,085,737	0.651	0.423	25,065,489,759	0.446	0.494	33,094,980,340	0.265	0.288
	42	0.604	0.609	9,946,915,365	0.904	0.774	27,513,948,894	0.674	0.650	35,319,963,413	0.469	0.530
	47	0.818	0.824	9,886,424,568	1.156	1.084	28,798,751,161	1.024	1.078	36,875,795,353	0.565	0.555
	52	1.169	1.231	9,637,032,981	1.507	1.512	28,677,244,939	1.283	1.260	36,252,847,034	0.987	1.133
	57	1.553	1.694	7,987,209,990	2.054	2.009	23,325,651,471	1.658	1.770	29,296,892,925	1.327	1.547
	62	0.445	0.394	5,093,585,400	1.550	1.393	14,015,029,739	0.428	0.427	18,213,994,500	0.130	0.089
	67	0.163	0.169	1,550,060,549	0.288	0.108	3,551,588,662	0.166	0.242	4,930,330,273	0.122	0.135
72	0.248	0.270	369,655,753	0.418	0.307	651,980,406	0.115	0.258	873,535,677	0.303	0.263	
F Total		0.637	0.685	71,420,655,949	1.010	0.940	203,821,400,925	0.720	0.772	267,167,285,356	0.475	0.551
M	22	0.113	0.116	2,322,981,990	0.372	0.308	7,753,204,041	0.091	0.101	11,654,097,488	0.081	0.087
	27	0.122	0.108	7,692,559,975	0.227	0.185	21,057,029,859	0.137	0.132	33,952,588,534	0.091	0.076
	32	0.174	0.156	11,324,728,006	0.285	0.193	29,058,667,305	0.207	0.191	45,738,885,075	0.127	0.125
	37	0.262	0.234	13,558,565,345	0.464	0.331	34,077,816,738	0.290	0.243	51,574,162,666	0.197	0.204
	42	0.411	0.382	15,272,119,747	0.657	0.419	39,920,502,019	0.465	0.437	58,048,056,567	0.317	0.334
	47	0.631	0.515	15,033,868,423	0.842	0.567	40,991,306,515	0.734	0.610	59,739,934,014	0.510	0.437
	52	1.064	0.938	14,561,199,081	1.457	1.081	39,897,760,985	1.155	1.073	57,591,651,943	0.906	0.809
	57	1.604	1.488	12,076,091,225	2.035	1.473	32,479,233,811	1.799	1.738	46,207,035,941	1.354	1.316
	62	0.444	0.371	8,496,922,943	1.522	1.210	20,649,692,092	0.377	0.350	30,560,213,128	0.195	0.151
	67	0.266	0.250	3,026,740,641	0.518	0.465	6,231,872,857	0.167	0.275	9,931,791,832	0.258	0.169
72	0.273	0.238	859,549,855	0.512	0.510	1,286,403,159	0.179	0.173	2,139,344,724	0.253	0.169	
M Total		0.557	0.531	104,225,327,231	0.882	0.666	273,403,489,382	0.615	0.615	407,137,761,911	0.442	0.441
Grand Total		0.594	0.594	175,645,983,181	0.942	0.777	477,224,890,306	0.664	0.682	674,305,047,267	0.456	0.484

Waiver Incidence Rates by LTD Integration

Another commonly held belief is that linking the reporting of waiver claims to LTD claims results in higher rates of waiver incidence. There are a number of factors potentially driving this hypothesis, including generally shorter elimination periods to align with LTD benefit provisions, use of a less restrictive two-year own occupation definition of disability versus an any occupation definition and differences in waiver claim monitoring practices to align with LTD claims. All of these factors could be viewed as likely to increase waiver incidence rates. Possibly the most prevalent factor may relate to procedural practices or automated processes to initiate waiver claims when an insured initiates an LTD claim, or has an LTD claim approved.

The 2016 Study included segmentation of results based on whether waiver claims are reported with LTD claims, with indicators of “Yes,” “No” or “Unknown.” As the “Unknown” exposure represents 7% of the exposure by amount, it was excluded from the table below. Seventy-four percent and 19% of the exposure were reported with an indicator of “Yes” and “No,” respectively.

As was the case with the 2013 Study, the 2016 Study demonstrates that there is a strong correlation of higher waiver incidence with combined LTD/waiver reporting. Waiver incidence rates with waiver reporting linked to LTD are just over double those without linked reporting.

It is again worth noting that claims administration practices can influence the impact on incidence rate levels, and variation in claims administration practices between carriers may be more pronounced in this dimension of data. This can be a result of differences in organizational structures as it relates to coordination between waiver claims departments and LTD claims departments, as well as differences in claims adjudication processes and technology. Carriers are encouraged to study their own block to determine the magnitude of this correlation and how it impacts their own experience.

