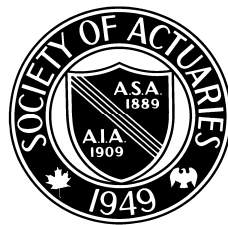


Report of the Society of Actuaries Group Life Insurance Experience Committee

May 2013 – Revised September 2014



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Group Life Insurance Mortality and Morbidity Study Abstract

This report presents the **revised** results of the 2013 Group Term Life Experience Study (“2013 Study”), conducted by the Society of Actuaries’ (“SOA”) Group Life Experience Committee (“the Committee” or “we”). Data were solicited from insurers regarding Group Term Life Insurance policies in force anytime during the study period of 2007 to 2009. 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 data on supplemental life, as well as ported lives. We also have included new fields, e.g., region and an indicator of whether waiver reporting is linked to LTD processing. The 2013 Study includes three Microsoft® Excel pivot tables: Individually Billed Group Life, Self-Administered Group Life, and AD&D. These pivot tables will enable companies to perform their own analysis to supplement the findings provided in this report.

Preamble to January 2014 revision

In developing additional analysis after the original results were released in May 2013, an error was uncovered with a submission. These revised tables and pivot tables reflect the complete data. Only individually billed data was impacted.

We have added an analysis on results by face amount band and seasonality.

Introduction

The Group Life Experience Committee (the “Committee”) of the Society of Actuaries (“SOA”) is pleased to present the results of the 2013 Group Term Life Experience Study, which includes experience for policies in force anytime during 2007 through 2009. The Group Life Experience Study has been published periodically for many years. The most recent version prior to this was published in 2006 based on data from 1999 through 2001 (“2006 Study”).

The remainder of this paper is organized as follows:

- Description of the Process
- Comments on the Data Request
- Description of the Pivot Tables
- Comments on Waiver
- Summary Results
- Additional Analysis—Face Amount Band
- Additional Analysis—Seasonality
- Contributing Companies
- Caveats
- For Further Information
- Appendix I—Definition of Region
- Appendix II—Development of Expected Basis

Description of the Process

The request for data was issued in mid-2011, with submissions due in October. 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.

A correction was implemented January 2014.

Comments on the Data Request

The Committee redesigned the data request from the prior 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-ops/data-request/2007-group-term-life.aspx>.

Description of the Pivot Tables

The 2013 Study includes three pivot tables: *Individually Billed Group Life*, *Self-Administered Group Life*, and *AD&D*. This section provides information on the specific data fields included in the pivot tables. The fundamental information provided in the pivot tables are claims and exposures by count and amount across a number of other fields, such as central age, sex, industry grouping and waiver provision. Expected values are calculated within the pivot tables, so Actual-to-Expected (“A/E”) ratios are provided across the various fields.

The individual billed pivot was revised January 2014.

Coverages Included. The coverages included in each pivot table are as follows:

- *Individually Billed Group Life* includes both basic (employer paid) and supplemental (employee paid) coverages.
- *Self-Administered Group Life* also includes both basic and supplemental.
- *AD&D* is Individually Billed Basic coverage only.

Companies reported issues with providing Self-Administered data. There were fewer companies contributing to the Self-Administered data portion of the study. There was not sufficient data for Self-Administered or Supplemental AD&D to be credible, so that data was not included.

Exposure Type. Exposure Type is a combination of Coverage, i.e., Basic and Supplemental, and Individually Billed versus Self-Administered.

Exposure. The exposure data are shown by count and amount. The abbreviations are:

Exposure count is expressed in life years and labeled as “Exposure #”; exposed volume is labeled as “Exposure \$.”

Claims. The claims data are also shown by count and amount. The abbreviations are:

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 2006 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.

The table below is based on the 2005 Group Term Life Waiver Study and contains estimated Waiver cost, i.e., actuarial present value of waiver death benefits as a percentage of the face amount. Note that this table is the same as the one provided with the 2006 Study, which used a 4% discount rate. Table 1 is provided for illustration purposes. Companies are encouraged to review the Waiver Study and develop Waiver claim costs that reflect their benefits and practices.

