Analysis of Claim Termination Experience from 2006 to 2014

Analysis of Claim Termination Experience from 2006 to 2014

AUTHOR Society of Actuaries' Individual Disability
Experience Committee

Caveat and Disclaimer

CONTENTS

Analysis of Claim Termination Experience from 2006 to 2014

Preface: Revisions Made to this Report Subseqant to February 2011

August 18, 2021 updates

Subsequent to the release of the February 2021 report on claim termination experience, the IDEC committee identified an error in how the data had been sorted into the monthly indemnity amount bands (i.e., < $2,500, $2,500 to $4,999, $5,000 to $7,499, $7,500 to $9,999, $10,000 to $14,999, $15,000 to $19,999 and $20,000+). The error had the impact of overstating the exposures and claims for the higher amount bands and understating for the lower. The only exhibits affected were those that specifically looked at experience by amount band. All other tables and figures were not affected.

The impact of the changed data was not great. It resulted in a slope of A/E termination ratios by amount band that was somewhat less steep than the original report data. Figures 3.2, 3.6, 4.5, 5.5 and Tables 4.14, 4.15, 5.5 and 5.6 in this report are the ones that have been updated.

Section 1: Introduction

The Individual Disability Experience Committee (IDEC) of the Society of Actuaries (SOA) has analyzed industry individual disability income (IDI) claim termination experience relative to the 2013 IDI Valuation Table (2013 IDIVT) termination rates. This report discusses claim termination trends for IDI business from 2006 through 2014. In 2019, the IDEC released a report on IDI claim incidence rate experience ("Analysis of Claim Incidence Experience from 2006 to 2014"[*]) over this same period of time. The IDEC reports are intended for the benefit of the Society of Actuaries.

1.1 Background

The IDEC published a report in 2013 analyzing the industry IDI claim incidence and termination experience relative to the 1985 Commissioner's Individual Disability Tables A and C (CIDA, CIDC).[†] The claim incidence database developed by the IDEC for this report covered the years 1990 through 2006. The claim termination database covered the years 1990 through 2007. The IDEC claim incidence and termination databases served as the data sources for industry experience for the development of the 2013 IDIVT, which was approved by the National Association of Insurance Commissioners (NAIC) in August 2016 to replace the 1985 CIDA and CIDC tables as statutory minimum reserve morbidity bases for IDI.

Subsequently, the SOA engaged Milliman, Inc., to analyze IDI claim trends emerging over the 1990–2007 period relative to the 2013 IDIVT base claim incidence and termination rates. Milliman used the IDEC claim databases that were the bases of the 2013 IDIVT. Milliman released the incidence report in January 2018 ("Individual Disability Claim Incidence Trends, 1990–2006, Relative to the 2013 IDI Valuation Base Table"[‡]) and the termination report in August 2018 ("Individual Disability Claim Termination Trends, 1990–2006, Relative to the 2013 IDI Valuation Base Table"[§]).

---

[*] Society of Actuaries, "Analysis of Claim Incidence Experience from 2006 to 2014," November 2019, https://www.soa.org/globalassets/assets/files/resources/experience-studies/2019/2006-14-idec-incidence-report.pdf.
[†] Society of Actuaries, "Report of the Individual Disability Experience Committee Analysis of Experience from 1990 to 2007," March 2013, https://www.soa.org/globalassets/assets/files/research/exp-study/research-1990-2007-indiv-analysis-experience.pdf.
[‡] Society of Actuaries, "Individual Disability Claim Incidence Trends, 1990–2006, Relative to the 2013 IDI Valuation Base Table," January 2018, https://www.soa.org/globalassets/assets/files/resources/research-report/2018/claim-incidence-trend-report.pdf.
[§] Society of Actuaries, "Individual Disability Claim Termination Trends, 1990–2006, Relative to the 2013 IDI Valuation Base Table," August 2018, https://www.soa.org/globalassets/assets/files/resources/research-report/2018/idi-claim-termination.pdf.

1.2 Contributors

The IDEC 1990–2007 database was developed from two separate industry data calls, one covering the period 1990 through 1999 and a later one covering the period 2000 through 2007. The most recent IDEC study covers the period 2006 through 2014.

Table 1.1 lists the companies that contributed their IDI policy and claims data to the three IDEC data calls. Three companies that contributed to the 2000–2006 data call did not contribute to the most recent call. The size of these three IDI blocks were relatively small compared to those of the other contributors.

Table 1.1

COMPANIES CONTRIBUTING TO THE IDEC DATA CALLS

Contributors	1990–1999	2000–2007	2006–2014
Ameritas Life Insurance Corporation (Union Central)	X	X	X
Assurity Life Insurance Company			X
Berkshire Life Insurance Company of America	X	X	X
Guardian Life Insurance Company		X	X
Illinois Mutual Life Insurance Company	X	X	X
Massachusetts Casualty Insurance Company	X	X	
Massachusetts Mutual (including Connecticut Mutual)	X	X	X
Monarch Life Insurance Company (including Penn Mutual)	X	X	
Mutual of Omaha Insurance Company		X	
Northwestern Mutual Life Insurance Company	X	X	X
Paul Revere Life Insurance Company	X	X	X
Principal Financial Group	X	X	X
Provident Life & Accident Insurance Company	X	X	X
RiverSource Life Insurance Company		X	X
Standard Life Insurance Company		X	X
Trustmark Life Insurance Company	X		
UNUM	X	X	X

1.3 Scope and Purpose

This report discusses IDI claim termination experience from 2006 through 2014 relative to the 2013 IDIVT base termination rates, i.e., the "expected" basis. Data collected for years 2005 and 2015 were excluded from the study because year 2005 was a partial year, and claim terminations due to deaths in 2015 appear to be understated as the result of reporting lags.

The 2013 IDIVT claim termination rates represent a graduated model of average industry experience from 1990 through 2007. The analyses in this report quantify how claim termination experience has changed relative to the 2013 IDIVT by analyzing actual-to-expected ratios (A/Es) for key subsets of the business. The results of the analyses provide significant insights into the nature of the IDI risk and the underlying trends.

The analyses of claim termination experience discussed in this report involve segmentation of the data, which can significantly reduce the number of claims and terminations in certain cells. Whenever a cell has less than 10 claim terminations, the A/E termination ratio is left blank in any table and not shown in any chart that provides the results of comparable cells. The 10-claim termination criterion was selected because cells with less than 10 terminations generally have less meaningful and comparable A/E ratios. However, this does not imply that the A/E results for cells with 10 or more claim terminations are necessarily credible.

The degree of credibility to be assigned to the results discussed in this report depends on the users' preferred level of confidence. Most tables in this report that provide A/E termination ratios also show the number of claim terminations. As a rough measure of credibility, a cell with 1,000 claim terminations produces a 95% confidence interval of 0.94 to 1.06 times the expected outcome; a cell with 100 claim terminations has a 95% confidence interval of 0.80 to 1.20; and one with 10 claims has a 95% confidence interval of 0.38 to 1.62. Most of the A/E termination ratios provided in this report are measured in terms of amount of coverage and not in terms of claim count, which introduces additional variability to these results.

The IDEC database contains records for six types of IDI contracts:

- *Accident and sickness (A&S)*—These contracts provide personal IDI coverage that make up most of the IDI experience. Elimination periods range from 0 days to 2 years, and benefit periods range from short term (e.g., 24 months) to a specific age (e.g., 65 years) or lifetime. The face amount of A&S policies is described in terms of the maximum monthly benefit.

- *Business overhead expense (BOE)*—These contracts reimburse business owners for overhead expenses incurred while they are disabled. These policies typically have short elimination periods (e.g., 30 days or less) and short maximum benefit periods (e.g., 24 months or less).

- *Disability buy-out (DBO)*—These contracts provide lump-sum benefits at the end of long elimination periods (e.g., at least one year) to business owners for buying out a disabled partner's business share. Some DBO policies provide monthly benefits instead of lump-sum benefits.

- *Accident only (AO)*—These contracts are personal IDI policies that pay benefits only in the event of an accident. The face amount of AO policies is described in terms of the maximum monthly benefit.

- *Key person (KP)*—These contracts provide monthly benefits to businesses to compensate for losses resulting from key employees being disabled. Like BOE policies, KP policies typically have short elimination and benefit periods, although some are similar to DBO policies with a long elimination period (e.g., 365 days) and a lump-sum benefit.

- *Other*—This category includes contract types not already listed and issued mostly prior to 1990.

Most of the analyses in this report pertains to A&S and BOE contracts.

The 2013 IDIVT base termination rates during the "select" claim durations—i.e., the first 10 claim years—vary by elimination period, occupation class, onset age, gender and claim duration. The 2013 IDIVT base termination rates during the "ultimate" claim durations—i.e., claim years 11 and later—vary by attained age, gender and occupation class (M and non-M).

For the purpose of calculating statutory minimum active life and claim reserves, the 2013 IDIVT base claim termination rates are additionally modified to reflect differences by contract type, benefit period, the presence of cost-of-living adjustment (COLA) benefits and diagnosis category. The 2013 IDIVT claim termination modifiers are only applied to claim termination rates in the select durations. The claim termination modifiers by diagnosis risk mapping are used for the calculation of statutory minimum claim reserves but not active life reserves.

For most analyses discussed in this report, the expected termination basis comprises the 2013 IDIVT base termination rates multiplied by the claim termination modifiers used to calculate statutory minimum claim reserves before the application of valuation margins. In several situations, the expected basis is calculated before the application of the claim termination modifiers. Claim duration is measured from the date of disability. The study only includes claims for which disability benefits were paid.

The 2013 IDIVT claim termination rate tables for the select durations are too extensive to include in this report. Appendix A lists the 2013 IDI claim termination rates for the ultimate durations, and Appendix B provides the 2013 IDIVT claim termination modifiers. All 2013 IDIVT claim termination rates for both select and ultimate durations, as well as the claim termination modifiers, can be found in the 2013 IDIVT workbook.[*]

The current claim termination study improves the quality of data over the prior IDEC study in two ways:

1. *Identifier added to split claim terminations between recoveries and deaths*—The analysis of terminations due to death vs. recoveries will be a valuable addition to the industry's understanding of IDI claim experience. Accordingly, this will be the subject of a separate upcoming report from the IDEC. However, since the expected termination rates (2013 IDIVT base rates) are not split between recoveries and deaths, analysis of claim termination experience between recoveries and deaths is not included in the scope of this report.

2. *The identification of benefit expiry miscodes*—Benefit expiries are claims terminating due to the benefit period ending. Both this study and the prior one attempt to identify benefit expiries so as not to code them as claims terminating due to recovery. The current study is better at identifying benefit expiries than the prior study, but a review of A/E termination ratios suggests that some problems still persist. Our analyses discuss where miscoding may have occurred and any adjustments made to the results.

This report comprises the following sections:

Section 1   Introduction

Section 2   Acknowledgments

Section 3   Study Highlights

This section summarizes significant claim termination trends discussed in Sections 4 and 5.

Section 4   A/E Claim Termination Experience in the Select Durations

This section discusses claim termination trends during the 2006–2014 study period relative to the 2013 IDIVT claim termination rates in the select durations after the application of claim termination modifiers. The scope pertains mainly to A&S and BOE policies. Claim termination trends are studied by contract type, calendar year, benefit period, occupation class, gender, onset age, elimination period, the presence of COLA benefits, monthly indemnity and diagnosis grouping.

---

[*] Society of Actuaries, "1990–2007 Individual Disability Experience Committee Report and Disability Workbook," March 2013, https://www.soa.org/resources/experience-studies/2013/hlth-disability-morbidity-tables-excel-workbook.

Section 5   A/E Claim Termination Experience in the Ultimate Durations

This section discusses claim termination trends during the 2006–2014 study period relative to the 2013 IDIVT claim termination rates in the ultimate durations. The scope covers only A&S contracts. Claim termination trends are studied by study period, gender, attained age, occupation class (class M, all others), benefit period (lifetime, nonlifetime), monthly indemnity, the presence of COLA benefits, and diagnosis grouping.

Appendix A   2013 IDIVT Claim Termination Rates in the Ultimate Durations

Appendix B   2013 IDIVT Claim Termination Modifiers

Appendix C   Diagnosis Groupings

Appendix D   List of Participating Companies

Section 2: Acknowledgments

Deepest gratitude goes to the Individual Disability Experience Committee (IDEC) for their diligent work.

IDEC Members:

Carl Desrochers, FSA. MAAA, FCIA (Chair)
Jay A. Barriss, FSA, MAAA (Vice Chair)
Tasha S. Khan, FSA, MAAA (Vice Chair)
Viresh G. Bawa, FSA, CERA
Robert W. Beal, FSA, MAAA
Jordan E. Cadorette, FSA
Thomas R. Corcoran, FSA, MAAA, CERA
Margaret Cormier, FSA, MAAA
Laurie J. Fede, FSA, MAAA
Richard N. Ferree, FSA, MAAA
Anju Gupta-Lavey, FSA, MAAA
Charles P. Herman, FSA, MAAA
Brian D. Holland, FSA, MAAA
Chris Keffalos, ASA, MAAA
Lindi M. Knock FSA, MAAA
Tracy K. Koch, FSA, MAAA
Christopher J. Kozol, ASA
Todd M. Petersen, FSA, MAAA
Maureen A. Shaughnessy, FSA, MAAA
Daniel D. Sim, FSA, MAAA
Aaron M. Stoeger, FSA, MAAA
Paul G. Ziobrowski, FSA, MAAA

At the Society of Actuaries:

Pete Miller, ASA, MAAA, Experience Studies Actuary
Erika Schulty, Research Associate

Section 3: Study Highlights

This section highlights key results from Sections 4 and 5. Unless otherwise specified, results pertain to the 2006–2014 study period. All A/E termination ratios are measured in terms of amount of coverage, not claim count. (Amount of coverage is equal to the initial monthly indemnity at the time of the claim.) When there are less than 10 claims for a cell, or the cell has no exposure, the A/E termination ratio is left blank.