Table 4.3: Waiver Incidence Rates by LTD Integration

Sex	Central Age	Total		Linked w/ LTD		Not Linked w/ LTD			
		Incidence Count	Incidence \$	Exposure \$ Amount	Incidence Count	Exposure \$ Amount	Incidence Count	Incidence \$	
F	22	0.088	0.087	14,427,213,045	0.095	0.086	3,788,243,323	0.055	0.072
	27	0.134	0.144	43,049,376,776	0.159	0.162	9,942,945,962	0.043	0.046
	32	0.270	0.272	51,574,274,802	0.321	0.299	11,594,053,459	0.108	0.147
	37	0.384	0.383	50,955,320,317	0.470	0.443	11,832,970,094	0.156	0.194
	42	0.604	0.609	54,466,444,914	0.759	0.702	13,231,372,996	0.226	0.319
	47	0.818	0.824	56,334,159,622	1.038	0.950	14,244,179,200	0.309	0.354
	52	1.169	1.231	55,073,483,030	1.542	1.470	14,580,645,583	0.427	0.525
	57	1.553	1.694	44,254,850,425	2.074	2.031	12,159,279,616	0.520	0.680
	62	0.445	0.394	26,983,769,785	0.325	0.286	7,585,745,411	0.519	0.581
	67	0.163	0.169	7,005,699,080	0.189	0.207	2,127,743,489	0.163	0.114
72	0.248	0.270	1,176,164,553	0.206	0.233	463,161,872	0.398	0.512	
F Total		0.637	0.685	405,300,756,349	0.789	0.785	101,550,341,005	0.272	0.343
M	22	0.113	0.116	15,821,864,374	0.124	0.116	4,711,328,907	0.052	0.077
	27	0.122	0.108	47,595,290,565	0.139	0.111	11,311,434,157	0.074	0.087
	32	0.174	0.156	65,432,360,845	0.207	0.175	14,892,288,029	0.083	0.082
	37	0.262	0.234	74,694,142,852	0.319	0.270	17,295,359,968	0.136	0.132
	42	0.411	0.382	84,541,780,451	0.521	0.439	20,509,188,824	0.169	0.232
	47	0.631	0.515	86,145,028,239	0.795	0.593	21,552,610,195	0.310	0.308
	52	1.064	0.938	82,751,248,884	1.404	1.125	21,299,363,719	0.400	0.398
	57	1.604	1.488	66,310,174,104	2.122	1.760	17,555,533,765	0.664	0.771
	62	0.444	0.371	42,995,948,902	0.332	0.282	11,641,860,620	0.551	0.582
	67	0.266	0.250	13,433,278,840	0.255	0.261	3,903,623,748	0.366	0.324
72	0.273	0.238	2,640,059,975	0.326	0.284	1,023,210,537	0.297	0.265	
M Total		0.557	0.531	582,361,178,032	0.688	0.606	145,695,802,469	0.283	0.319
Grand Total		0.594	0.594	987,661,934,381	0.734	0.680	247,246,143,474	0.278	0.329

Waiver Incidence Rates by Other Dimensions

The remaining portion of this section compares the waiver incidence rates by various additional dimensions of data contained within the 2016 Study. For all remaining dimensions, the expected basis was used as a means to analyze incidence rate patterns across non-homogenous categories with potentially different demographic distributions. For each dimension, the exposure, claims and waiver incidence rates are presented by category; however, the actual-to-expected incidence level is the best measure to compare the incidence rate levels between categories, normalizing for differences in demographics.

By Face Amount

Waiver incidence rates were analyzed across the dimension of insured face amounts. The 2016 Study included segmentation of results based on face amount categories that ranged in size as face amounts increased, in order to maintain reasonably populated categories. Exposure decreased substantially for face amounts greater than \$250K, and only a small fraction of exposure (by lives) was in the Unknown category. The average face amount per life was \$52,966.

Waiver incidence rates show a clear decreasing pattern on an actual-to-expected basis as the face amount increases, with waiver incidence rates declining gradually through the face amount band categories.

The one exception to this trend is the <25 face amount band category, where the incidence rates are below the next largest 25-49 category. The <25 face amount band category has a much greater percentage of exposure with a waiver linked to an LTD indicator of “No” or “Unknown,” which maybe an underlying root cause of the lower incidence rate level for this category. However, when comparing within only the claims with a linked indicator of “Yes,” the <25 face amount band category still remains low relative to the next category, albeit closer in rate to the next category. This leaves the hypothesis that insureds with low face amounts, and presumably low salaries, may be less prone to file waiver of premium claims due to the need to maintain their income.

Table 4.4: Waiver Incidence Rates by Face Amount Bands

Face Amount Bands (\$K)	2016 Study							
	Exposure		Claims		Incidence		A/E Incidence	
	Lives	\$ Amount	Count	\$ Amount	Count	\$	Count	\$
A. < 25	8,526,313	121,534,366,415	3,996	63,053,775	0.469	0.519	77.0%	88.3%
B. 25-49	6,517,306	207,044,266,587	4,591	152,914,752	0.704	0.739	117.3%	126.3%
C. 50-74	5,397,936	290,606,306,925	3,596	198,551,395	0.666	0.683	106.8%	113.1%
D. 75-99	1,261,950	106,735,131,842	856	72,900,917	0.678	0.683	107.5%	111.3%
E. 100-149	1,739,357	197,135,219,714	1,020	115,946,406	0.586	0.588	88.8%	92.6%
F. 150-249	1,037,078	190,449,641,868	549	100,054,462	0.529	0.525	77.8%	81.2%
G. 250-499	509,546	157,077,766,879	219	65,881,567	0.430	0.419	58.5%	60.7%
H. 500-749	76,360	40,055,715,683	25	12,376,000	0.327	0.309	44.2%	44.7%
I. 750-999	9,410	7,258,871,798	4	3,100,000	0.425	0.427	58.3%	62.6%
J. 1000-1999	10,219	10,597,118,015	4	4,000,000	0.391	0.377	49.1%	50.8%
K. 2000+	86	201,728,322	0	0	0.000	0.000	0.0%	0.0%
L. Unknown	385	0	0	0	0.000	0.000	0.0%	0.0%
Grand Total	25,085,945	1,328,696,134,048	14,860	788,779,274	0.592	0.594	95.5%	94.9%

By Salary

Waiver incidence rates were also analyzed across the dimension of salary. The 2016 Study included segmentation of results based on salary band categories that varied in size in order to maintain reasonably populated categories. Exposure decreased substantially for salaries greater than \$250K, and 8% of exposure had an Unknown salary. The average face amount per life gradually increased to just about \$200K for the 250-499 and 500-749 categories, and then began decreasing thereafter. This may suggest structural limits exist within benefit plan designs (i.e., flat face amounts, or limits on salary-based face amounts).