Present Value of Wavier Benefits at Time of Incurral, as a Percentage of Face Amount				
Age at Disability	Waiver to Age 65		Lifetime Benefits	
	Males	Females	Males	Females
22	20%	10%	20%	11%
27	24%	14%	25%	15%
32	27%	16%	29%	18%
37	29%	19%	32%	22%
42	31%	22%	36%	27%
47	33%	26%	42%	35%
52	32%	26%	47%	40%
57	29%	25%	52%	46%

The above percentages represent the present value of future benefits. Therefore, the differential between “to age 65” versus “lifetime” increases with age at disability. In addition, a nine-month elimination period is assumed. Note the above table is provided for ease of reference. Companies are encouraged to use the tools provided to develop factors appropriate for their benefit designs and practices.

Expected Basis and Actual-to-Expected (“A/E”) Results. A/E ratios are calculated within the pivot tables. For each one, the expected value is derived using the rate for the comparable age / sex cell. That is, the expected basis controls for age / sex only, not industry or any other variable. The A/E ratios by industry are roughly analogous to industry loads / discounts, although care should be exercised in analyzing the results to ensure that they are credible. Some cells will have insufficient data to be credible.

Note the expected basis is not a standard industry table, since there is not an industry standard for group life. It is the aggregate rate by age and sex and is useful for measuring variation by certain characteristics, e.g., industry. See Appendix II for additional details.

The expected basis is for the basic coverage only. The aggregate A/E across all basic exposure will be 100%. The A/E values for supplemental life will be relative to the comparable basic age / sex cells.

Expected Basis by Pivot Table	
Pivot Table	Expected Basis
Individually Billed Group Life	Basic by age/sex only
Self-Administered Group Life	Basic by age/sex only
AD&D	Basic by sex only

Waiver Provision. Data were coded to reflect Waiver provisions, including:

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

Industry / Industry Category. Companies provided data by either 2-digit or 4-digit Standard Industrial Classification (“SIC”) code. We categorized industry generally by 2-digit code, but with some additional categories. We further categorized industry by collar, i.e., blue, grey or white. The table below provides the translation from the 2-digit SIC code to the labels used in the pivot tables.

Industry / Industry Category by 2-digit SIC Code		
2-digit SIC	Industry Grouping	Industry Category
01-09	A. Agriculture, Forestry, and Fishing	Blue
10-14	B. Mining	Blue
15-17	C. Construction	Blue
20-21	D. Manufacturing- Food	Blue
22-23	E. Manufacturing- Clothes, Textile	Blue
24-26	F. Manufacturing- Wood Products	Blue
27-32	G. Manufacturing- Paper, Drugs, Chemicals	Grey
33-37	H. Manufacturing- heavy, steel etc.	Blue
38-39	I. Manufacturing- Precision Equipment	Grey
40-49	J. Transport, Communication, Utilities	Blue
50	K. Wholesale Trade Durable Goods	Grey
51	L. Wholesale Trade Non-Durable Goods	Grey
52-59	M. Retail- Trade	Grey
60-62	N. Banks & Securities	White

Industry / Industry Category by 2-digit SIC Code		
2-digit SIC	Industry Grouping	Industry Category
63-67	O. Insurance, Other Finance	White
70-72	P. Service- Personal	Grey
73	Q. Computers	White
74-79	R. Services- Other	Grey
80	S. Health Services	White
81	T. Legal Services	White
82	U. Educational Services	White
83-86	V. Services - Public	White
87-89	W. Services - Technical	White
90-99	X. Public Administration	White
UN	Z. Unknown	Grey

Region. Companies generally provided data by 5-digit zip code. Most often, this was the zip code for the policyholder’s home office. We summarized results by region using the divisions provided by the U.S. Census Bureau. See Appendix I for a map. This may help companies compare experience to general population mortality data, which is also available at this level.