3.1 Highlights of Claim Termination Trends in the Select Durations from Section 4

1. The A&S A/E claim termination ratios generally decline by claim duration. The A/E ratios are over 100% in year 1. The decline is modest and not steady during the first 24 claim months, but after that, the A/E ratios decrease steeply, reaching 63% of the 2013 IDIVT for years 6 through 10. This pattern of A/E ratios for the current IDEC study period can be seen in Figure 3.1.

2. As Figure 3.1 shows, there is little difference in the A/E termination ratios for A&S claims with long-term benefit periods—i.e., to age 65–70 and lifetime benefit periods—between study periods 2006–2010 and 2011–2014, which suggests that termination experience was relatively stable throughout the 2006–2014 period. In regard to trends over the full 1990–2014 spectrum, the A/E ratios for year 1 were relatively close across all calendar periods. For year 2, there was no clear pattern, as 2000–2007 was significantly lower than 1990–1999, but the two current study periods fell between the two prior study periods. For claim year 3 and later, the A/E termination ratios dropped consistently from years 1990 through 1999 to 2000 through 2007 and then again to 2006 through 2014.

Figure 3.1

COMPARISON OF AVERAGE A/E TERMINATION RATIOS FOR CLAIMS WITH LONG-TERM BENEFIT PERIODS FROM THE PRIOR AND CURRENT IDEC STUDIES—SELECT DURATIONS
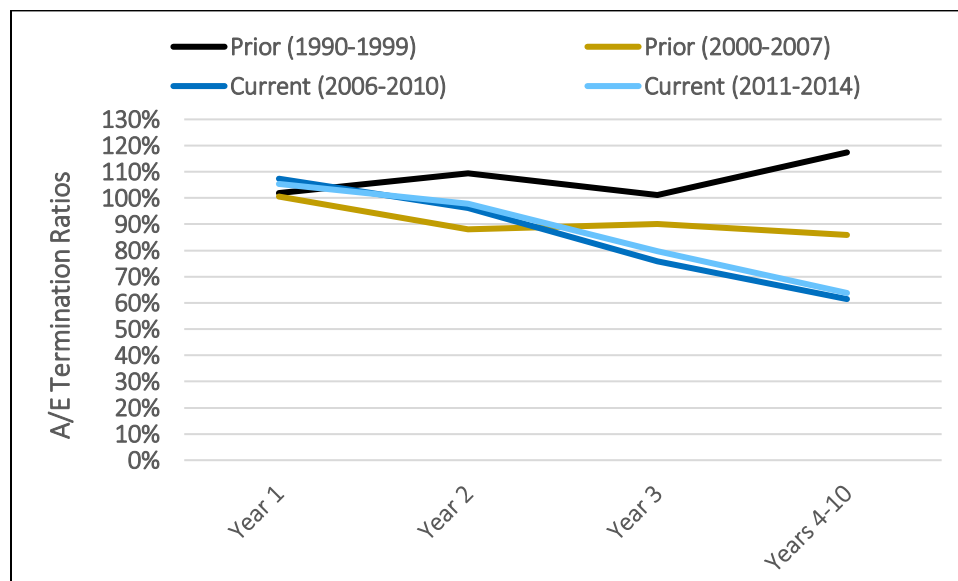
3. The durational patterns of the A/E termination ratios are relatively consistent between lifetime and to age 65–70 benefit periods, implying that the select 2013 IDIVT modifiers for these two long-term benefit periods are appropriate.

4. On average over all select durations, the A/E termination for A&S claims with long-term benefit periods are highest for 30-day and 90-day elimination periods (93% and 96%, respectively) and lowest for elimination period under 30 days and those of 360 days and higher (84% and 66%, respectively). The volume of terminations for claims with elimination periods under 30 days and 360+ days is quite low compared to the other elimination periods, which may affect the credibility of the A/E ratios for these elimination periods.

5. On average, over all select durations, the A/E termination ratios for A&S claims with short-term benefits range from 94% to 105% for all elimination periods of less than 360 days.

6. Occupation class M has the highest average A/E termination ratio for A&S claims with long-term benefit periods among the IDEC occupation classes at 98% over all the select durations. The combined blue-collar occupation classes (3–4) have the lowest average A/E ratio at 79% for long-term benefit periods. This is not indicative of occupation class M termination rates being higher than the blue-collar termination rates. Rather, on average, the actual termination rates are lower than expected for the blue-collar market and close to expected for the medical markets over all select durations.

7. When studying the A/E termination rates by monthly indemnity amount band, the slope of the A/E termination ratio by amount is more important than their level. Figure 3.2 shows the average A/E ratios over the select durations by monthly indemnity band, for long-term benefit plans vs. short-term benefit plans. Each of the benefit period type shows consistently decreasing A/Es as amount band increases. (Please note that the A/Es for the highest amount bands for each are based on very limited data.) Monthly indemnity is measured by the benefit amount per claim, as opposed to the benefit amount per life (i.e., indemnities for multiple claims on the same life are not combined).

Figure 3.2

AVERAGE A/E TERMINATION RATIOS FOR A&S CLAIMS WITH LONG-TERM AND SHORT-TERM BENEFIT PERIODS BY MONTHLY INDEMNITY FOR ALL SELECT DURATIONS COMBINED
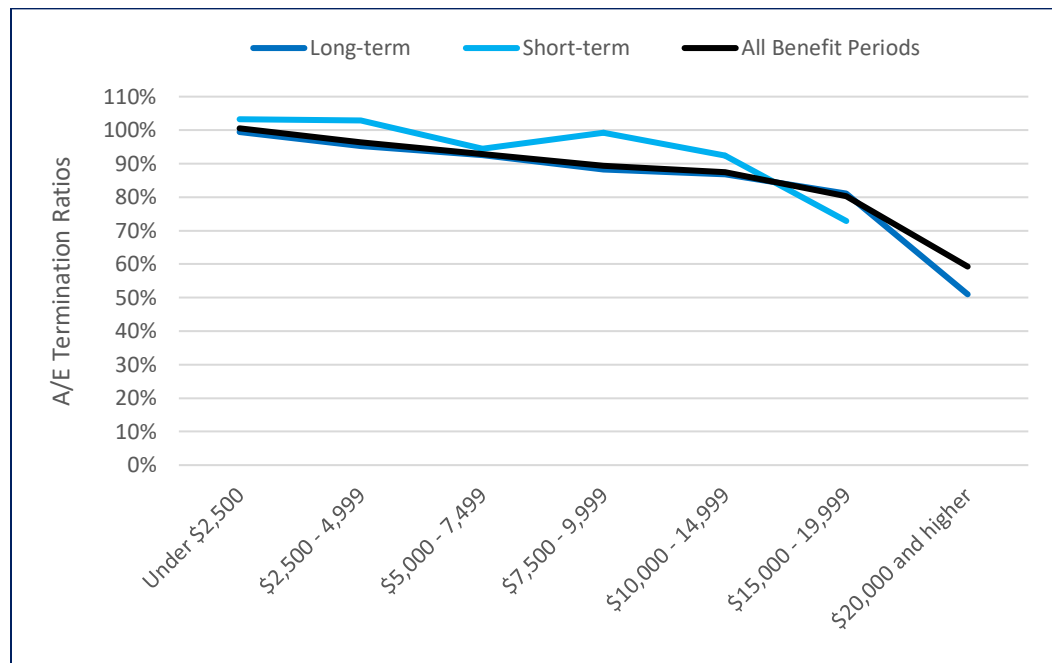
8. The presence of COLA benefits does not appear to have a significant impact on claim termination rates over the select durations during the 2006–2014 study period for claims with long-term benefit periods. This is a change from COLA experience over the 1990–2007 period, which showed that COLA claims had lower A/E ratios (and resulted in claim modifiers for COLA).

9. The assignment of claims by diagnosis groupings to risk level modifier categories (i.e., very low, low, mid, high and very high) in the 2013 IDIVT may need some revisions. The A/E termination ratios by diagnosis suggest that some groupings should be assigned to different risk levels. Maternity may deserve its own risk level category since the A/E ratio for maternity claims is much higher than the ratio for claims with diagnoses mapped to the very high level.

10. The four diagnosis groupings with the lowest average A/E termination ratios over all select durations are nervous systems, mental and nervous, diabetes and back. Excluding maternity, the four diagnosis groupings with the highest A/E ratios are injury other than back, cancer, digestive and alcohol & drug.

3.2 Highlights of Claim Termination Trends in the Ultimate Durations from Section 5

1. The current IDEC study has considerably more claim exposure and terminations in the ultimate claim durations after attained age 70 than was available in the prior IDEC study, providing more credible data for understanding termination experience at these older ages.

2. The current study identifies significant differences in the A/E termination ratios between A&S claims with a lifetime benefit period and those with nonlifetime benefit periods, with the former typically having lower A/E termination ratios. Differences in the A/E ratios by benefit period were present in the prior study, but due to the low volume of lifetime claim data in the ultimate durations, that study did not distinguish claim termination experience by benefit period in the ultimate durations.

3. Miscoding of some benefit expiries as recoveries remains an issue in the current study at attained ages 65 through 69 for nonlifetime claims; however, the level of miscoding appears much lower than what existed in the prior study. The adjustment approach used to smooth the nonlifetime A/E termination ratios for attained ages 65 through 69 is described in Section 5. Since the miscoding of benefit expiries pertains to claims with nonlifetime benefit periods, no smoothing was applied to the A/E ratios for lifetime claims.

4. The current IDEC study has seen a considerable reduction in the A/E termination ratios in the ultimate durations compared to the prior IDEC study. Figure 3.3 compares the aggregate A/E termination ratios in the ultimate durations for claims with nonlifetime and lifetime benefit periods between the prior and current studies. The 1990–1999 and 2000–2007 study periods are from the prior study, and the 2006–2010 and 2011–2014 study periods are from the current one. For this comparison, all occupation classes and genders have been combined. As previously discussed, the nonlifetime A/E ratios for attained ages 65 through 69 have been smoothed due the potential miscoding of benefit expiries.

Figure 3.3

COMPARISON OF AVERAGE A/E TERMINATION RATIOS FROM THE PRIOR AND CURRENT IDEC STUDIES—ULTIMATE DURATIONS
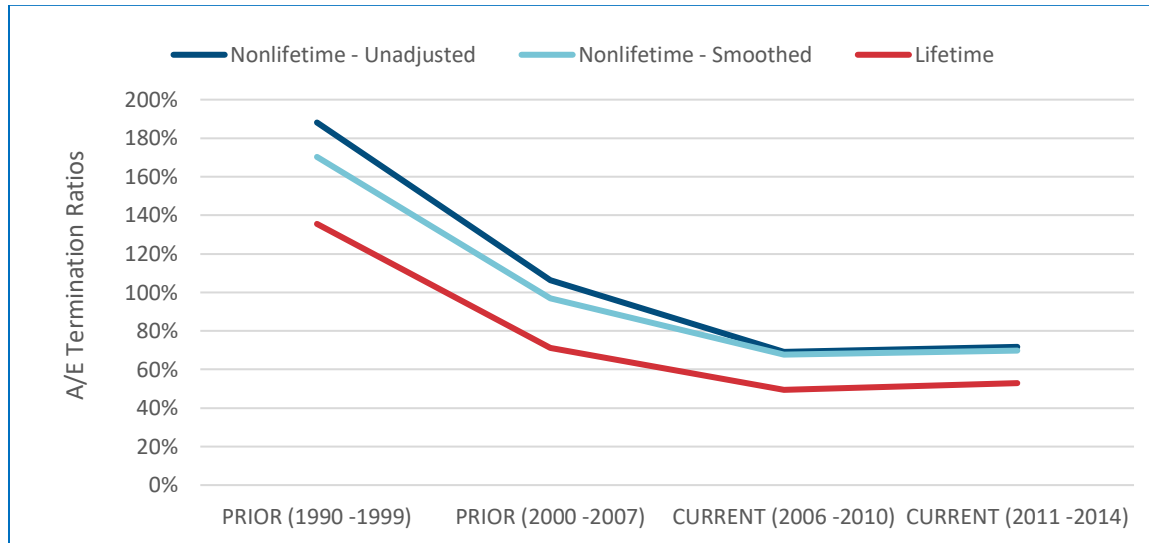
5. A/E termination ratios in the ultimate durations are consistently higher for nonlifetime benefit periods than for lifetime. Differences in the A/E ratios between occupation class M and the non-M occupation classes do not appear to be significant. Figure 3.4 compares the A/E termination ratios in the ultimate durations by attained age, occupation class and benefit period for male A&S claims. Figure 3.5 provides a similar comparison for female A&S claims. The volume of female claim terminations in the ultimate durations is much lower than that of male terminations. As a result, the attained ages only extend to the 75–79 age grouping for females, and the A/E ratios display more variability.