Similar to what was seen in the face amount dimension, waiver incidence rates show a clear decreasing pattern on an actual-to-expected basis as the salary level increases, with waiver incidence rates declining gradually through the salary band categories.

The one exception to this trend, as was seen in the face amount dimension, is the <25 salary band category, where the incidence rates are below the next largest 25-49 category. The same principles apply as were discussed in the face amount dimension section.

Table 4.5: Waiver Incidence Rates by Salary Bands

Salary Bands (\$K)	2016 Study							
	Exposure		Claims		Incidence		A/E Incidence	
	Lives	\$ Amount	Count	\$ Amount	Count	\$	Count	\$
A. < 25	5,301,266	123,268,740,024	2,588	68,648,902	0.488	0.557	84.4%	97.9%
B. 25-49	8,851,272	338,336,411,944	7,423	298,079,741	0.839	0.881	142.1%	152.1%
C. 50-74	3,961,913	243,420,344,785	2,720	171,679,930	0.687	0.705	106.2%	113.2%
D. 75-99	1,759,112	154,149,609,792	941	88,632,920	0.535	0.575	79.8%	89.8%
E. 100-149	1,399,518	171,274,178,075	617	75,168,855	0.441	0.439	63.0%	66.8%
F. 150-249	709,217	119,701,746,464	302	52,984,173	0.426	0.443	57.1%	63.7%
G. 250-499	267,431	53,789,819,217	117	23,916,226	0.437	0.445	56.1%	60.4%
H. 500-749	49,193	10,026,848,028	14	3,230,000	0.285	0.322	40.1%	46.0%
I. 750-999	19,732	2,645,249,706	8	974,000	0.405	0.368	66.6%	53.3%
J. 1000-1999	25,582	2,765,306,935	5	840,000	0.195	0.304	33.7%	48.0%
K. 2000+	13,985	1,210,667,179	4	152,027	0.286	0.126	46.7%	21.2%
L. Unknown	2,727,725	108,107,211,899	121	4,472,500	0.044	0.041	6.9%	6.6%
Grand Total	25,085,945	1,328,696,134,048	14,860	788,779,274	0.592	0.594	95.5%	94.9%

By Group Size

Waiver incidence rates were analyzed across the dimension of group size, representing the number of lives at the employer level. The 2016 Study included segmentation of results based on group size categories that varied in size in order to maintain reasonably populated categories. The largest group size category is 5,000+ lives, which only represents 5% of the exposure data. This is likely due to the fact that data for Self-Administered Group Life submissions was excluded from the analysis, and that the analysis includes only Individual Billed business, which is more common for smaller group sizes.

The incidence levels by group size do not present a clear pattern and, in particular, results vary widely at the extreme ends of the group size spectrum. Due to the varying mixes of business and carriers within each lives segment and the limited credibility of the small amount of data on larger groups, it is unlikely that any significant conclusions can be drawn regarding the impact of group size on waiver incidence rate levels. This is similar to the results seen in the 2013 Study.

Table 4.6: Waiver Incidence Rates by Group Size

Group Size (Lives)	2016 Study							
	Exposure		Claims		Incidence		A/E Incidence	
	Lives	\$ Amount	Count	\$ Amount	Count	\$	Count	\$
A. < 2 or Unknown	62,385	2,514,517,688	68	2,440,256	1.090	0.970	171.2%	152.1%
B. 2-9	451,932	20,525,802,421	314	16,301,404	0.695	0.794	103.6%	119.4%
C. 10-24	1,855,189	85,743,008,942	1,189	55,624,509	0.641	0.649	97.5%	99.0%
D. 25-49	2,867,984	138,280,731,517	1,669	86,653,605	0.582	0.627	91.5%	98.3%
E. 50-99	4,126,992	208,701,280,495	2,429	123,358,075	0.589	0.591	94.7%	94.1%
F. 100-249	6,480,775	342,447,943,569	4,022	211,781,828	0.621	0.618	101.1%	99.3%
G. 250-499	4,106,232	230,847,568,930	2,680	150,469,883	0.653	0.652	107.6%	105.8%
H. 500-999	2,379,246	130,137,206,053	1,458	83,553,918	0.613	0.642	102.0%	104.6%
I. 1000-4999	1,665,854	100,016,939,341	832	48,202,056	0.499	0.482	81.9%	77.1%
J. 5000+	1,089,357	69,481,135,092	199	10,393,740	0.183	0.150	28.6%	24.4%
Grand Total	25,085,945	1,328,696,134,048	14,860	788,779,274	0.592	0.594	95.5%	94.9%

By Industry Category

Waiver incidence rates were analyzed across the dimension of industry category, both in terms of broad occupation classifications (blue collar, grey collar and white collar), and industry categories (based on SIC codes). Industry segments by two digit SIC are detailed in Appendix I.