Waiver Reporting Linked to LTD. Some companies link the reporting of the waiver claim to the reporting of the long-term disability (“LTD”) claim. Generally, this is thought to increase the incidence of the waiver claims because there is less underreporting. This field is an indicator with values of “Yes,” “No” or “Unknown.” Results for this indicator are meaningful only in conjunction with the waiver provision set to standard.

Note that some companies coded “yes” for this across their entire submission, even if a particular case did not actually have LTD. Readers should consider these results indicative and exercise caution when using this variable for pricing or other purposes.

Group Size. The group size field is defined as it has been for the past several studies. Namely:

- < 2 or unknown
- 2-9
- 10-24
- 25-49
- 50-99
- 100-249
- 250-499
- 500-999
- 1000-4999
- 5000+

Age Group. This field has two values based on the central age: “<67” and “67+,” which correspond roughly to working age and retired. This indicator allows the user to easily focus on the working age population only.

Ported Data. While we did collect data on ported lives, i.e., insureds electing to continue group life coverage after leaving the group, it was not of sufficient quality or amount for us to present results.

The preliminary results varied tremendously by company:

- One carrier had an aggregate A/E ratio slightly under 100%; others had aggregate A/Es well in excess of 200%.
- The expected basis here is the individually billed rates that vary by age/sex for basic coverage only.

There is a range of industry practice regarding the design of the portability rules, especially regarding waiver eligibility. Some are sold with waiver such that a disabled individual would qualify for waiver in lieu of opting for portability. Some are substitutes for waiver and include disabled lives. We recommend that future studies obtain data that captures the underlying plan design in order to better study the impact.

Summary Results

The following tables provide the summary results of the 2013 Study. Consistent with prior studies, results based on amounts are generally more favorable than on lives. Companies are strongly encouraged to use the pivot tables to supplement this analysis.

Variation by Company

As the table below demonstrates, experience varies from company to company. This is due to a number of factors that we were not able to incorporate into the study. Salary or face amount is a characteristic that we would like to analyze in a subsequent version of the study.

Basic Individual Billed Actual-to Expected Mortality Ratios by Company

	Count	Amount
1	101%	75%
2	96%	93%
3	98%	97%
4	101%	100%
5	98%	101%
6	111%	103%
7	98%	106%
8	95%	113%
9	105%	133%
10	118%	142%
Aggregate	100%	100%

The table below provides a high-level comparison of exposure and claims data included in the 2013 study versus the 2006. Counts are abbreviated as #. Amounts or volume are abbreviated as \$.

Comparison of Key Statistics for 2006 versus 2013 Study							
2006 Study							
Exposure	Gender	Exposure		Death Claims		Disability Claims	
		#	\$	#	\$	#	\$
Ind Billed	F	6,100,171	204,770,663,277	7,216	184,388,333	3,266	134,351,575
	M	7,885,044	318,204,932,870	17,651	524,716,805	3,564	158,827,816
Subtotal		13,985,215	522,975,596,147	24,867	709,105,138	6,830	293,179,391
Self-Admin	F	2,151,375	79,653,544,900	2,486	71,363,509	881	41,069,714
	M	2,447,421	120,717,017,786	5,489	194,655,481	899	56,537,528
Subtotal		4,598,796	200,370,562,686	7,975	266,018,990	1,780	97,607,242
Grand Total		18,584,011	723,346,158,833	32,842	975,124,128	8,610	390,786,633

2013 Study							
Exposure	Gender	Exposure		Death Claims		Disability Claims	
		#	\$	#	\$	#	\$
Ind Billed	F	8,424,937	447,825,633,161	10,692	372,038,800	3,316	188,857,892
	M	10,772,359	667,021,626,478	25,821	1,054,532,683	3,440	201,801,130
Subtotal		19,197,297	1,114,847,259,639	36,513	1,426,571,483	6,756	390,659,022
Self-Admin	F	2,665,259	203,790,333,379	7,064	212,529,597	1,774	128,267,553
	M	3,623,694	406,010,934,902	17,307	738,414,603	1,307	119,481,810
Subtotal		6,288,953	609,801,268,281	24,371	950,944,200	3,081	247,749,362
Grand Total		25,486,250	1,724,648,527,920	60,884	2,377,515,683	9,837	638,408,384

Tables 1A and 1B below provide the mortality exposure by Individually Billed versus Self-Administered, as well as coverage. Table 1A provides data for face amount exposed. Table 1B provides data for life-years exposed.