Figure 3.4

A/E TERMINATION RATIOS BY ATTAINED AGE, OCCUPATION CLASS AND BENEFIT PERIOD—MALE A&S CLAIMS, ULTIMATE DURATIONS
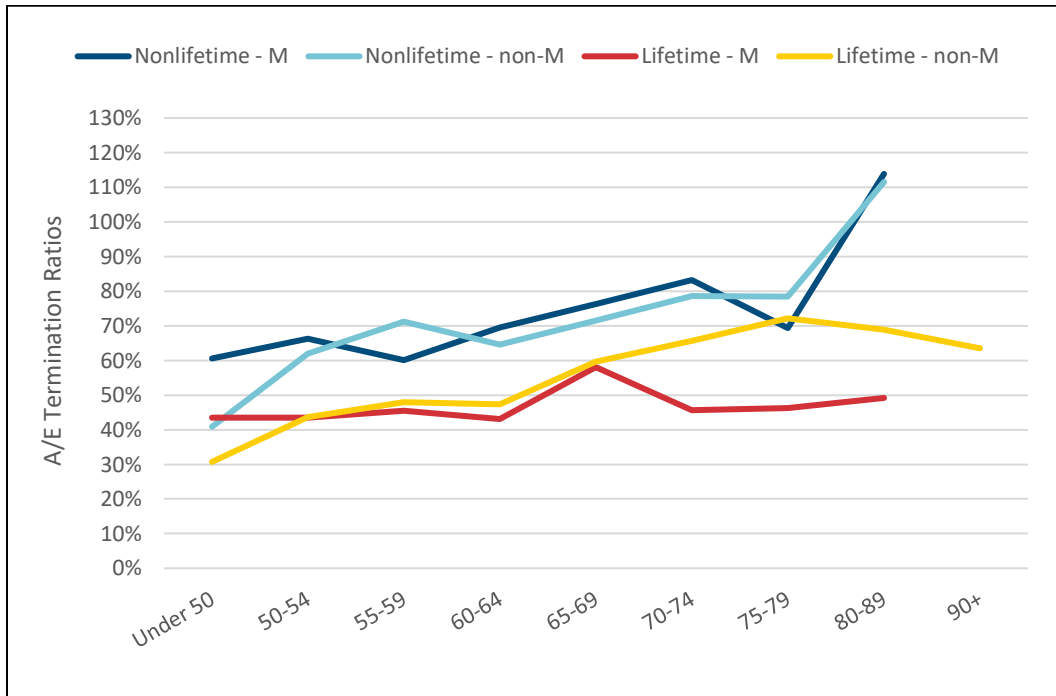
Figure 3.5

A/E TERMINATION RATIOS BY ATTAINED AGE, OCCUPATION CLASS AND BENEFIT PERIOD—FEMALE A&S CLAIMS, ULTIMATE DURATIONS
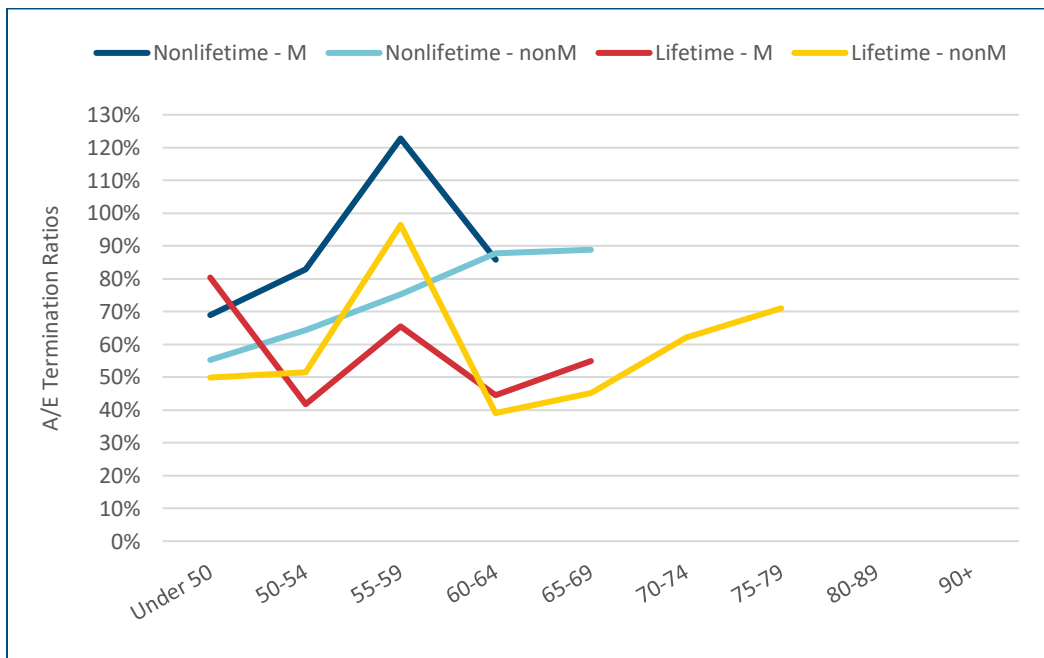
Similar to the select durations, A/E termination ratios in the ultimate durations have a generally decreasing slope as the monthly indemnity amount band increases. This is illustrated in Figure 3.6, which shows A/Es for Lifetime vs. Nonlifetime benefit periods by amount band.

Figure 3.6

A/E CLAIM TERMINATION RATIOS FOR YEARS 2006–2014 BY MONTHLY INDEMNITY—ALL OCCUPATION CLASSES, GENDERS AND ATTAINED AGES COMBINED
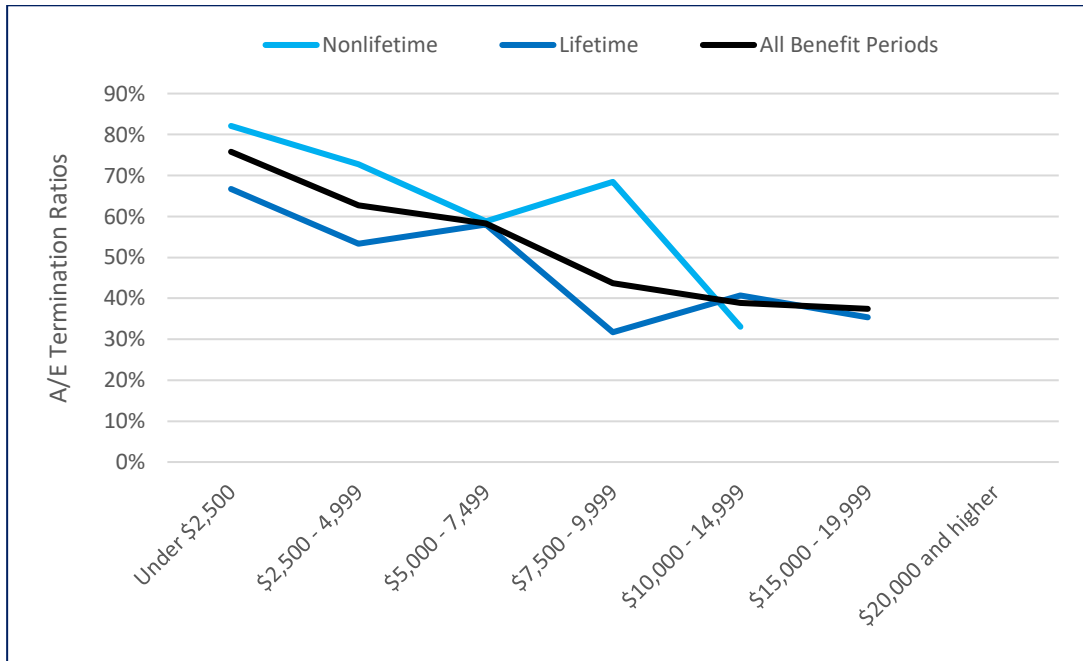
6. Claims with COLA benefits generally have lower A/E termination ratios in the ultimate durations than claims without COLA benefits. In addition, COLA has a greater impact on claims with lifetime benefit periods than claims with nonlifetime benefit periods. These results contrast with the select durations where COLA benefits are not observed to have a significant impact on A/E ratios.

7. For males, the three diagnosis groupings with the lowest A/E termination ratios in the ultimate durations are other musculoskeletal, back and injury other than back. Infectious diseases, alcohol & drug, and cancer are the three diagnosis groupings with the highest A/E ratios in the ultimate durations.

8. For females, the three diagnosis groupings with the lowest A/E termination ratios in the ultimate durations are other musculoskeletal, back and infectious diseases. Injury other than back had the fourth lowest A/E ratio. Circulatory, alcohol & drug, and cancer are the three diagnosis groupings with the highest A/E ratios in the ultimate durations.

Section 4: A/E Claim Termination Experience in the Select Durations

4.1 Introduction

Section 4 discusses claim termination trends in the select durations from 2006 through 2014 relative to the 2013 IDIVT base rates. Unless otherwise indicated, the 2013 IDIVT base termination rates—i.e., "the expected termination basis"—are adjusted by the 2013 IDIVT claim termination modifiers (provided in Appendix B). When there are less than 10 claims for a cell, or the cell has no exposure, the A/E termination ratio is left blank. The reader should exercise caution in interpreting A/E termination ratios where the volume of claim terminations is low.

4.2 Experience by Contract Type

Table 4.1 shows the aggregate A/E termination ratios for the select durations and the number of terminations by contract type over the 2006–2014 study period. The "Other" category includes "Unknown/Invalid" contracts as well as those that did not fit clearly into the other contract categories.

Table 4.1

A/E TERMINATION RATIOS AND CLAIM TERMINATIONS BY CONTRACT TYPE—SELECT DURATIONS ONLY

Claim Duration	A&S	BOE	DBO	KP	AO	Other	Total
M01–06	97%	92%			77%	91%	95%
M07–12	114%	128%		87%	91%	114%	116%
M13–18	96%	69%			110%	86%	88%
M19–24	100%	81%				108%	95%
M25–30	89%	122%				65%	76%
M31–36	72%	61%				46%	57%
Y4	65%	85%				59%	52%
Y5	69%	52%				89%	55%
Y6–10	63%	75%				69%	59%
Total	95%	95%	15%	62%	81%	92%	91%
Claim Duration	Number of Terminations						
M01–06	29,426	3,537	0	8	112	610	33,692
M07–12	24,725	2,147	0	14	36	452	27,375
M13–18	9,466	818	7	1	10	162	10,464
M19–24	5,039	264	8	0	4	85	5,400
M25–30	3,595	140	4	0	1	48	3,789
M31–36	2,056	44	3	0	0	24	2,127
Y4	2,587	41	2	0	0	44	2,673
Y5	1,652	18	2	0	1	22	1,696
Y6–10	4,229	23	3	0	0	88	4,343
Total	82,775	7,033	29	23	165	1,535	91,559

Since A&S claims represent 91% of all claim terminations, and BOE claims represent 8%, the remainder of this report section focuses primarily on the former and to a lesser extent on the latter.

The A/E termination ratios for A&S claims generally decline by claim duration. The A/E ratios are over 100% in year 1. The decline is modest and not steady during the first 24 claim months, but after that, the A/E ratios decrease steeply, reaching 63% of the 2013 IDIVT for years 6 through 10. Over all select durations, the A/E ratios for A&S claims averaged 95% of the 2013 IDIVT, due to the much heavier volume of terminations in the early durations.

The A/E ratios for BOE contracts were relatively close to the 2013 IDIVT in aggregate during the first 30 claim months, although they exhibited more volatility than A&S claims due to the lower volume of terminations. The benefit periods of most BOE policies are 24 months or less, hence the low volume of BOE claim terminations after the 30th claim month. The jump in the BOE A/E termination ratios in months 25 through 30 may be due in part to the miscoding of benefit expiries. Over all select durations, the A/E ratios of BOE claims averaged 95% of the 2013 IDIVT.

4.3 A&S and BOE Experience by Calendar Year from 2006 through 2014

Table 4.2 shows the A/E termination ratios and the number of claim terminations for A&S claims by calendar year from 2006 through 2014 for claim durations year 1, year 2, year 3 and years 4 through 10.

Table 4.2

A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR A&S CLAIMS FROM 2006 THROUGH 2014 BY CLAIM DURATION—SELECT DURATIONS ONLY

Calendar Year	Year 1	Year 2	Year 3	Years 4–10	Total
2006	103%	83%	82%	65%	92%
2007	109%	102%	76%	71%	99%
2008	104%	103%	82%	64%	96%
2009	102%	94%	82%	57%	92%
2010	111%	102%	77%	60%	99%
2011	106%	96%	96%	61%	96%
2012	103%	104%	77%	61%	94%
2013	100%	90%	82%	67%	91%
2014	106%	104%	85%	74%	99%
Total	105%	98%	82%	65%	95%
Calendar Year	Number of Terminations				
2006	6,877	1,538	663	1,004	10,082
2007	6,734	1,733	612	1,130	10,210
2008	6,330	1,719	613	974	9,636
2009	6,219	1,534	600	815	9,168
2010	6,363	1,724	576	906	9,569
2011	5,795	1,600	725	844	8,964
2012	5,344	1,637	622	896	8,499
2013	5,213	1,463	629	935	8,240
2014	5,278	1,555	611	964	8,407
Total	54,151	14,504	5,651	8,468	82,775

There are no evident trends in the A/E termination ratios for A&S claims by calendar year over the nine years. Termination experience was generally consistent. It does not appear that the Great Recession had a significant impact on claim termination experience in years 2008 through 2010.