Waiver incidence rates clearly vary between the three collar categories, with blue collar industry categories having higher incidence rates, and white collar categories having lower incidence rates, on average. However, within the collar categories, the waiver incidence rates for the industry categories do vary from the average. Labor intensive categories, such as Mining and Manufacturing, tend to be the industry categories with the highest waiver incidence rates. Service and Retail industries tend to be the categories with the lowest waiver incidence rates.

Table 4.7: Waiver Incidence Rates by Industry

Industry Category	2016 Study								
	Exposure		Claims		Incidence		A/E Incidence		
	Lives	\$ Amount	Count	\$ Amount	Count	\$	Count	\$	
Blue Collar	A. Agriculture, Forestry, and Fishing	134,073	4,790,078,881	79	3,460,000	0.589	0.722	100.9%	119.7%
	B. Mining	141,398	8,994,625,717	119	8,189,879	0.842	0.911	148.8%	152.7%
	C. Construction	859,007	30,989,414,186	528	21,468,698	0.615	0.693	103.6%	118.7%
	D. Manufacturing - Food	335,476	16,329,449,091	198	8,289,721	0.590	0.508	93.6%	78.9%
	E. Manufacturing - Clothes, Textile	128,464	4,381,825,932	110	3,536,884	0.856	0.807	130.7%	122.4%
	F. Manufacturing - Wood Products	320,677	10,532,905,502	211	7,686,075	0.658	0.730	102.2%	112.1%
	H. Manufacturing - heavy, steel etc.	1,774,764	77,066,426,095	1,223	50,801,929	0.689	0.659	106.2%	102.6%
	J. Transport, Communication, Utilities	1,083,451	49,778,683,052	539	29,301,488	0.497	0.589	82.2%	96.6%
Blue Total		4,777,310	202,863,408,456	3,007	132,734,674	0.629	0.654	101.0%	105.0%
Grey Collar	G. Manufacturing - Paper, Drugs, Chemicals	967,866	45,333,115,685	707	32,639,704	0.730	0.720	112.1%	109.9%
	I. Manufacturing - Precision Equipment	406,454	23,015,287,748	327	16,897,940	0.805	0.734	122.5%	112.8%
	K. Wholesale Trade Durable Goods	1,348,611	56,667,718,333	1,001	42,433,885	0.742	0.749	117.9%	120.2%
	L. Wholesale Trade Non-Durable Goods	766,775	33,792,510,894	470	21,738,968	0.613	0.643	98.4%	102.9%
	M. Retail - Trade	1,481,243	50,533,869,065	632	18,697,973	0.427	0.370	74.0%	66.9%
	P. Service - Personal	266,803	8,310,893,414	103	4,030,019	0.386	0.485	67.5%	83.2%
	R. Services - Other	470,300	20,162,387,840	230	9,653,260	0.489	0.479	86.7%	84.4%
	Z. Unknown	229,727	11,935,961,435	3	251,000	0.013	0.021	1.8%	3.0%
Grey Total		5,937,779	249,751,744,413	3,473	146,342,749	0.585	0.586	94.9%	95.2%
White Collar	N. Banks & Securities	1,043,501	91,574,750,731	627	55,293,561	0.601	0.604	98.7%	93.7%
	O. Insurance, Other Finance	1,287,266	89,224,764,392	809	54,892,306	0.628	0.615	99.1%	96.2%
	Q. Computers	1,814,586	138,787,305,769	908	62,189,168	0.500	0.448	95.0%	84.4%
	S. Health Services	2,772,314	128,727,314,078	1,997	100,681,675	0.720	0.782	109.5%	113.0%
	T. Legal Services	586,472	57,378,543,785	358	31,909,226	0.610	0.556	95.1%	83.7%
	U. Educational Services	1,748,979	78,895,336,233	750	37,641,880	0.429	0.477	65.2%	71.2%
	V. Services - Public	1,760,544	88,872,531,587	1,150	54,250,193	0.653	0.610	103.2%	92.9%
	W. Services - Technical	2,178,604	167,193,704,635	1,236	92,047,897	0.567	0.551	97.8%	92.5%
	X. Public Administration	1,178,590	35,426,729,967	545	20,795,945	0.462	0.587	68.7%	88.9%
White Total		14,370,856	876,080,981,179	8,380	509,701,851	0.583	0.582	93.9%	92.5%
Grand Total		25,085,945	1,328,696,134,048	14,860	788,779,274	0.592	0.594	95.5%	94.9%

By Region

Waiver incidence rates were analyzed across the dimension of geographic region. Industry segments by two-digit SIC are detailed in the Appendix. Geographic regions are illustrated in the map in Appendix II.

Waiver incidence rates vary by geography, and appear to be generally higher in the East and more moderate or lower in the Midwest and West. The variation in incidence rates by region is less wide in comparison to the 2013 Study, and the general relative level (high, moderate, low) for each region is similar to the level observed in the 2013 Study. The underlying differences in waiver incidence rates may be more related to differences in industry mix within the geographic regions, with the regions with lower actual-to-expected incidence rate levels tending to have higher exposure in white-collar or grey-collar industry categories. Due to the potential for varying mixes of business and carriers within each geographic region, it is difficult to draw significant conclusions regarding the impact of geography on waiver incidence rate levels.