TABLE 1A

Group Life Exhibit - Face Amount Exposed (\$ Millions)

	Working Age		65+		Total	
	Male	Female	Male	Female	Male	Female
Individually Billed						
Basic	557,577	375,401	14,939	7,207	572,516	382,608
Supp	94,506	65,217	-	-	94,506	65,217
Subtotal	652,082	440,618	14,939	7,207	667,022	447,826
Self-Administered						
Basic	233,100	126,855	3,837	1,237	236,938	128,092
Supp	160,669	74,040	8,405	1,659	169,073	75,699
Subtotal	393,769	200,895	12,242	2,896	406,011	203,790
Grand Total	1,045,851	641,513	27,181	10,103	1,073,033	651,616

TABLE 1B

Group Life Exhibit - Life-Years Exposed (000s)

	Working Age		65+		Total	
	Male	Female	Male	Female	Male	Female
Individually Billed						
Basic	9,635	7,590	462	273	10,097	7,863
Supp	675	562	-	-	675	562
Subtotal	10,311	8,152	462	273	10,772	8,425
Self-Administered						
Basic	2,503	1,910	158	70	2,660	1,980
Supp	907	668	57	17	963	685
Subtotal	3,409	2,578	214	87	3,624	2,665
Grand Total	13,720	10,730	676	360	14,396	11,090

Tables 2A and 2B provide mortality rates for females and males by central age for Individually Billed Basic coverage only.

TABLE 2A / 2B

Group Life Exhibit - Basic Individual Billed Data - Death Rate

Gender	Central Age	Exposure (Life Years)		Raw Death Rate per 1,000	
		Policy Count (000s)	Face Amount (\$millions)	Count	Face Amount
Female					
	17	26	669	0.2738	0.3364
	22	439	15,942	0.2186	0.1698
	27	891	40,229	0.2358	0.1942
	32	877	44,776	0.2588	0.1977
	37	927	49,116	0.3809	0.2874
	42	972	51,465	0.5342	0.4271
	47	1,073	56,371	0.8908	0.7222
	52	1,008	51,883	1.3313	1.0854
	57	838	41,105	1.9290	1.5536
	62	540	23,845	3.0690	2.6750
	67	159	5,328	4.9827	4.6131
	72	57	1,164	8.5072	7.6518
	77	28	416	16.5789	15.0679
	82	16	193	30.8660	26.9679
	87	8	77	61.7250	53.9599
	92	3	23	95.8735	95.6366
	97	1	7	130.6539	126.0788
Total		7,863	382,608		
Male					
	17	41	1,016	0.8363	0.7008
	22	504	17,345	0.6724	0.5834
	27	1,020	46,154	0.4960	0.3578
	32	1,136	61,617	0.5327	0.3888
	37	1,268	76,626	0.6545	0.4706
	42	1,312	82,578	0.9954	0.7176
	47	1,375	87,535	1.4972	1.1158
	52	1,243	80,969	2.3218	1.6864
	57	1,016	63,621	3.6129	2.7501
	62	720	40,117	5.4155	4.6457
	67	236	10,413	8.0326	7.3510
	72	99	2,667	13.9704	12.1020
	77	54	1,083	27.1753	23.5074
	82	38	501	41.5811	47.1844
	87	22	209	58.3202	76.3742
	92	9	55	66.1468	109.3565
	97	3	11	54.3868	114.8059
Total		10,097	572,516		
Grand Total		17,961	955,124		

Table 3 provides Waiver rates by central age for counts and amounts. Note most waiver plan designs require disability prior to age 60. This accounts for the significant drop from age 57 to 62.