Table 4.3 shows the A/E termination ratios and the number of claim terminations for BOE claims by calendar year from 2006 through 2014 for claim durations Year 1, Year 2, Year 3 and Years 4 through 10.

Table 4.3

A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR BOE CLAIMS FROM 2006 THROUGH 2014 BY CLAIM DURATION—SELECT DURATIONS ONLY

Calendar Year	Year 1	Year 2	Year 3	Years 4–10	Total
2006	104%	77%	158%		101%
2007	101%	82%	115%	115%	98%
2008	100%	75%	107%		94%
2009	94%	73%	128%		91%
2010	97%	74%	115%		92%
2011	107%	83%	104%		101%
2012	99%	58%	74%	123%	90%
2013	105%	66%	105%		95%
2014	109%	62%	34%		96%
Total	102%	72%	103%	75%	95%
Calendar Year	Number of Terminations				
2006	738	118	23	8	887
2007	704	118	25	11	858
2008	634	139	15	7	796
2009	672	132	24	7	835
2010	671	148	24	8	850
2011	614	131	29	4	778
2012	535	97	11	23	666
2013	550	95	20	7	672
2014	565	104	14	7	689
Total	5,684	1,082	184	82	7,033

As with A&S claims, there are no obvious trends in the A/E termination ratios for BOE claims by calendar year over the nine years.

Figure 4.1 illustrates the average A/E termination ratios for A&S and BOE claims over all select durations combined by calendar year from 2006 through 2014.

Figure 4.1

AVERAGE A/E TERMINATION RATIOS FOR A&S AND BOE CLAIMS OVER THE SELECT DURATIONS FROM 2006 THROUGH 2014
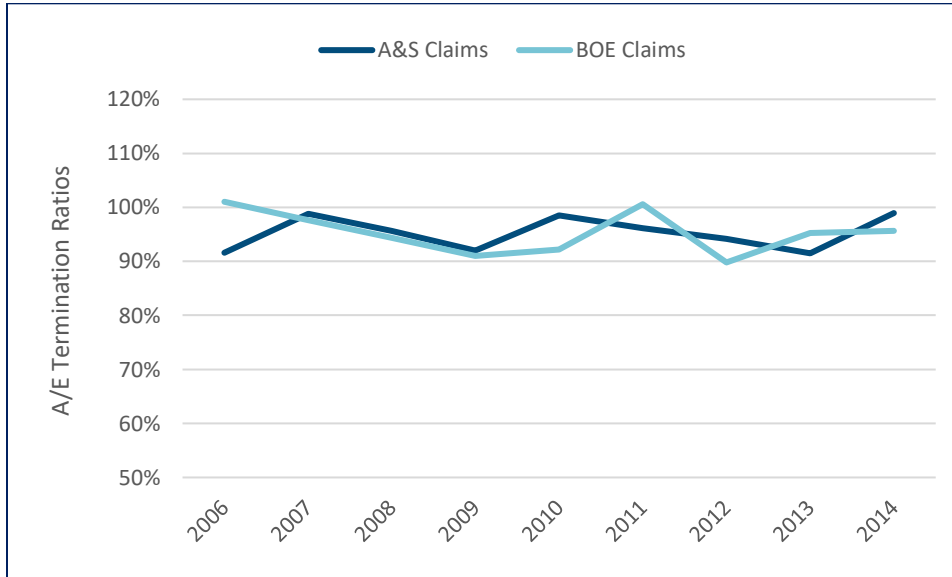
4.4 Trend Analysis of A&S and BOE A/E Termination Ratios

This section compares the A/E termination ratios and the number of claim terminations across the prior and current IDEC studies. The data for the prior IDEC study was from two data calls. The first covered years 1990 through 1999, and the second covered years 2000 through 2007. The 2006–2014 study period is also split into two subperiods: 2006 through 2010 and 2011 through 2014. Results for these four subperiods are shown separately in the tables that follow.

Table 4.4 pertains to A&S claims with long-term benefit periods, i.e., to age 65–70 or lifetime benefit periods. Table 4.5 pertains to A&S claims with short-term benefit periods, and Table 4.6 pertains to BOE claims.

Table 4.4

COMPARISON OF PRIOR AND CURRENT IDEC STUDIES: A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR A&S CLAIMS WITH LONG-TERM BENEFIT PERIODS—SELECT DURATIONS ONLY

Study Period	Year 1	Year 2	Year 3	Years 4–10	Total
1990–1999	102%	109%	101%	117%	105%
2000–2007	101%	88%	90%	86%	95%
2006–2010	107%	96%	76%	61%	94%
2011–2014	105%	98%	80%	64%	94%
Study Period	**Number of Terminations**				
1990–1999	52,976	11,689	4,439	7,497	76,602
2000–2007	69,363	16,790	7,812	12,514	106,479
2006–2010	21,472	6,265	2,324	4,227	34,287
2011–2014	14,720	4,769	2,023	3,179	24,691

There is little difference in the A/E termination ratios for A&S claims with long-term benefit periods between the 2006–2010 and 2011–2014 study periods, which suggests that termination experience was relatively stable throughout the 2006–2014 period. In regard to trends over the full 1990–2014 spectrum, for year 1, the A/E ratios were relatively close across all the calendar periods. For year 2, there was no clear trend, as 2000–2007 was significantly lower than 1990–1999, but the results for the two current study periods fell between those from the two periods from the prior study. For claim years 3 and later, the A/E termination ratios dropped consistently from years 1990 through 1999 to 2000 through 2007 and then again during the 2006–2014 period.

Figure 4.2 illustrates the A/E termination ratios from Table 4.1.

Figure 4.2

COMPARISON OF PRIOR AND NEW IDEC STUDIES: A/E TERMINATION RATIOS FOR A&S CLAIMS WITH LONG-TERM
BENEFIT PERIODS BY STUDY PERIOD AND CLAIM DURATION
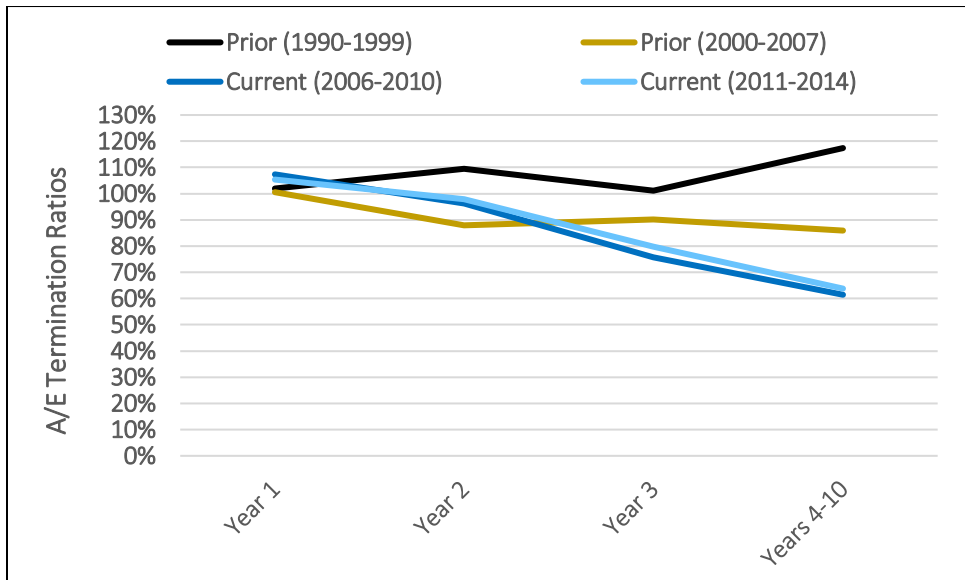
Table 4.5

COMPARISON OF PRIOR AND CURRENT IDEC STUDIES: A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR
A&S CLAIMS WITH SHORT-TERM BENEFIT PERIODS—SELECT DURATIONS ONLY

Study Period	Year 1	Year 2	Year 3	Years 4–10	Total
1990–1999	99%	118%	173%	182%	104%
2000–2007	93%	114%	673%	160%	111%
2006–2010	101%	101%	108%	107%	101%
2011–2014	99%	101%	116%	101%	101%
Study Period	**Number of Terminations**				
1990–1999	60,413	5,690	2,293	1,687	70,083
2000–2007	5,886	826	687	50	7,449
2006–2010	11,050	1,985	740	602	14,377
2011–2014	6,909	1,486	564	459	9,419

The A/E termination ratios for A&S claims with short-term benefit periods during the 2006–2014 study period are
relatively close to 100% in all select durations but lower than the A/E ratios from the earlier study period after the
first claim year. The higher A/E termination ratios from the prior study may be attributable in large part to the
difficulties of identifying benefit expiries from true terminations. For example, the 673% A/E ratio in year 3 during
the 2000–2007 study period appears to be an outlier. A high proportion of short-term claims have two-year benefit
periods. Steps were taken in the development of the 2013 IDIVT to adjust for this anomaly caused by the miscoding
of benefit expiries.

Table 4.6

COMPARISON OF PRIOR AND CURRENT IDEC STUDIES: A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR
BOE CLAIMS—SELECT DURATIONS ONLY

Study Period	Year 1	Year 2	Year 3	Years 4–10	Total
1990–1999	99%	94%	160%	108%	100%
2000–2007	103%	84%	180%	172%	101%
2006–2010	99%	76%	125%	85%	95%
2011–2014	105%	67%	80%	68%	95%
Study Period	Number of Terminations				
1990–1999	10,533	1,874	353	202	12,962
2000–2007	7,783	1,290	157	46	9,276
2006–2010	11,050	1,985	740	602	14,377
2011–2014	6,909	1,486	564	459	9,419

The A/E termination ratios for BOE claims in the first claim year did not change significantly between the prior and
current IDEC studies. The ratios dropped in the current study after the first claim year. The higher ratios in year 3
may be due to the miscoding of benefit expiries in the prior study and the 2006–2010 period of the current study.

4.5 A&S Experience by Benefit Period

The prior IDEC claim termination study observed significant differences in A/E termination ratios for A&S claims by
benefit period, i.e., lifetime, to age 65-70 and short-term. Lifetime claims had lower A/E termination ratios than to
age 65–70 claims, while short-term claims had higher A/E ratios. The claim termination modifiers, which are
provided in Appendix B, were developed to reflect these differences by benefit period.

Table 4.7 compares the A/E termination ratios for A&S claims by benefit period and claim duration.

Table 4.7

A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR A&S CLAIMS BY BENEFIT PERIOD AND CLAIM
DURATION—SELECT DURATIONS ONLY

Claim Duration	Lifetime	To Age 65–70	Short-term	Total
M01–06	`105%	98%	92%	97%
M07–12	125%	111%	112%	114%
M13–18	94%	95%	103%	96%
M19–24	97%	102%	96%	100%
M25-30	86%	83%	124%	89%
M31–36	65%	72%	90%	72%
Y4	62%	65%	73%	65%
Y5	61%	70%	85%	69%
Y6–10	60%	60%	240%	63%
Total	95%	94%	101%	95%
Claim Duration	Number of Terminations			
M01–06	3,408	14,658	11,360	29,426
M07–12	3,202	14,925	6,599	24,725
M13–18	1,096	6,011	2,359	9,466
M19–24	620	3,307	1,112	5,039
M25–30	451	2,210	934	3,595
M31–36	246	1,439	370	2,056
Y4	348	1,846	393	2,587
Y5	238	1,171	243	1,652
Y6–10	865	2,938	427	4,229
Total	10,474	48,504	23,796	82,775

For long-term benefit period claims, A/E termination ratios are higher than 100% in aggregate over the first two years. However, the A/E ratios then drop precipitously to about 60% by years 6 through 10. This is consistent with the overall experience noted in section 4.2. The durational patterns are relatively consistent between claims with a lifetime benefit period and those with to age 65–70 benefit periods, implying that the select 2013 IDIVT modifiers for these two long-term benefit periods are appropriate.

The short-term benefit period claims have an aggregate A/E ratio of 101% across all durations, which implies the benefit period modifiers are adequate. The jumps in the short-term A/E ratios in months 25 through 30 and years 6 through 10 may be due in part to the miscoding of benefit expiries, since 24 months and 60 months are prominent benefit periods among short-term claims.

4.6 A&S Experience by Occupation Class

The current IDEC study database utilizes the following five occupation classes, which are also used in the 2013 IDIVT:

- Class M—All medical occupations, e.g., doctors, surgeons, dentists, nurses, podiatrists, veterinarians, psychologists, psychiatrists, pharmacists
- Class 1—All nonmedical white-collar and professional occupations
- Class 2—Skilled labor and most sales-related occupations
- Class 3—Blue-collar occupations with light manual duties
- Class 4—Blue-collar occupations with heavy manual duties

Table 4.8 compares the A/E termination ratios for claims with long-term benefit periods by occupation class and claim duration. Occupation classes 3 and 4 have been combined (and labeled 3–4) because of the low volume of claims in the blue-collar occupations.