Table 4.8: Waiver Incidence Rates by Region

Region	2016 Study							
	Exposure		Claims		Incidence		A/E Incidence	
	Lives	\$ Amount	Count	\$ Amount	Count	\$	Count	\$
A. Division 1: New England	1,560,288	108,293,558,638	1,191	74,206,509	0.763	0.685	120.6%	107.3%
B. Division 2: Middle Atlantic	4,137,695	278,639,505,406	2,272	142,247,018	0.549	0.511	88.6%	82.0%
C. Division 3: East North Central	4,552,682	210,177,004,137	2,861	135,590,430	0.628	0.645	98.5%	100.2%
D. Division 4: West North Central	2,487,153	110,941,142,294	1,409	60,646,077	0.567	0.547	89.3%	84.9%
E. Division 5: South Atlantic	3,628,199	184,188,417,254	2,402	126,011,287	0.662	0.684	106.7%	108.8%
F. Division 6: East South Central	1,492,404	67,357,573,133	1,164	51,612,329	0.780	0.766	124.2%	119.6%
G. Division 7: West South Central	2,868,716	125,781,829,371	1,515	77,034,789	0.528	0.612	86.4%	99.2%
H. Division 8: Mountain	1,253,088	58,166,468,406	684	33,398,923	0.546	0.574	91.4%	94.4%
I. Division 9: Pacific	3,063,176	182,701,741,863	1,350	87,343,912	0.441	0.478	74.6%	80.7%
J. Division 10: Canada	17,375	1,073,112,197	7	368,000	0.403	0.343	64.3%	54.7%
K. Unknown	25,170	1,375,781,349	5	320,000	0.199	0.233	26.9%	32.0%
Grand Total	25,085,945	1,328,696,134,048	14,860	788,779,274	0.592	0.594	95.5%	94.9%

Section V: Portability Results

Overview

For the 2016 Group Term Life Experience Study, analysis of Portability mortality was added to the analysis for the first time. For this reason, there will be no comparison to previous studies. With only 2,400 death claims, too much segmentation of the data can lead to results that are not credible. For that reason, the conclusions below are limited.

The following are summary statistics for the Portability dataset:

- 235 thousand exposures (counts)
- \$28.7 billion exposures (face)
- 2.4 thousand death claims
- \$183.6 million paid death claims

Mortality Rates Relative to Basic Life

As expected, due to no actively at work requirement, mortality for Ported policies is materially worse than Basic Life mortality.

Age and Gender Observations Relative to Basic Life:

- Female Ported mortality is approximately 540% times Basic Life mortality
- Male Ported mortality is approximately 380% times Basic Life mortality
- Older ages have lower relative mortality when compared to Basic Life. Males and females ages 67 and older exhibit mortality just 190% times standard mortality. The relatively better mortality may be due to the duration that the individual has had the ported coverage and the wear off period of anti-selection.

Disabled Mortality vs Non-Disabled

Mortality for disabled ported policies is significantly higher than the relative mortality of non-disabled individuals.

Exposure	Lives	Volume
Disabled - Yes	27K	\$2.1B
Disabled – No	148K	\$19.1B
Disabled - Unknown	59K	\$7.5B

Disabled Port Mortality Observations:

- Disabled Port mortality is approximately 700% times Basic Life mortality.
- Non-Disabled Port mortality is approximately 255% times Basic Life mortality.
- Unknown Port mortality is approximately 840% times Basic Life mortality.

Impact of Underwriting on Port Mortality

Mortality for underwritten Port policies is slightly better than non-underwritten and significantly better than unknown underwriting.

Exposure	Lives	Volume
Underwritten	31K	\$4.9B
Not Underwritten	158K	\$18.1B
Unknown	46K	\$5.7B

Underwriting Impact Observations:

- Approximately 17% of the face amount exposure was underwritten, but only 8% of the amounts of claims are from underwritten policies.
- Underwritten Port mortality is approximately 255% times Basic Life mortality.
- Non-underwritten Port mortality is approximately 305% times Basic Life mortality.
- Unknown Port mortality is approximately 960% times Basic Life mortality.