TABLE 3

Group Life Exhibit - Basic Individual Billed Data - Waiver Rate

Gender	Central Age	Exposure (Life Years)				Raw Disability Rate per 1,000	
		Count (000s)		Face Amount (\$millions)		Count	Face Amount
Female	17	26	18	669	454	0.056	0.046
	22	439	318	15,942	10,768	0.069	0.105
	27	891	641	40,229	26,794	0.195	0.257
	32	877	610	44,776	28,972	0.316	0.361
	37	927	633	49,116	31,159	0.460	0.516
	42	972	655	51,465	31,963	0.614	0.708
	47	1,073	713	56,371	34,336	0.838	1.016
	52	1,008	651	51,883	30,808	1.075	1.283
	57	838	507	41,105	23,427	1.518	1.841
	62	540	303	23,845	13,123	0.198	0.263
	Total		7,590	5,049	375,401	231,803	
Male	17	41	28	1,016	691	0.036	0.100
	22	504	355	17,345	11,592	0.073	0.099
	27	1,020	716	46,154	30,818	0.129	0.142
	32	1,136	783	61,617	40,593	0.151	0.169
	37	1,268	861	76,626	49,390	0.264	0.270
	42	1,312	876	82,578	51,471	0.403	0.358
	47	1,375	906	87,535	53,121	0.614	0.611
	52	1,243	798	80,969	46,536	1.057	1.009
	57	1,016	620	63,621	36,272	1.554	1.567
	62	720	386	40,117	22,456	0.179	0.220
Total		9,635	6,328	557,577	342,938		
Grand Total		17,226	11,377	932,978	574,742		

Table 4 provides A/E for death and disability by industry grouping for working age insureds.

TABLE 4

Group Life Exhibit - Basic Individual Billed data by Industry Category - Working Age

Category	Exposure (Life Years)		Average Face Amount (\$)	A/E - Death		A/E - Disability	
	Count (000s)	Face Amount (\$ Millions)		Count	Face Amount	Count	Face Amount
A. Agriculture, Forestry, and Fishing	116	3,974	34,156	110%	143%	56%	90%
B. Mining	91	5,249	57,966	176%	146%	123%	130%
C. Construction	749	25,453	33,974	121%	131%	101%	126%
D. Manufacturing - Food	133	6,493	48,854	106%	114%	108%	136%
E. Manufacturing - Clothes, Textile	68	2,260	33,092	123%	122%	66%	115%
F. Manufacturing - Wood Products	194	7,136	36,756	121%	139%	117%	124%
G. Manufacturing - Paper, Drugs,	562	26,039	46,360	108%	110%	108%	98%
H. Manufacturing - heavy, steel etc.	1,183	56,738	47,965	119%	144%	115%	128%
I. Manufacturing- Precision Equipment	238	14,734	61,852	93%	96%	107%	98%
J. Transport, Communication, Utilities	1,440	87,428	60,710	117%	106%	97%	116%
K. Wholesale Trade Durable Goods	867	39,234	45,228	102%	107%	106%	120%
L. Wholesale Trade Non-Durable Goods	417	18,762	45,035	107%	115%	92%	111%
M. Retail - Trade	1,588	54,534	34,333	97%	119%	74%	101%
N. Banks & Securities	565	53,494	94,722	74%	77%	107%	80%
O. Insurance, Other Finance	760	54,504	71,678	87%	84%	90%	84%
P. Service - Personal	154	5,386	35,079	95%	125%	60%	63%
Q. Computers	1,084	77,526	71,518	89%	91%	93%	77%
R. Services - Other	356	15,817	44,461	103%	94%	75%	78%
S. Health Services	1,544	74,986	48,560	86%	83%	109%	118%
T. Legal Services	526	50,795	96,558	68%	60%	113%	95%
U. Educational Services	1,037	44,581	43,004	71%	86%	68%	73%
V. Services - Public	967	55,287	57,168	103%	92%	102%	100%
W. Services - Technical	1,665	113,383	68,089	84%	88%	101%	85%
X. Public Administration	626	26,705	42,682	116%	127%	116%	160%
Z. Unknown	296	12,478	42,199	113%	123%	371%	345%
Total	17,226	932,978	54,162	100%	100%	100%	100%

Table 5 provides A/E results, as well as exposure statistics and average face amount, by region, for working age insureds. The definitions of the regions are in Appendix I.