Table 4.8
A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR A&S CLAIMS WITH LONG-TERM BENEFIT PERIODS BY OCCUPATION CLASS AND CLAIM DURATION—SELECT DURATIONS ONLY

Claim Duration	Occ Class M	Occ Class 1	Occ Class 2	Occ Class 3–4	Total
M01–06	106%	91%	88%	85%	99%
M07–12	115%	114%	109%	87%	114%
M13–18	100%	90%	98%	70%	95%
M19–24	109%	94%	99%	50%	101%
M25–30	85%	81%	95%		83%
M31–36	72%	69%	69%	93%	70%
Y4	63%	65%	67%	56%	64%
Y5	66%	70%	63%		68%
Y6–10	58%	61%	61%	72%	60%
Total	98%	90%	91%	79%	94%
Claim Duration	Number of Terminations				
M01–06	8,690	7,103	2,020	253	18,066
M07–12	7,823	8,262	1,933	109	18,127
M13–18	2,883	3,433	749	41	7,106
M19–24	1,510	1,992	408	17	3,927
M25–30	889	1,442	320	9	2,661
M31–36	584	914	175	13	1,686
Y4	786	1,150	244	14	2,194
Y5	519	761	125	4	1,410
Y6–10	1,376	2,016	385	26	3,803
Total	25,061	27,072	6,358	487	58,979

The A/E termination ratios for A&S claims with long-term benefit periods are materially higher for occupation class M than for the other occupation classes in the first two claim years. The A/E ratios for occupation classes 1 and 2 are generally comparable, although occupation class 2 has a considerably lower volume of claim terminations than class 1. The A/E ratios for occupation class 3–4 appear to be significantly lower than for the other occupation classes during the first 2.5 years, but this result may be less credible due to the low volume of occupation class 3–4 claim terminations. After the second claim year for all of the occupation classes except class 3–4, the A/E ratios drop consistently by year, reaching around 60% for years 6 through 10. This pattern is not as apparent for occupation class 3–4, where A/E ratios start off lower in the first two years and are generally more volatile by duration due low claim volumes.

Table 4.9 compares the A/E termination ratios for claims with short-term benefit periods by occupation class and claim duration.

Table 4.9
A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR A&S CLAIMS WITH SHORT-TERM BENEFIT PERIODS BY OCCUPATION CLASS AND CLAIM DURATION—SELECT DURATIONS ONLY

Claim Duration	Occ Class M	Occ Class 1	Occ Class 2	Occ Class 3–4	Total
M01–06	97%	92%	97%	83%	92%
M07–12	121%	113%	96%	106%	112%
M13–18	122%	96%	103%	97%	103%
M19–24	89%	100%	103%	90%	96%
M25–30	153%	116%	130%	103%	124%
M31–36	96%	92%	117%	58%	90%
Y4	105%	71%	70%	47%	73%
Y5	89%	94%	78%	66%	85%
Y6–10	288%	264%	282%	121%	240%
Total	109%	101%	101%	90%	101%
Claim Duration	Number of Terminations				
M01–06	1,803	3,613	2,318	3,625	11,360
M07–12	1,180	2,434	939	2,046	6,599
M13–18	453	931	364	611	2,359
M19–24	169	477	191	275	1,112
M25–30	169	354	188	223	934
M31–36	56	158	76	80	370
Y4	80	136	79	98	393
Y5	27	115	40	60	243
Y6–10	70	162	133	61	427
Total	4,007	8,380	4,328	7,080	23,796

In the aggregate over all the select durations, occupation class M has the highest A/E termination ratio for short-term claims among the IDEC occupation classes, and occupation class 3–4 has the lowest. The A/E ratio for occupation classes 1 and 2 are close to 100%. The higher A/E ratios for short-term claims in durations M25–30 and Y6–10 may reflect the presence of some benefit expiries coded as recoveries, since those durations include the end of two-year and five-year benefit periods.

Figure 4.3 illustrates the average A/E termination ratios for long-term and short-term benefit periods by occupation class over the select durations.

Figure 4.3

AVERAGE A/E TERMINATION RATIOS FOR A&S CLAIMS WITH LONG-TERM AND SHORT-TERM BENEFIT PERIODS BY
OCCUPATION CLASS OVER THE SELECT DURATIONS
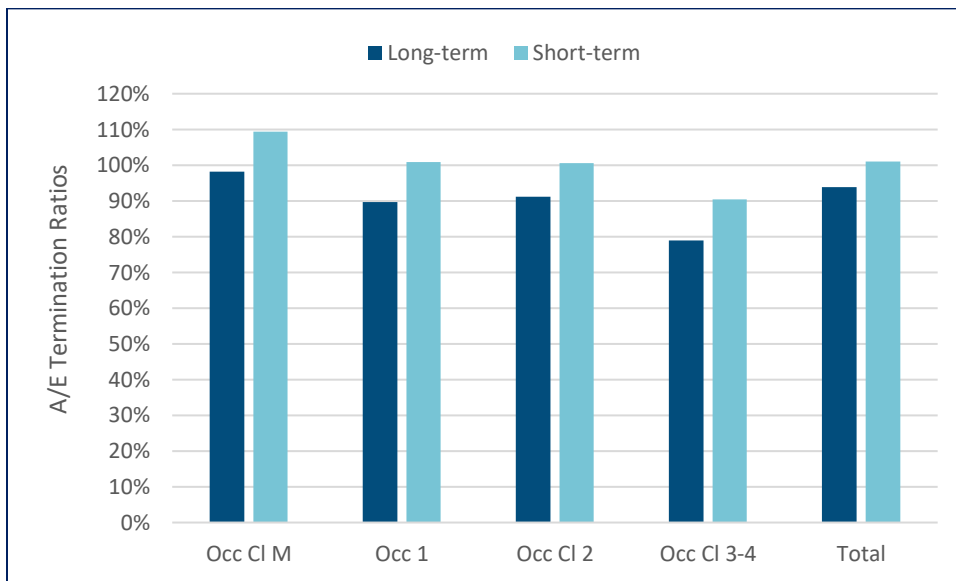
4.7 A&S Experience by Onset Age and Gender

Table 4.10 shows the A/E termination ratios and claim terminations for male A&S claims with long-term benefit
periods by onset age and claim duration. Occupation classes are combined.

Table 4.10

A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR A&S MALE CLAIMS WITH LONG-TERM BENEFIT PERIODS
BY CLAIM DURATION AND ONSET AGE—SELECT DURATIONS ONLY

Onset Age	Year 1	Year 2	Year 3	Years 4–10	Total
Under 30	106%	100%	72%	59%	95%
30–34	143%	97%	73%	67%	114%
34–39	117%	99%	102%	74%	103%
40–44	125%	92%	78%	66%	98%
44–49	114%	99%	83%	54%	92%
50–54	111%	103%	75%	58%	92%
54–59	106%	98%	66%	66%	92%
60–64	102%	110%	80%	81%	99%
65 and over	127%	131%	103%		119%
Total	110%	101%	76%	62%	95%
Onset Age	Number of Terminations				
Under 30	198	73	27	32	329
30–34	484	125	45	91	745
34–39	919	340	133	279	1,671
40–44	1,833	605	281	656	3,375
44–49	3,204	1,229	503	882	5,818
50–54	4,897	1,714	682	1,326	8,619
54–59	6,320	2,026	736	1,515	10,598
60–64	4,760	1,453	513	511	7,236
65 and over	332	88	15	8	444
Total	22,947	7,653	2,935	5,300	38,835

The male A/E termination ratios in the first claim year generally decrease by onset age starting at 30 to 34. There do not appear to be any comparable trends in the years 2 and later by onset age. The male A/E termination ratios for onset ages 65 and over are significantly higher than the ratios for the younger onset ages. This may be attributable to benefit expiries being coded as terminations since the benefit periods during the contingently renewable periods are typically one year or two years. Also, the volume of claim terminations for onset ages 65 and over is significantly lower than in the other onset age groupings, which may affect the credibility of the A/E ratios.

Table 4.11 shows the A/E termination ratios and claim terminations for A&S female claims with long-term benefit periods by onset age and claim duration. Occupation classes are combined.

Table 4.11

A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR A&S FEMALE CLAIMS WITH LONG-TERM BENEFIT PERIODS BY CLAIM DURATION AND ONSET AGE—SELECT DURATIONS ONLY

Onset Age	Year 1	Year 2	Year 3	Years 4–10	Total
Under 30	85%	80%	136%	56%	85%
30–34	124%	105%	83%	67%	116%
34–39	110%	75%	76%	65%	98%
40–44	88%	77%	75%	63%	81%
44–49	85%	78%	84%	64%	80%
50–54	90%	91%	71%	62%	84%
54–59	106%	105%	93%	59%	97%
60–64	121%	108%	94%	69%	113%
65 and over	148%				116%
Total	100%	88%	82%	63%	91%
Onset Age	Number of Terminations				
Under 30	561	78	43	23	705
30–34	1,395	176	55	81	1,707
34–39	1,710	299	118	222	2,349
40–44	1,554	477	200	352	2,583
44–49	1,958	617	310	454	3,339
50–54	2,391	744	263	506	3,904
54–59	2,338	698	296	379	3,711
60–64	1,293	285	126	89	1,793
65 and over	46	5	0	0	52
Total	13,246	3,380	1,411	2,106	20,144

Female A/E termination ratios for claims with long-term benefit periods average 100% in the first claim year but are U-shaped by onset age. This pattern could be affected by maternity claims, which represent 30% of all female claim terminations for onset ages under 40. The A/E ratio drops below 90% for years 2 and later, reaching 63% for years 4 through 10. Similar to the male experience, there is a pattern of decreasing A/E ratios at most ages of onset. The female A/E termination ratios in the first year for onset ages 60 and over are significantly higher than the ratios for the younger onset ages. Like the males with onset ages 65 and over, the A/E ratio may be affected by benefit expiries being coded as terminations.

Figure 4.4 compares the average A/E termination ratios for A&S claims with long-term benefit periods by gender over the select durations.

Figure 4.4

AVERAGE A/E TERMINATION RATIOS FOR A&S CLAIMS WITH LONG-TERM BENEFIT PERIODS BY ONSET AGE AND GENDER OVER THE SELECT DURATIONS
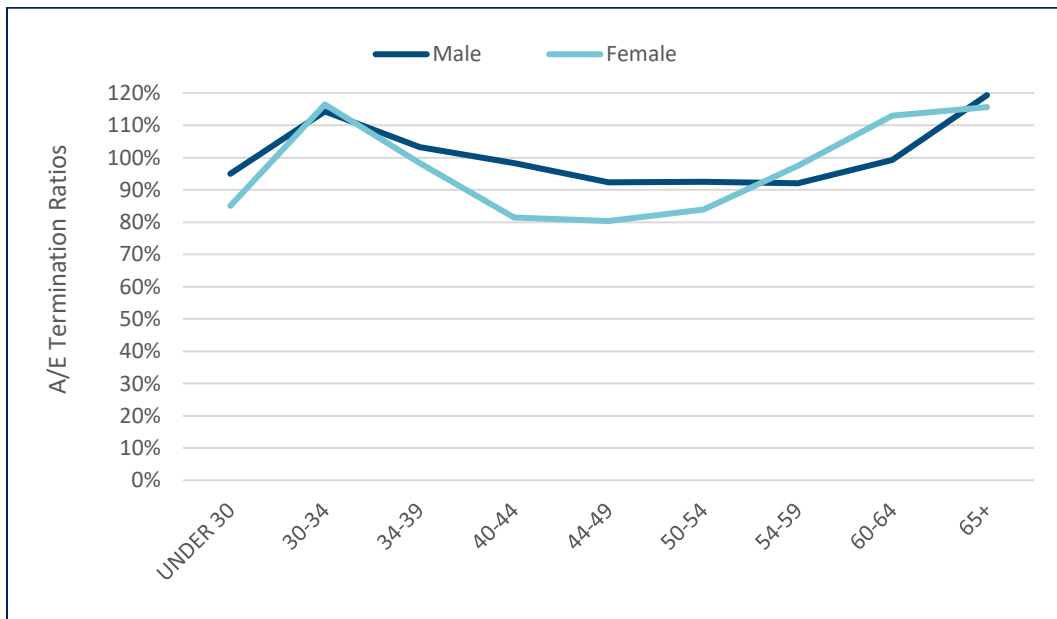
4.8 A&S Experience by Elimination Period

Table 4.12 compares the A/E termination ratios and claim terminations for A&S claims with long-term benefit periods by elimination period and claim duration. The occupation classes, genders and onset ages have been combined for this comparison.

Table 4.12

A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR A&S CLAIMS WITH LONG-TERM BENEFIT PERIODS BY ELIMINATION PERIOD AND CLAIM DURATION—SELECT DURATIONS ONLY

Claim Duration	Under 30 Days	30 Days	60 Days	90 Days	180 Days	360 Days and Longer	Total
M01–06	78%	96%	85%	103%			99%
M07–12	147%	105%	103%	117%	110%		114%
M13–18	58%	98%	100%	97%	84%	56%	95%
M19–24		95%	97%	103%	93%	109%	101%
M25–30		81%	76%	85%	81%	72%	83%
M31–36		61%	72%	66%	93%	78%	70%
Y4		72%	52%	65%	68%	52%	64%
Y5		58%	79%	67%	69%	80%	68%
Y6–10	63%	62%	50%	60%	66%	44%	60%
Total	84%	93%	85%	96%	88%	66%	94%
Claim Duration	**Number of Terminations**						
M01–06	250	4,815	2,393	10,607	0	0	18,066
M07–12	49	1,710	1,792	12,847	1,728	0	18,127
M13–18	12	543	675	4,915	879	83	7,106
M19–24	5	255	370	2,668	555	73	3,927
M25–30	4	173	227	1,814	387	55	2,661
M31–36	6	129	147	1,042	325	37	1,686
Y4	7	177	168	1,474	338	30	2,194
Y5	1	105	175	875	228	25	1,410
Y6–10	17	353	364	2,438	574	57	3,803
Total	351	8,261	6,312	38,680	5,015	360	58,979

The average A/E ratios over all select durations for claims with long-term benefit periods vary by elimination period, with 30 days and 90 days having ratios that are closest to 100%. However, when looking at A/E ratios by elimination period across each claim duration grouping, the ratios are generally consistent for elimination periods from 30 days through 180 days. These elimination periods exhibit similar decreasing patterns of A/E ratios after the second claim year. The volume of claim terminations for elimination periods under 30 days and 360 days and longer is too low to allow meaningful comparisons to the other elimination periods.