Appendix I—Industrial Codes

SIC Two Digit Codes					
00 = Unknown					
01 = Agricultural Production - Crops					
02 = Agricultural Production - Livestock and Animal Specialties					
07 = Agricultural Services					
08 = Forestry					
09 = Fishing, Hunting and Trapping					
10 = Metal Mining					
12 = Coal Mining					
13 = Oil and Gas Extraction					
14 = Mining and Quarrying of Nonmetallic Minerals, Except Fuels					
15 = Construction - General Contractors & Operative Builders					
16 = Heavy Construction, Except Building Construction, Contractor					
17 = Construction - Special Trade Contractors					
20 = Food and Kindred Products					
21 = Tobacco Products					
22 = Textile Mill Products					
23 = Apparel, Finished Products from Fabrics & Similar Materials					
24 = Lumber and Wood Products, Except Furniture					
25 = Furniture and Fixtures					
26 = Paper and Allied Products					
27 = Printing, Publishing and Allied Industries					
28 = Chemicals and Allied Products					
29 = Petroleum Refining and Related Industries					
30 = Rubber and Miscellaneous Plastic Products					
31 = Leather and Leather Products					
32 = Stone, Clay, Glass, and Concrete Products					
33 = Primary Metal Industries					
34 = Fabricated Metal Products					
35 = Industrial and Commercial Machinery and Computer Equipment					
36 = Electronic & Other Electrical Equipment & Components					
37 = Transportation Equipment					
38 = Measuring, Photographic, Medical, & Optical Goods, & Clocks					
39 = Miscellaneous Manufacturing Industries					
40 = Railroad Transportation					
41 = Local & Suburban Transit & Interurban Highway Transportation					
42 = Motor Freight Transportation					
43 = United States Postal Service					
44 = Water Transportation					
45 = Transportation by Air					
46 = Pipelines, Except Natural Gas					
47 = Transportation Services					
48 = Communications					
49 = Electric, Gas and Sanitary Services					
50 = Wholesale Trade - Durable Goods					
51 = Wholesale Trade - Nondurable Goods					
52 = Building Materials, Hardware, Garden Supplies & Mobile Homes					
53 = General Merchandise Stores					
54 = Food Stores					
55 = Automotive Dealers and Gasoline Service Stations					
56 = Apparel and Accessory Stores					
57 = Home Furniture, Furnishings and Equipment Stores					
58 = Eating and Drinking Places					
59 = Miscellaneous Retail					
60 = Depository Institutions					
61 = Nondepository Credit Institutions					
62 = Security & Commodity Brokers, Dealers, Exchanges & Services					
63 = Insurance Carriers					
64 = Insurance Agents, Brokers and Service					
65 = Real Estate					
67 = Holding and Other Investment Offices					
70 = Hotels, Rooming Houses, Camps, and Other Lodging Places					
72 = Personal Services					
73 = Business Services					
75 = Automotive Repair, Services and Parking					
76 = Miscellaneous Repair Services					
78 = Motion Pictures					
79 = Amusement and Recreation Services					
80 = Health Services					
81 = Legal Services					
82 = Educational Services					
83 = Social Services					
84 = Museums, Art Galleries and Botanical and Zoological Gardens					
86 = Membership Organizations					
87 = Engineering, Accounting, Research, and Management Services					
88 = Private Households					
89 = Services, Not Elsewhere Classified					
91 = Executive, Legislative & General Government, Except Finance					
92 = Justice, Public Order and Safety					
93 = Public Finance, Taxation and Monetary Policy					
94 = Administration of Human Resource Programs					
95 = Administration of Environmental Quality and Housing Programs					
96 = Administration of Economic Programs					
97 = National Security and International Affairs					
99 = Nonclassifiable Establishments					

Appendix I—Industrial Codes (con'd.)

Industry Mapping	
industry_cat	industry
Blue	A. Agriculture, Forestry, and Fishing
	B. Mining
	C. Construction
	D. Manufacturing - Food
	E. Manufacturing - Clothes, Textile
	F. Manufacturing - Wood Products
	H. Manufacturing - heavy, steel etc.
	J. Transport, Communication, Utilities
Grey	G. Manufacturing - Paper, Drugs, Chemicals
	I. Manufacturing - Precision Equipment
	K. Wholesale Trade Durable Goods
	L. Wholesale Trade Non-Durable Goods
	M. Retail - Trade
	P. Service - Personal
	R. Services - Other
	Z. Unknown
White	N. Banks & Securities
	O. Insurance, Other Finance
	Q. Computers
	S. Health Services
	T. Legal Services
	U. Educational Services
	V. Services - Public
	W. Services - Technical
	X. Public Administration

Appendix I—Industrial Codes (con'd.)