TABLE 5

Group Life Exhibit - Basic Individual Billed Data by Region - Working Age

Region	Exposure (Life Years)		Average Face Amount (\$)	A/E - Death		A/E - Disability	
	Count (000s)	Face Amount (\$ Millions)		Count	Face Amount	Count	Face Amount
1: New England	988	67,969	68,790	86%	79%	129%	113%
2: Middle Atlantic	3,093	183,443	59,304	111%	124%	90%	83%
3: East North Central	3,310	150,147	45,365	100%	103%	87%	90%
4: West North Central	1,238	63,054	50,935	94%	83%	94%	97%
5: South Atlantic	3,050	180,847	59,302	96%	89%	123%	113%
6: East South Central	948	45,681	48,176	120%	115%	133%	152%
7: West South Central	1,606	76,015	47,327	110%	105%	72%	85%
8: Mountain	740	34,692	46,878	100%	103%	95%	106%
9: Pacific	2,032	119,056	58,579	78%	81%	94%	95%
10: Canada	8	455	58,333	114%	127%	118%	185%
11: Unknown	213	11,617	54,645	130%	136%	187%	213%
Total	17,226	932,978	54,162	100%	100%	100%	100%

Additional Analysis—Face Amount Band

After the release of the study results in May 2013, the Committee requested additional analysis based on the face amount.

The analysis is on individually billed, basic life coverage only. It is for working age only. Approximately 10% of the data needed to be excluded because it had been developed at a more aggregated level (versus seriatim) and could not be adjusted sufficiently. Table 6 provides exposures and A/E ratios by count and amount for each face amount band. The expected rates, as well as further breakdowns by industry category, i.e., blue, grey and white collar, are provided in the Excel workbook that accompanies this paper.

TABLE 6

Group Life Exhibit - Basic Individually Billed Data by Face Amount Band -- Working Age

Female		Exposure		A/E (%)		Expected Rate / 1000	
Band (000s)	Count	Amount	Count	Amount	Count	Amount	
1. <25	2,180,624	32,106,114,426	117%	144%	0.890	0.721	
2. 25-49	1,911,022	61,649,694,976	107%	131%	0.863	0.708	
3. 50-99	1,680,260	102,944,920,283	90%	106%	0.859	0.704	
4. 100-249	734,960	101,859,360,464	70%	80%	0.895	0.733	
5. 250-499	93,233	29,586,726,871	41%	49%	0.953	0.781	
6. 500-749	11,380	6,365,406,238	35%	41%	0.994	0.813	
7. 750-999	2,181	1,776,045,115	44%	5%	1.034	0.845	
8. 1000-1999	787	883,155,827	0%	0%	1.024	0.836	
9. 2000+	12	29,553,862	0%	0%	0.982	0.794	
Total	6,614,459	337,200,978,062	101%	98%	0.876	0.725	
Male		Exposure		A/E (%)		Expected Rate / 1000	
Band (000s)	Count	Amount	Count	Amount	Count	Amount	
1. <25	2,968,311	43,371,263,325	122%	161%	1.586	1.205	
2. 25-49	2,216,070	70,782,634,327	115%	152%	1.587	1.227	
3. 50-99	1,976,885	118,521,748,188	89%	116%	1.576	1.203	
4. 100-249	1,123,801	158,933,914,272	62%	80%	1.678	1.289	
5. 250-499	219,481	69,815,639,623	54%	68%	1.871	1.438	
6. 500-749	37,539	20,741,405,531	52%	68%	2.037	1.573	
7. 750-999	9,000	7,325,069,451	15%	18%	2.208	1.706	
8. 1000-1999	4,119	4,748,572,687	11%	12%	2.200	1.704	
9. 2000+	79	195,145,155	0%	nm	2.372	1.871	
Total	8,555,285	494,435,392,559	102%	100%	1.606	1.296	
Grand Total	15,169,744	831,636,370,621	102%	100%	1.288	1.064	