Table 4.13 compares the A/E termination ratios and claim terminations for A&S claims with short-term benefit periods by elimination period and claim duration. The occupation classes, genders and onset ages have been combined for this comparison.

Table 4.13

A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR A&S CLAIMS WITH SHORT-TERM BENEFIT PERIODS BY ELIMINATION PERIOD AND CLAIM DURATION—SELECT DURATIONS ONLY

Claim Duration	Under 30 Days	30 Days	60 Days	90 Days	180 Days	360 Days and Longer	Total
M01–06	95%	89%	93%	93%			92%
M07–12	164%	94%	105%	118%	106%		112%
M13–18	136%	122%	111%	100%	95%	88%	103%
M19–24	97%	109%	111%	89%	115%	35%	96%
M25–30	215%	165%	130%	122%	108%	131%	124%
M31–36		91%	133%	85%	72%		90%
Y4		92%	72%	69%	80%		73%
Y5		82%	65%	95%	54%		85%
Y6–10		364%	213%	239%	221%		240%
Total	105%	94%	100%	104%	102%	88%	101%
Claim Duration	Number of Terminations						
M01–06	1,560	5,386	1,426	2,989	0	0	11,360
M07–12	314	1,478	810	3,513	484	0	6,599
M13–18	69	509	288	1,197	258	39	2,359
M19–24	26	189	145	578	159	14	1,112
M25–30	19	170	118	492	123	11	934
M31–36	1	60	44	207	50	7	370
Y4	4	80	48	196	60	4	393
Y5	0	47	24	133	32	6	243
Y6–10	4	90	66	209	50	8	427
Total	1,998	8,008	2,970	9,514	1,216	89	23,796

Over all select durations, the total A/E termination ratios for A&S claims with short-term benefit periods are closer to 100% than for claims with long-term benefit periods. However, by definition, this is primarily because a greater percentage of the exposure of the short-term claims occurs in the first three claim years compared to the exposure of long-term claims. The lowest A/E ratios occur in claims in years 4 and 5. As with the longer-term benefit periods, the volume of claims with elimination periods under 30 days and 360 days and longer is too low to allow meaningful comparisons to the other elimination periods.

4.9 A&S Experience by Monthly Indemnity

Table 4.14 compares A/E termination ratios for A&S claims with long-term benefit periods by monthly indemnity band and claim duration. Monthly indemnity band is measured by the benefit amount per claim, as opposed to the benefit amount per life; i.e., indemnities for multiple claims on the same life are not combined). For example, a claimant with $10,000 of monthly indemnity from two policies of $5,000 each would be recorded as two claims with $5,000 of monthly indemnity each.

Table 4.14

A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR A&S CLAIMS WITH LONG-TERM BENEFIT PERIODS BY MONTHLY INDEMNITY AND CLAIM DURATION—SELECT DURATIONS ONLY

Monthly Indemnity	Year 1	Year 2	Year 3	Years 4–10	Total
Under $2,500	112%	99%	83%	69%	99%
$2,500–$4,999	105%	100%	79%	67%	95%
$5,000–$7,499	106%	96%	76%	60%	93%
$7,500–$9,999	103%	88%	73%	57%	88%
$10,000–$14,999	103%	98%	72%	45%	87%
$15,000–$19,999	92%	87%	64%	59%	81%
$20,000 and higher					51%
Total	106%	97%	78%	62%	94%
Monthly Indemnity	Number of Terminations				
Under $2,500	24,179	7,043	2,864	4,937	39,024
$2,500–$4,999	7,523	2,455	905	1,544	12,427
$5,000–$7,499	2,818	947	353	576	4,693
$7,500–$9,999	962	319	125	205	1,610
$10,000–$14,999	614	228	85	112	1,040
$15,000–$19,999	92	37	12	27	169
$20,000 and higher	4	4	2	6	17
Total	36,192	11,033	4,347	7,406	58,979

The A/E termination ratios for claims with long-term benefit periods generally decrease steadily as the monthly indemnity increases and as the claim duration increases, as can be observed in Table 4.14. (Please note that the volume of claims is low for the largest indemnity categories.)

Table 4.15 compares A/E termination ratios for A&S claims with short-term benefit periods by monthly indemnity and claim duration.

Table 4.15

A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR A&S CLAIMS WITH SHORT-TERM BENEFIT PERIODS BY MONTHLY INDEMNITY AND CLAIM DURATION—SELECT DURATIONS ONLY

Monthly Indemnity	Year 1	Year 2	Year 3	Years 4–10	Total
Under $2,500	103%	102%	109%	107%	103%
$2,500–$4,999	99%	112%	113%	108%	103%
$5,000–$7,499	93%	99%	105%	85%	94%
$7,500–$9,999	104%	86%	84%	125%	99%
$10,000–$14,999	90%	81%	148%		92%
$15,000–$19,999	70%				73%
$20,000 and higher	NA				
Total	100%	101%	112%	104%	101%
Monthly Indemnity	**Number of Terminations**				
Under $2,500	15,468	2,672	1,033	888	20,061
$2,500–$4,999	1,774	562	185	130	2,651
$5,000–$7,499	467	162	53	26	707
$7,500–$9,999	142	41	13	11	206
$10,000–$14,999	94	30	17	7	148
$15,000–$19,999	10	4	4	0	17
$20,000 and higher	4	0	1	0	4
Total	17,959	3,471	1,304	1,062	23,796

For all durations combined, the A/E termination ratio show a slight decreasing pattern as benefit amount increases. There is a larger decrease at $15,000 and higher amounts, but that reflects the result of only 17 claim terminations.

The splits by claim duration show modestly higher A/Es for years 3 and 4-10; however, some expiries coded as terminations may be contributing to those.

Figure 4.5 illustrates the A/E termination ratios for A&S claims with long-term compared to short-term benefit periods by monthly indemnity band for all select durations combined. (Note: Figure 4.5 is the same as Figure 3.2 in Section 3).

Figure 4.5

AVERAGE A/E TERMINATION RATIOS FOR A&S CLAIMS WITH LONG-TERM vs. SHORT-TERM BENEFIT PERIODS BY MONTHLY INDEMNITY FOR ALL SELECT DURATIONS COMBINED
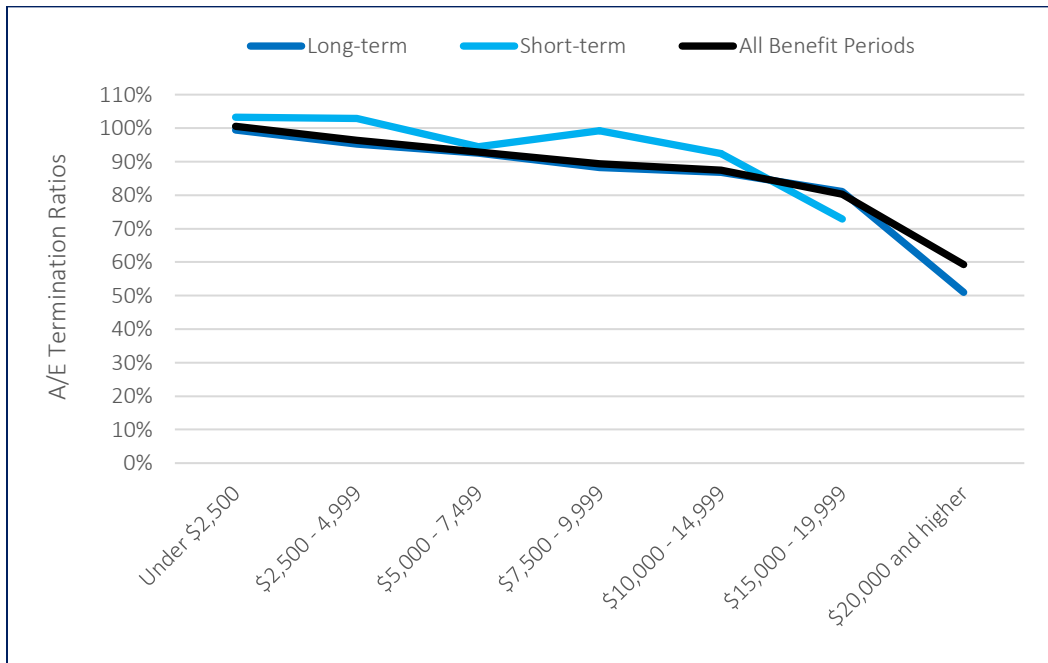
4.10 A&S Experience by COLA Benefit

Table 4.16 provides the A/E termination ratios for A&S claims with to age 65–70 benefit periods by COLA benefit indicator and claim duration. COLA benefit increases typically stop at age 65. Occupation classes, onset ages, genders and elimination periods are combined. The 2013 IDIVT claim termination modifiers adjust the expected claim termination rates for claims with to age 65–70 benefit periods and COLA benefits by a factor of 83.5%.

Table 4.16

A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR A&S CLAIMS WITH TO AGE 65–70 BENEFIT PERIODS BY COLA BENEFIT INDICATOR AND CLAIM DURATION—SELECT DURATIONS ONLY

Claim Duration	Non-COLA	COLA	Unknown	Total
M01–06	92%	109%	102%	98%
M07–12	105%	121%	136%	111%
M13–18	93%	99%	98%	95%
M19–24	94%	116%	114%	102%
M25–30	78%	91%	81%	83%
M31–36	67%	80%	76%	72%
Y4	61%	73%	78%	65%
Y5	66%	79%	64%	70%
Y6–10	56%	68%	67%	60%
Total	88%	104%	102%	94%
Claim Duration	Number of Terminations			
M01–06	9,837	4,486	334	14,658
M07–12	9,672	5,022	231	14,925
M13–18	4,007	1,938	66	6,011
M19–24	2,125	1,128	54	3,307
M25–30	1,497	686	28	2,210
M31–36	962	458	19	1,439
Y4	1,241	581	24	1,846
Y5	806	350	15	1,171
Y6–10	2,044	835	59	2,938
Total	32,191	15,485	829	48,504

The differences between the A/E termination ratios with and without COLA benefits in Table 4.16 suggest that COLA modifiers during the select durations for claims with to age 65–70 benefit periods may no longer be necessary. This is confirmed in Table 4.17, which is based on *unmodified* expected termination rates—i.e., claim termination modifiers, including the COLA modifiers, have not been applied to the 2013 IDIVT termination rates. By not applying the claim termination modifiers in this comparison, it is possible to see the differences in the A/E ratios between claims with and without COLA benefits. Preferably, only the COLA claim modifiers would be removed for this comparison, but this option was not available in the data source. The average unmodified A/E termination ratios over the 10 select durations are quite close, i.e., 92% and 90%. By duration, only months 13 through 18 appear to have A/E ratios with differences of more than a few points.

Table 4.17

UNMODIFIED A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR A&S CLAIMS WITH TO AGE 65–70 BENEFIT PERIODS BY COLA BENEFIT INDICATOR AND CLAIM DURATION—SELECT DURATIONS ONLY

Claim Duration	Non-COLA	COLA	Unknown	Total
M01–06	93%	92%	100%	93%
M07–12	102%	98%	130%	101%
M13–18	105%	93%	106%	100%
M19–24	102%	106%	119%	104%
M25–30	88%	85%	87%	87%
M31–36	75%	74%	81%	74%
Y4	66%	66%	83%	66%
Y5	71%	71%	67%	71%
Y6–10	62%	62%	73%	62%
Total	92%	90%	103%	91%

Table 4.18 provides a similar comparison of A/E termination ratios by COLA benefit for A&S claims with lifetime benefit periods. The 2013 IDIVT claim termination modifiers for lifetime claims with COLA benefits are 1.00, meaning that the expected termination rate basis does not distinguish between lifetime claims with or without COLA benefits.

Table 4.18

A/E TERMINATION RATIOS AND CLAIM TERMINATIONS FOR A&S CLAIMS WITH LIFETIME BENEFIT PERIOD BY COLA BENEFIT INDICATOR AND CLAIM DURATION—SELECT DURATIONS ONLY

Claim Duration	Non-COLA	COLA	Unknown	Total
M01–06	111%	100%	81%	105%
M07–12	128%	121%	128%	125%
M13–18	96%	94%	54%	94%
M19–24	103%	90%	107%	97%
M25–30	95%	76%		86%
M31–36	65%	67%		65%
Y4	57%	69%		62%
Y5	55%	71%		61%
Y6–10	60%	61%	45%	60%
Total	97%	93%	77%	95%
Claim Duration	Number of Terminations			
M01–06	1,972	1,317	119	3,408
M07–12	1,719	1,390	92	3,202
M13–18	572	501	22	1,096
M19–24	363	241	16	620
M25–30	245	197	9	451
M31–36	140	101	6	246
Y4	162	182	4	348
Y5	121	113	4	238
Y6–10	529	311	25	865
Total	5,822	4,354	298	10,474

Differences in the A/E termination ratios between lifetime claims with and without COLA benefits are most significant during the first 30 claim months. After that, no significant differences in the unmodified A/E termination ratios are evident.