Industry Mapping	two_digit_industry_code
industry	two_digit_industry_code
A. Agriculture, Forestry, and Fishing	00 = Unknown
	01 = Agricultural Production - Crops
	02 = Agricultural Production - Livestock and Animal Specialties
	07 = Agricultural Services
	08 = Forestry
	09 = Fishing, Hunting and Trapping
B. Mining	10 = Metal Mining
	12 = Coal Mining
	13 = Oil and Gas Extraction
	14 = Mining and Quarrying of Nonmetallic Minerals, Except Fuels
C. Construction	15 = Construction - General Contractors & Operative Builders
	16 = Heavy Construction, Except Building Construction, Contractor
	17 = Construction - Special Trade Contractors
D. Manufacturing - Food	20 = Food and Kindred Products
	21 = Tobacco Products
E. Manufacturing - Clothes, Textile	22 = Textile Mill Products
	23 = Apparel, Finished Products from Fabrics & Similar Materials
F. Manufacturing - Wood Products	24 = Lumber and Wood Products, Except Furniture
	25 = Furniture and Fixtures
	26 = Paper and Allied Products
G. Manufacturing - Paper, Drugs, Chemicals	27 = Printing, Publishing and Allied Industries
	28 = Chemicals and Allied Products
	29 = Petroleum Refining and Related Industries
	30 = Rubber and Miscellaneous Plastic Products
	31 = Leather and Leather Products
	32 = Stone, Clay, Glass, and Concrete Products
H. Manufacturing - heavy, steel etc.	33 = Primary Metal Industries
	34 = Fabricated Metal Products
	35 = Industrial and Commercial Machinery and Computer Equipment
	36 = Electronic & Other Electrical Equipment & Components
	37 = Transportation Equipment
I. Manufacturing - Precision Equipment	38 = Measuring, Photographic, Medical, & Optical Goods, & Clocks
	39 = Miscellaneous Manufacturing Industries
J. Transport, Communication, Utilities	40 = Railroad Transportation
	41 = Local & Suburban Transit & Interurban Highway Transportation
	42 = Motor Freight Transportation
	43 = United States Postal Service
	44 = Water Transportation
	45 = Transportation by Air
	46 = Pipelines, Except Natural Gas
	47 = Transportation Services
	48 = Communications
	49 = Electric, Gas and Sanitary Services
K. Wholesale Trade Durable Goods	50 = Wholesale Trade - Durable Goods
L. Wholesale Trade Non-Durable Goods	51 = Wholesale Trade - Nondurable Goods
M. Retail - Trade	52 = Building Materials, Hardware, Garden Supplies & Mobile Homes
	53 = General Merchandise Stores
	54 = Food Stores
	55 = Automotive Dealers and Gasoline Service Stations
	56 = Apparel and Accessory Stores
	57 = Home Furniture, Furnishings and Equipment Stores
	58 = Eating and Drinking Places
	59 = Miscellaneous Retail
N. Banks & Securities	60 = Depository Institutions
	61 = Nondepository Credit Institutions
	62 = Security & Commodity Brokers, Dealers, Exchanges & Services
O. Insurance, Other Finance	63 = Insurance Carriers
	64 = Insurance Agents, Brokers and Service
	65 = Real Estate
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	72 = Personal Services
Q. Computers	73 = Business Services
R. Services - Other	75 = Automotive Repair, Services and Parking
	76 = Miscellaneous Repair Services
	78 = Motion Pictures
	79 = Amusement and Recreation Services
S. Health Services	80 = Health Services
T. Legal Services	81 = Legal Services
U. Educational Services	82 = Educational Services
V. Services - Public	83 = Social Services
	84 = Museums, Art Galleries and Botanical and Zoological Gardens
	86 = Membership Organizations
W. Services - Technical	87 = Engineering, Accounting, Research, and Management Services
	88 = Private Households
	89 = Services, Not Elsewhere Classified
X. Public Administration	91 = Executive, Legislative & General Government, Except Finance
	92 = Justice, Public Order and Safety
	93 = Public Finance, Taxation and Monetary Policy
	94 = Administration of Human Resource Programs
	95 = Administration of Environmental Quality and Housing Programs
	96 = Administration of Economic Programs
	97 = National Security and International Affairs
	99 = Nonclassifiable Establishments
Z. Unknown	00 = Unknown

Appendix II—Regions used by U.S. Census Bureau



Appendix III—Data Call for 2016 Study

Group Life Experience Study - Data Request September 2014

General Information

The Society of Actuaries (SOA), through its Group Life Experience Study Committee (the Committee), is issuing this data call to solicit information on group life and accidental death and dismemberment (AD&D) experience for 2010 through 2013. The previous study, covering experience from 2007 through 2009, was published in 2013 and revised in 2014.

By contributing data to this study, you will support the SOA's work to provide the industry with group life experience information. Participating companies will receive a confidential report of their own experience in Microsoft® Excel pivot table format.

The SOA has retained MIB to compile data for this study. Only MIB and SOA staff will have access to detailed individual company data and identifiable company results. Data contributions will only be used for the purposes for which such data was originally contributed, including procedures which validate data and results, as well as quality assurance procedures which verify conformance of data and processes to defined requirements.

To protect confidentiality, please use the participant code that the SOA will assign to you rather than your company name in data submissions. The participant code will be assigned to you when you contact Korrel Rosenberg with your intent to participate in the study. Please do not provide Social Security Number or other personally identifiable information. Data should be submitted directly to MIB. MIB will use a secure file transfer protocol (FTP) and will provide specific file transfer instructions later.

Data Requested

The study period includes calendar years 2010 through 2013. Please submit exposure and corresponding claim information, gross of reinsurance, on groups that have been insured during any portion of the study period, provided the group has been insured for at least one entire calendar year during this period.

If an Insured ID has a constant volume throughout its exposure in the study, data may be submitted in a single record covering multiple calendar years. If an Insured ID has had a change in volume during the study period, you may submit multiple records, one for each sub-period of different volume amount. The Individual Effective Date and Termination Date for each record should reflect the beginning and ending points of the sub-period. There should be no overlap of sub-periods for the same insured ID. When submitting multiple records for the same Insured ID, please attach any death claim to only one exposure record to avoid double counting.

Please provide all claims related to the exposure provided. Do not provide any claims from groups for which exposure data has not been provided. While the committee would prefer that every claim be matched to a submitted exposure record, it recognizes that there will be instances where slight differences

in the field used to merge exposure and claims data will result in a failure to systematically connect the two. Participants should be diligent to keep claims that are not matched to an exposure record to a minimum.

This is an incidence study which covers both mortality (death) and morbidity (waiver of premium). Include only approved claims. An approved death claim is one where a benefit payment has been made. An approved waiver claim is one that has satisfied the elimination period and the carrier has at some point in time accepted liability based on its review of the disability, regardless of whether a death has occurred. Do not include claims that have never been approved – for example, pending or denied claims. To avoid double counting, provide only one incidence claim record on the waiver claims. Do not separately report a death claim record if the claimant died while covered under the waiver of premium provision.

We are treating the accelerated death benefits as a traditional death claim. If a death has not occurred, submit the accelerated payment amount only. If a death has occurred during the study period, submit the sum of the accelerated payment and the death claim payment. Do not include the interest adjustment.