The expected rate shown in Table 6 reflects the age mix for each face amount band. It is the same expected basis for the Basic Individually Billed pivot table.

Additional Analysis—Seasonality

The claims data was reviewed for seasonality in the dates of death. The review focused on individually billed basic life separately for working age versus retiree (65 and over was considered retiree). The number of claims fluctuated month by month. The study did not identify a consistent pattern in the data.

Contributing Companies

The Committee wishes to thank the following companies that contributed data to the 2013 Study:

- Assurant, Inc. Group
- CIGNA Group
- Guardian Life Group
- Hartford Life Group
- Health Care Service Corporation Group (BC/BS of IL)
- ING
- Liberty Life Assurance Company of Boston
- Lincoln Financial Group
- Metropolitan Life and Affiliated Companies Group
- Mutual of Omaha Group
- OneAmerica Group
- Prudential of America Group
- Reliance Standard Life Group
- Standard Insurance Group
- Symetra Life Group
- UnitedHealth Group
- Unum

Caveats

As with all experience studies, users should be aware of several caveats:

- The results represent raw data and have not been smoothed or adjusted in any way.
- Results need to be reviewed at the appropriate level of detail and with the appropriate set of variables.
- Comparison of raw rates between this and other studies should not be done in aggregate; any analysis needs to consider age / gender / industry.
- The expected basis developed in the pivot tables accounts for age / gender differences, but not any other variable, e.g., SIC grouping or region.
- Disability results need to be reviewed in connection with the waiver provision.
- Results using the indicator “Waiver reporting linked to long-term disability (“LTD”)” need to be reviewed along with the waiver provision.
 - Some companies coded according to company practice. Some that automatically link reporting to LTD on all cases reported “Yes” on all groups, regardless of whether or not that particular group had LTD coverage.
- The smaller the exposure, the less credible the results for that cell – this is particularly important to remember in reviewing the pivot table results.
- Despite the Committee’s best efforts to validate data and the cooperation of the contributing companies to investigate and correct their submissions, it is likely 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.
 - Care should be exercised in applying the results of this study for pricing or other purposes.

For Further Information

The SOA has posted this paper, as well the Excel pivot tables and workbook with the tables, on its website, (www.soa.org). This study was the subject of Session #33 at the SOA’s Health Meeting in June of 2013. Recordings of that session are available on the SOA’s website.

Companies may obtain further information by contacting Cindy MacDonald, SOA Senior Experience Studies Actuary, at 847-706-3559 or cmacdonald@soa.org.

Sue Sames of Towers Watson served as the data compiler for this study.

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



Appendix II—Development of the Expected Basis

The expected basis is not a standard industry table (as would be typical for individual life experience analysis) as there is no comparable table for group life insurance. The expected basis is developed from an aggregate view of the current study itself.

Below is a view of the individually billed pivot table. (Note some fields are hidden.) Only “Individual-Basic” is selected.

$E[DthRt \#]$ and $E[DthRt \$]$ are the expected death rates based on count and amount, respectively. The “expected” rates by age and sex (for both basic and supplemental) were set equal to the actual rates for basic only. As a result, the A/E ratios are 100% by age and sex when viewed for basic life only. Expected rates for waiver were set in a similar fashion.