4.11 A&S Experience by Diagnosis Grouping

In the development of the 2013 IDIVT claim termination rates, diagnoses were mapped into five diagnosis risk categories, with each category having its own set of claim termination modifiers by duration. Table 4.19 shows the mapping of the 15 diagnosis groupings into these five categories. The claim termination modifiers for the diagnosis risk categories are provided in Appendix B. These diagnosis groupings are the ones used by the IDEC for the current claim termination study. Descriptions of the 15 diagnosis groupings and the ICD-9 codes are provided in Appendix C.

Table 4.19
DIAGNOSIS RISK MAPPING

Diagnosis Risk Mapping	Diagnosis Grouping
Very low	Diabetes
	Mental & nervous
	Nervous systems
Low	Back
	Infection diseases
	Ill-defined & misc. conditions
Mid	Circulatory
	Other musculoskeletal
	Respiratory
High	Alcohol & drug
	Injuries other than back
	Other
Very high	Cancer
	Digestive
	Maternity

Table 4.20 compares the A/E claim termination ratios for the five diagnosis risk mapping categories by claim duration. These durations were selected to align with those used for the diagnosis claim termination modifiers. All benefit periods and occupation classes are combined.

Table 4.20
A/E CLAIM TERMINATION RATIOS BY DIAGNOSIS RISK MAPPING AND CLAIM DURATION

Diagnosis Risk Mapping	Year 1	Year 2	Years 3–5	Years 6–10	Total
Very low	85%	75%	70%	61%	75%
Low	90%	71%	65%	49%	78%
Mid	94%	83%	55%	58%	84%
High	130%	107%	55%	51%	109%
Very high	109%	126%	120%	111%	114%
Unknown	133%	153%	127%	163%	136%
Total	105%	98%	75%	63%	95%
Diagnosis Risk Mapping	Number of Terminations				
Very low	3,531	1,806	2,124	1,221	8,682
Low	6,285	1,539	1,279	576	9,679
Mid	13,629	2,507	1,635	886	18,657
High	14,744	2,565	1,343	603	19,255
Very high	14,421	5,800	3,334	879	24,434
Unknown	1,542	289	175	62	2,069
Total	54,151	14,504	9,890	4,229	82,775

Table 4.21 compares the A/E termination ratios by diagnosis grouping and claim duration. For this comparison, *unmodified* A/E ratios were used to remove the diagnosis mapping modifiers. The unmodified A/E ratios exclude all claim termination modifiers, not just those of diagnosis mapping. Preferably, for this comparison, only the diagnosis mapping claim termination modifiers would be removed, but this was not possible for this analysis.

The diagnosis groupings in Table 4.21 have been ordered in terms of the unmodified A/E termination ratios over all of the select durations from lowest to highest. The relative position of the unmodified A/E ratios changes for each diagnosis grouping and can change significantly by claim duration. For example, the A/E ratio for injuries other than back is 180% in year 1 but drops to 50% for years 6 through 10. The diagnosis mappings shown in Table 4.21 are

those assigned to diagnosis groupings for the 2013 IDIVT. As discussed in other sections, where the data are sparse, their credibility should be considered.

Table 4.21

UNMODIFIED A/E CLAIM TERMINATION RATIOS BY DIAGNOSIS GROUPING AND CLAIM DURATION

Diagnosis Grouping	Diagnosis Mapping	Year 1	Year 2	Years 3–5	Years 6–10	Total
Nervous Systems	Very Low	28%	32%	38%	56%	33%
Diabetes	Very Low	41%	33%	51%	120%	51%
Mental & Nervous	Very Low	42%	64%	71%	59%	54%
Back	Low	69%	60%	46%	38%	60%
Other	High	86%	63%	49%	44%	72%
Respiratory	Mid	75%	66%	61%	140%	76%
Circulatory	Mid	93%	66%	53%	56%	78%
Ill-defined and Misc Conditions	Low	95%	78%	63%	51%	82%
Infectious Diseases	Low	90%	91%	77%	49%	82%
Other Musculoskeletal	Mid	109%	81%	45%	39%	89%
Digestive	Very High	140%	146%	93%	95%	132%
Alcohol & Drug	High	123%	159%	161%	128%	135%
Diagnosis Not Provided	Unknown	137%	154%	127%	152%	139%
Injury Other Than Back	High	180%	151%	68%	50%	156%
Cancer	Very High	116%	267%	262%	202%	161%
Maternity	Very High	231%	228%	204%	68%	229%
Total		99%	101%	76%	62%	93%
Diagnosis Grouping	**Number of Terminations**					
Nervous Systems	Very Low	1,415	597	752	538	3,302
Diabetes	Very Low	93	23	46	47	209
Mental & Nervous	Very Low	2,023	1,186	1,325	636	5,170
Back	Low	4,708	1,122	944	417	7,191
Other	High	3,120	673	536	254	4,583
Respiratory	Mid	537	132	133	96	897
Circulatory	Mid	3,983	838	672	403	5,896
Ill-defined and Misc Conditions	Low	1,056	243	185	75	1,559
Infectious Diseases	Low	520	173	150	85	928
Other Musculoskeletal	Mid	9,109	1,537	830	388	11,864
Digestive	Very High	1,849	356	223	100	2,528
Alcohol & Drug	High	867	358	229	115	1,568
Diagnosis Not Provided	Unknown	1,542	289	175	62	2,069
Injury Other Than Back	High	10,757	1,534	579	235	13,105
Cancer	Very High	9,443	5,334	3,074	769	18,620
Maternity	Very High	3,129	110	37	10	3,286
Total		54,151	14,504	9,890	4,229	82,775

The results in Table 4.21 identify a few inconsistencies with the 2013 IDIVT diagnosis risk mappings and claim termination modifiers. For example, the "other" diagnosis grouping is among those with lower A/E ratios, although it has been included in the high diagnosis risk category. Maternity has the highest A/E ratios among the diagnosis groupings, particularly during the first five claim years, which suggests that maternity claims may need their own diagnosis risk mapping category.

Figure 4.6 compares the unmodified A/E termination ratios for male A&S claims by diagnosis grouping over the select durations.

Figure 4.6

UNMODIFIED A/E TERMINATION RATIOS FOR MALE A&S CLAIMS BY DIAGNOSIS GROUPING—ALL SELECT
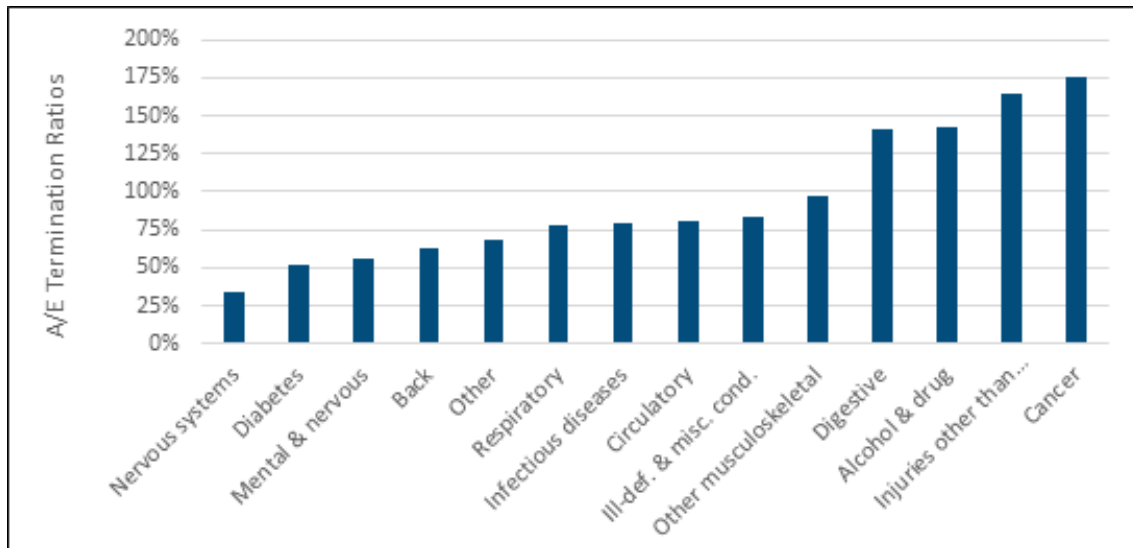DURATIONS COMBINED

Figure 4.7 compares the unmodified A/E termination ratios for female A&S claims by diagnosis grouping over the
select durations.

Figure 4.7

UNMODIFIED A/E TERMINATION RATIOS FOR FEMALE A&S CLAIMS BY DIAGNOSIS GROUPING—ALL SELECT
DURATIONS COMBINED
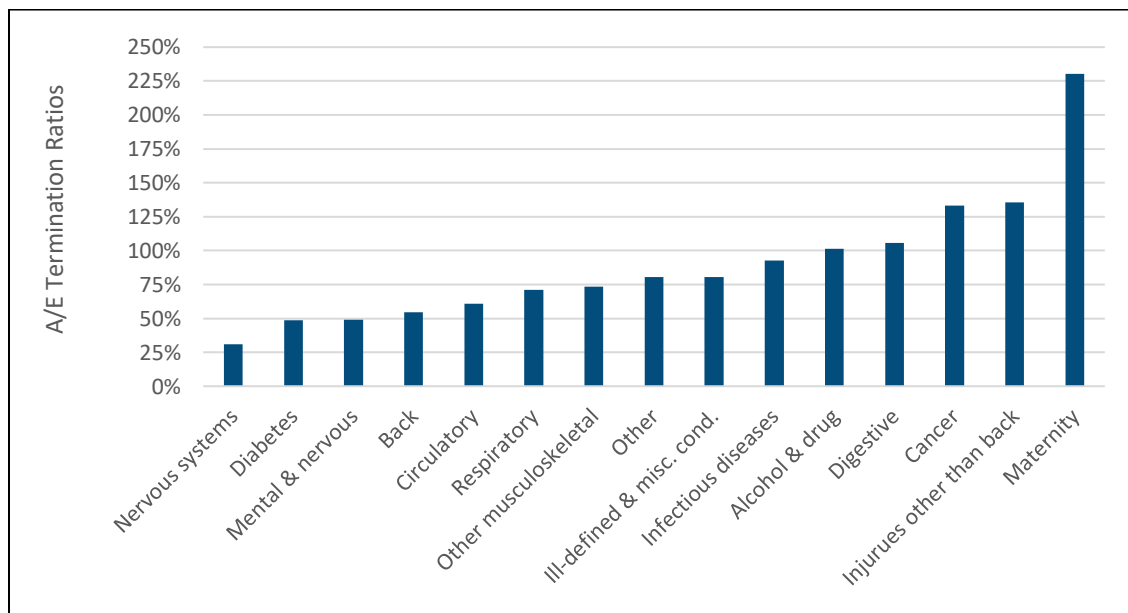
The four diagnosis groupings with the lowest A/E termination ratios are nervous systems, mental & nervous,
diabetes and back for both males and females. Excluding maternity, the four diagnosis groupings with the highest
A/E ratios are injury other than back, cancer, digestive and alcohol & drug for both males and females.

Figure 4.8 shows the distribution of the amount of exposure by gender and diagnosis grouping, ordered from highest percentage to lowest for males and females combined. All occupation classes, onset ages and claim durations are combined. These distributions may vary significantly by onset age and claim duration.

Figure 4.8

DISTRIBUTION OF AMOUNT EXPOSED BY GENDER AND DIAGNOSIS GROUPING—ALL ONSET AGES AND SELECT CLAIM DURATIONS COMBINED
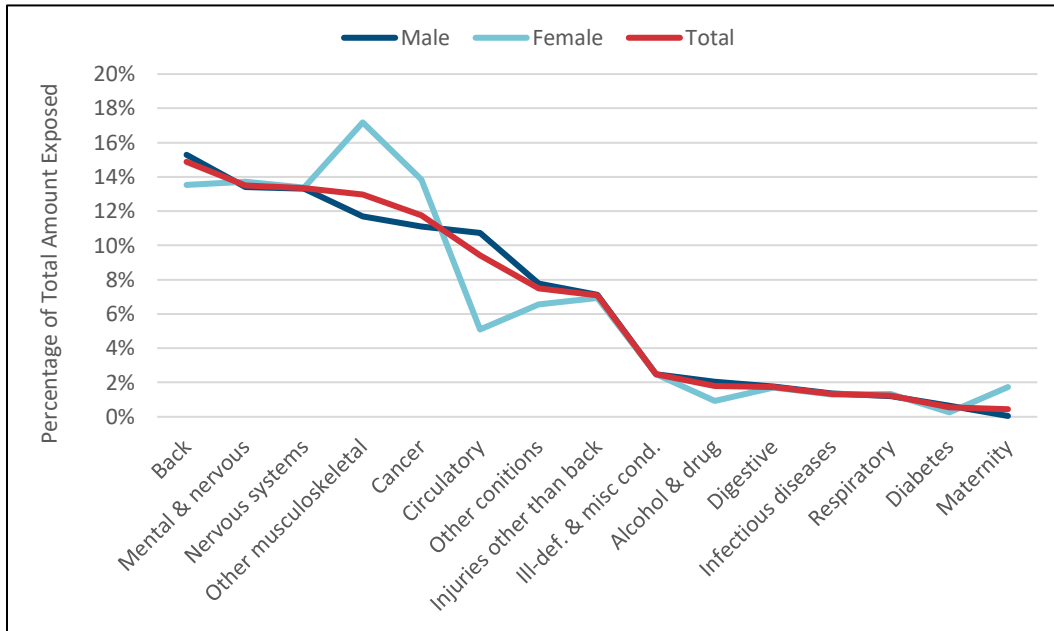
The five diagnosis groupings with the highest percentage of the total amount exposed over all select durations are back, mental & nervous, nervous systems, other musculoskeletal and cancer.