Data may be submitted as a Microsoft® Excel workbook. If you are unable to submit data in Excel format, please contact Muz Waheed at the SOA office. The SOA and MIB will work with participants to be as accommodating as possible however, it is critical that participants follow the layout in the attached Excel workbook for their submission. Failure to do so is the #1 cause for the release of the report being delayed.

The request is for three (3) different data files:

- Basic (employer-paid) coverage – individual exposure
- Supplemental (100% employee-paid) coverage – individual exposure
- Portability coverage

Participants should merge group level information, individual exposure and claim records into a single record within each submitted file.

“Individual exposure” means individual employee records maintained on the carrier’s administration system and used to create a premium bill for the employer group. DO NOT submit data for self-administered employer groups (those for which the insurer does not maintain complete and continuous eligibility data for billing purposes). The Committee has determined that the number of carriers that would submit self-administered data would be insufficient to publish a study.

“Portability” means a supplemental group term life coverage that the insured is allowed to continue on a premium-paying basis after leaving the employer group. DO NOT include data on coverage that has been converted to an individual life policy. Because they could significantly impact the mortality of ported lives, we are requesting information on both (1) the level of individual underwriting applied; and (2) whether disabled lives are allowed to continue their coverage.

Please see the Excel workbook (SOA Group Life Data Request 2016 FINAL.xlsx) for detailed information on data requirements.

The committee intends to study the incidence difference due to the coordination of waiver of premium and LTD claims by the carrier. This group-level field should be coded “Yes” only if the participant carrier coordinates adjudication of both claims. If the participant carrier does not insure the group for LTD, this field should be coded “No”. If the participant carrier insures the group for LTD, but claims are managed by separate Life and LTD claim teams without coordination, this field should be coded “No”.

Attached (Appendix 1) is a Self-Audit Guide for your data submission. It will expedite the study if all participants perform self-audits of their data prior to submission. Failure to adhere to the audit guidelines will delay the release of the report.

Exclusions

This study covers group term life and AD&D insurance only. The following are specifically excluded from the study:

- Group Universal Life (GUL) / Group Variable Universal Life (GVUL)
- Groups for which all insured’s are medically underwritten – e.g. groups with fewer than 10 lives
- Conversions to individual life policies
- Buyouts of waiver of premium reserves
- Paid-up coverage (retiree lives)
- Dependent coverage (spouses / children)
- Mass marketed / non-association
- Stand-alone AD&D
- Assumed reinsurance

Contact Information

To indicate your intent to participate in the study, please contact:

Korrel Rosenberg

Research Administrator, SOA

krosenberg@soa.org

847.706.3567

MIB is the data vendor for this study. For questions related to the data submission process, please contact:

Jaron Arboleda

Actuarial Associate, MIB

jarboleda@mib.com

781-751-6441

For any other questions related to the study, please contact:

Muz Waheed

Experience Studies Technical Actuary, SOA

mwaheed@soa.org

847-706-3511

Timing

So that we can publish the study on a timely basis, the Committee is asking that data be submitted by June 30, 2015. A member of the Committee will be assigned to each participant to guide them through the data submission process.

Contributing Companies

The Committee wishes to thank the following companies that contributed data to the 2016 Study:

Assurant, Inc. Group

Anthem

Fort Dearborn

Guardian Life Group

Hartford Life Group

Lincoln Financial Group

Metropolitan Life and Affiliated Companies Group

Minnesota Life

Mutual of Omaha Group

Principal Life

Prudential

Securian Financial Group

Security Mutual

Standard Insurance Group

State Farm

Unum

About The Society of Actuaries

The Society of Actuaries (SOA), formed in 1949, is one of the largest actuarial professional organizations in the world dedicated to serving 24,000 actuarial members and the public in the United States, Canada and worldwide. In line with the SOA Vision Statement, actuaries act as business leaders who develop and use mathematical models to measure and manage risk in support of financial security for individuals, organizations and the public.

The SOA supports actuaries and advances knowledge through research and education. As part of its work, the SOA seeks to inform public policy development and public understanding through research. The SOA aspires to be a trusted source of objective, data-driven research and analysis with an actuarial perspective for its members, industry, policymakers and the public. This distinct perspective comes from the SOA as an association of actuaries, who have a rigorous formal education and direct experience as practitioners as they perform applied research. The SOA also welcomes the opportunity to partner with other organizations in our work where appropriate.

The SOA has a history of working with public policymakers and regulators in developing historical experience studies and projection techniques as well as individual reports on health care, retirement, and other topics. The SOA's research is intended to aid the work of policymakers and regulators and follow certain core principles:

Objectivity: The SOA's research informs and provides analysis that can be relied upon by other individuals or organizations involved in public policy discussions. The SOA does not take advocacy positions or lobby specific policy proposals.

Quality: The SOA aspires to the highest ethical and quality standards in all of its research and analysis. Our research process is overseen by experienced actuaries and non-actuaries from a range of industry sectors and organizations. A rigorous peer-review process ensures the quality and integrity of our work.

Relevance: The SOA provides timely research on public policy issues. Our research advances actuarial knowledge while providing critical insights on key policy issues, and thereby provides value to stakeholders and decision makers.

Quantification: The SOA leverages the diverse skill sets of actuaries to provide research and findings that are driven by the best available data and methods. Actuaries use detailed modeling to analyze financial risk and provide distinct insight and quantification. Further, actuarial standards require transparency and the disclosure of the assumptions and analytic approach underlying the work.

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