Exposure / Coverage Type	Individual - Basic	▼
Waiver Provision	(All)	▼
Region	(All)	▼
Industry	(All)	▼
IndustryCat	(All)	▼
Waiver_Reporting_Link_to_LTD	(All)	▼
Group Size	(All)	▼
AgeGrp	(All)	▼

	Exposure #	Exposure \$	DthRt #	E[DthRt #]	A/E DthRt #	DthRt \$	E[DthRt \$]	A/E DthRt \$
F	7,863,246	382,608,256,895	1.295	1.295	100.0%	0.869	0.869	100.0%
17	25,569	668,749,443	0.274	0.274	100.0%	0.336	0.336	100.0%
22	439,246	15,942,158,720	0.219	0.219	100.0%	0.170	0.170	100.0%
27	890,616	40,229,112,955	0.236	0.236	100.0%	0.194	0.194	100.0%
32	877,034	44,775,529,739	0.259	0.259	100.0%	0.198	0.198	100.0%
37	926,715	49,116,031,031	0.381	0.381	100.0%	0.287	0.287	100.0%
42	971,558	51,464,585,261	0.534	0.534	100.0%	0.427	0.427	100.0%
47	1,073,135	56,371,187,098	0.891	0.891	100.0%	0.722	0.722	100.0%
52	1,008,033	51,883,409,542	1.331	1.331	100.0%	1.085	1.085	100.0%
57	838,243	41,105,455,048	1.929	1.929	100.0%	1.554	1.554	100.0%
62	540,242	23,844,565,741	3.069	3.069	100.0%	2.675	2.675	100.0%
67	158,889	5,328,480,340	4.983	4.983	100.0%	4.613	4.613	100.0%
72	57,093	1,163,663,103	8.507	8.507	100.0%	7.652	7.652	100.0%
77	28,180	415,873,919	16.579	16.579	100.0%	15.068	15.068	100.0%
82	16,115	192,559,917	30.866	30.866	100.0%	26.968	26.968	100.0%
87	8,332	77,453,023	61.725	61.725	100.0%	53.960	53.960	100.0%
92	3,146	22,524,365	95.873	95.873	100.0%	95.637	95.637	100.0%
97	1,099	6,917,650	130.654	130.654	100.0%	126.079	126.079	100.0%
M	10,097,256	572,516,101,841	2.431	2.431	100.0%	1.613	1.613	100.0%
17	40,655	1,016,018,389	0.836	0.836	100.0%	0.701	0.701	100.0%
22	504,201	17,344,623,732	0.672	0.672	100.0%	0.583	0.583	100.0%
27	1,020,059	46,153,719,974	0.496	0.496	100.0%	0.358	0.358	100.0%
32	1,135,779	61,617,268,369	0.533	0.533	100.0%	0.389	0.389	100.0%
37	1,268,178	76,625,599,151	0.654	0.654	100.0%	0.471	0.471	100.0%
42	1,312,010	82,577,694,739	0.995	0.995	100.0%	0.718	0.718	100.0%
47	1,375,231	87,534,918,014	1.497	1.497	100.0%	1.116	1.116	100.0%
52	1,243,435	80,968,541,401	2.322	2.322	100.0%	1.686	1.686	100.0%
57	1,016,094	63,620,863,342	3.613	3.613	100.0%	2.750	2.750	100.0%
62	719,791	40,117,487,026	5.415	5.415	100.0%	4.646	4.646	100.0%
67	236,226	10,412,882,544	8.033	8.033	100.0%	7.351	7.351	100.0%
72	99,174	2,667,305,079	13.970	13.970	100.0%	12.102	12.102	100.0%
77	53,622	1,082,817,418	27.175	27.175	100.0%	23.507	23.507	100.0%
82	38,003	501,297,717	41.581	41.581	100.0%	47.184	47.184	100.0%
87	22,424	209,444,479	58.320	58.320	100.0%	76.374	76.374	100.0%
92	9,343	54,718,277	66.147	66.147	100.0%	109.357	109.357	100.0%
97	3,032	10,902,190	54.387	54.387	100.0%	114.806	114.806	100.0%
Grand Total	17,960,502	955,124,358,736	1.934	1.934	100.0%	1.315	1.315	100.0%