Section 5: Claim Termination Experience in the Ultimate Durations

5.1 Introduction

Section 5 discusses claim termination experience for ultimate claim durations (years 11+) for A&S policies. Experience by attained age, gender, occupation class, benefit period, COLA benefit, monthly indemnity and diagnosis was studied to identify any material patterns or trends by these variables.

The expected experience basis is the 2013 IDIVT claim termination rates, which are provided in Appendix A. They vary by gender, attained age and occupation class (M and non-M). The 2013 IDIVT claim termination modifiers provided in Appendix B do not apply to claims in the ultimate durations.

During the construction of the 2013 IDIVT, it was determined that, for ultimate duration attained ages 65 through 69, a material portion of the terminations should actually have been coded as benefit expiries. As a result, the claim termination rates for attained ages 65 through 69 were reduced (smoothed) to be in line with those under 65 and over 69. The expiry miscoding appears to have persisted (to a much lesser degree) into the current study. This issue and the mechanism to adjust the A/E ratios for it are discussed in this section.

The 2013 IDIVT ultimate termination rates do not vary by benefit period. However, the current IDEC study shows that A/E termination ratios for lifetime claims are significantly lower than those for nonlifetime claims. Nonlifetime claims in the ultimate durations comprise primarily of claims with a to age 65–70 benefit period. The analyses that follow generally differentiate termination experience in the ultimate durations between nonlifetime and lifetime benefit periods.

The reader should exercise caution in interpreting A/E termination ratios where the volume of claim terminations is low. For any cell that has less than 10 claim terminations or no exposure, the A/E termination ratio is left blank in tables and not displayed in the charts.

Table 5.1 compares the number of claim terminations in the current IDEC study (2006–2014) to those in the prior study (1990–2007) by benefit period (nonlifetime vs. lifetime) and attained age. The data in Table 5.1 are the raw numbers of claim terminations reported. They have not been adjusted for the age 65–69 expiry issue noted earlier.

Table 5.1

COMPARISON OF A&S CLAIM TERMINATIONS IN THE ULTIMATE CLAIM DURATIONS BETWEEN THE PRIOR IDEC STUDY AND THE CURRENT STUDY BY ATTAINED AGE AND BENEFIT PERIOD

Attained Age	Nonlifetime Benefit Periods		Lifetime Benefit Period		All Benefit Periods	
	1990-2007	2006-2014	1990-2007	2006-2014	1990-2007	2006-2014
Under 40	32	13	10	1	42	14
40–44	173	42	59	9	232	51
45–49	416	122	116	26	532	148
50–54	588	333	200	96	787	429
55–59	788	694	235	201	1,023	895
60–64	1,186	881	235	224	1,421	1,105
65–69	607	240	140	320	747	560
70–74	78	50	139	296	218	346
75–79	55	46	28	232	83	278
80+	10	39	4	260	14	299
Total	3,933	2,460	1,166	1,666	5,099	4,127

In spite of its shorter time frame, the current IDEC study has a substantially higher volume of data from lifetime claims at older attained ages than the prior study. The prior study had 311 ultimate claim terminations for lifetime claims above attained age 64 (from 18 years of exposure). The current study has 1,107 terminations (from 9 years of exposure). Because the lifetime data in the prior study were not credible due to the low volume of claim terminations, a proxy was used to develop the 2013 IDIVT base rates at older attained ages. The current study contains more credible volumes of data for lifetime claims.

Nonlifetime claims with attained ages from 65 through 74 were believed to arise primarily from policies in the contingently renewable period following the end of the policies' guaranteed renewable period. However, this assumption could not be verified in the available data, and other reasons, such as data quality or coding issues, may explain their presence. There are 85 claim terminations in ultimate durations for nonlifetime benefit periods above age 74 in the current study, which is unexpected, since contingently renewable periods typically do not extend beyond age 75. However, inclusion of these claims does not have a material impact on this analysis. These terminations will be examined further as part of an upcoming study of deaths vs. recoveries, which may give additional insights.

5.2 A&S Experience by Attained Age, Gender, Occupation Class and Benefit Period

This section discusses the A/E termination ratios by attained age and benefit period (nonlifetime vs. lifetime) separately for each combination of occupation class (M, non-M) and gender. The nonlifetime benefit periods consist of to age 65–70 and short-term benefit periods (however the short-term benefit period exposures at ultimate claim durations are negligible).

Occupation Class M—Males

Table 5.2 shows the A/E termination ratios for males in occupation class M by attained age in the ultimate claim durations. Both raw and adjusted (smoothed) nonlifetime and combined A/E termination ratios for attained ages 65 through 69 are shown. The smoothed A/E ratios are the average of the A/E ratios for attained ages 60 through 64 and 70 through 74. The smoothed number of claim terminations for attained ages 65 through 69 are estimated to reflect a corresponding change.

Table 5.2

A/E CLAIM TERMINATION RATIOS FOR MALE A&S CLAIMS FROM OCCUPATION CLASS M IN THEIR ULTIMATE CLAIM
DURATIONS BY ATTAINED AGE AND BENEFIT PERIOD

Attained Age	Nonlifetime		Lifetime	All Benefit Periods	
	Unadjusted	Smoothed		Unadjusted	Smoothed
Under 50	61%	61%	44%	54%	54%
50–54	66%	66%	44%	56%	56%
55–59	60%	60%	46%	53%	53%
60–64	69%	69%	43%	56%	56%
65–69	97%	76%	58%	62%	60%
70–74	83%	83%	46%	47%	47%
75–79	69%	69%	46%	47%	47%
80–89	114%	114%	49%	55%	55%
90 and over					
Total	68%	67%	48%	54%	54%
Attained Age	Number of Terminations				
Under 50	25	25	8	32	32
50–54	76	76	25	101	101
55–59	127	127	60	188	188
60–64	192	192	86	278	278
65–69	40	32	153	193	185
70–74	13	13	122	135	135
75–79	14	14	75	89	89
80–89	16	16	44	60	60
90 and over	0	0	0	0	0
Total	504	495	573	1,077	1,068

The smoothing of the nonlifetime A/E ratios for males in occupation class M, attained ages 65 through 69, lowered
the A/E ratio from 97% to 76% but had little impact on the total A/E ratios for all attained ages combined. The
smoothing removed an estimated eight nonlifetime claim terminations from attained ages 65 through 69. Overall,
the lifetime A/E ratios for males in occupation class M are substantially lower than the nonlifetime A/E ratios—48%
versus 67% (smoothed).

As discussed in other sections, where the data are sparse, their credibility should be considered.

Non-M Occupation Classes—Males

Table 5.3 shows the A/E termination ratios for males in non-M occupation classes by attained age in the ultimate claim
durations. Both unadjusted and smoothed nonlifetime A/E termination ratios for attained ages 65 through 69 are
shown, using the same process as that used for Table 5.2.

Table 5.3

A/E CLAIM TERMINATION RATIOS FOR MALE A&S CLAIMS FROM NON-M OCCUPATION CLASSES IN THEIR ULTIMATE CLAIM DURATIONS BY ATTAINED AGE AND BENEFIT PERIOD

Attained Age	Nonlifetime		Lifetime	All Benefit Periods	
	Unadjusted	Smoothed		Unadjusted	Smoothed
Under 50	41%	41%	31%	38%	38%
50–54	62%	62%	44%	56%	56%
55–59	71%	71%	48%	64%	64%
60–64	65%	65%	47%	59%	59%
65–69	126%	72%	60%	75%	62%
70–74	79%	79%	66%	67%	67%
75–79	79%	79%	72%	73%	73%
80–89	112%	112%	69%	73%	73%
90 and over	0%	0%	64%	64%	64%
Total	69%	66%	56%	63%	61%
Attained Age	Number of Terminations				
Under 50	71	71	13	84	84
50–54	133	133	36	169	169
55–59	369	369	96	464	464
60–64	489	489	107	596	596
65–69	175	99	141	316	240
70–74	36	36	150	186	186
75–79	29	29	144	173	173
80–89	19	19	175	195	195
90 and over	0	0	28	28	28
Total	1,321	1,245	890	2,210	2,135

The smoothing of the nonlifetime A/E ratios for males in the non-M occupation classes in attained ages 65 through 69 lowered the ratio from 126% to 72% but had little impact on the total A/E ratios. The smoothing removed an estimated 76 nonlifetime claim terminations from attained ages 65 through 69. Overall, the lifetime A/E ratios for males in non-M occupation classes are substantially lower than the nonlifetime A/E ratios—56% versus 66% (smoothed).

Figure 5.1 compares the A/E termination ratios by attained age for males by occupation classes M and non-M. The figure shows the smoothed nonlifetime A/E ratios.

Figure 5.1

A/E CLAIM TERMINATION RATIOS IN THE ULTIMATE CLAIM DURATIONS FOR MALES BY OCCUPATION CLASS, BENEFIT PERIOD AND ATTAINED AGE
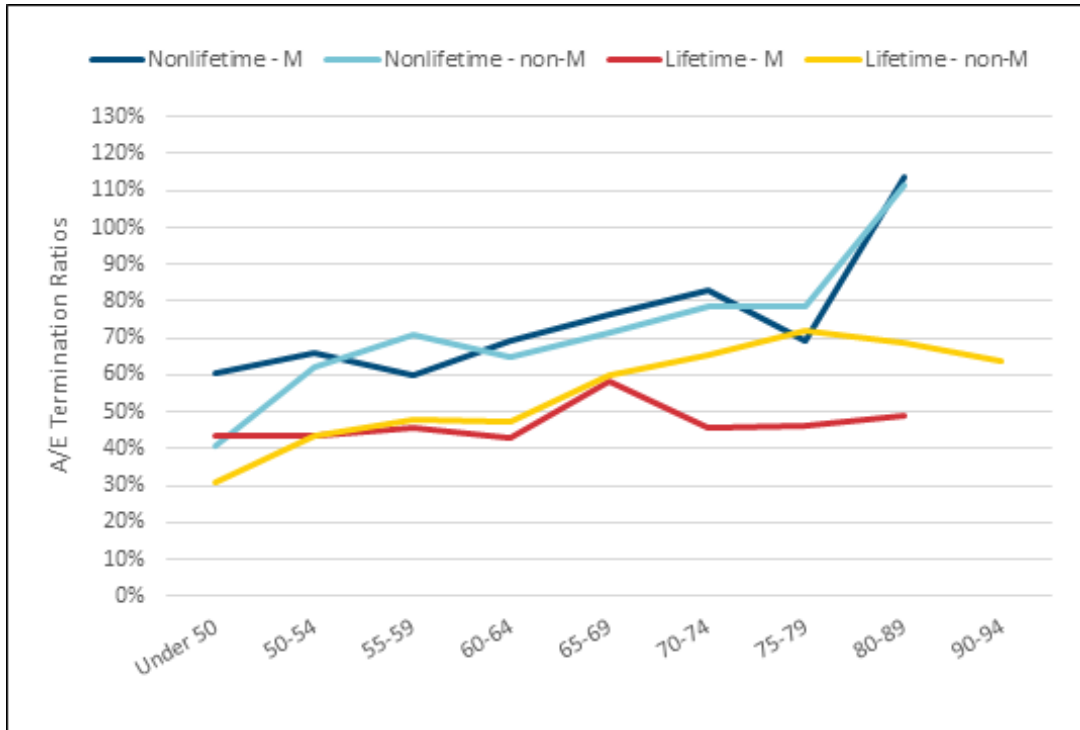
Lifetime A/E ratios are consistently lower than nonlifetime A/E ratios across most attained age groups for both M and non-M occupation classes. For nonlifetime claims, the A/E ratios for M and non-M occupation classes are similar across all attained ages. For lifetime claims, the A/E ratios for M and non-M are similar up to attained age 69. However, there is a significant divergence above attained age 70.

Non-M and M Occupation Classes—Females

Table 5.4 shows the A/E termination ratios for females in the non-M and M occupation classes by attained age in the ultimate claim durations. Because there were fewer than 10 nonlifetime claims for attained ages 70 through 74, no smoothing was applied to the nonlifetime A/E ratio for ages 65 through 69.

Table 5.4

A/E CLAIM TERMINATION RATIOS FOR FEMALE A&S CLAIMS FROM M AND NON-M OCCUPATION CLASSES IN THEIR ULTIMATE CLAIM DURATIONS BY ATTAINED AGE AND BENEFIT PERIOD

Attained Age	Occupation Class M			Non-M Occupation Classes		
	Nonlifetime	Lifetime	All Benefit Periods	Nonlifetime	Lifetime	All Benefit Periods
Under 50	69%	80%	73%	55%	50%	54%
50–54	83%	42%	69%	64%	51%	61%
55–59	123%	65%	102%	75%	96%	80%
60–64	86%	44%	70%	88%	39%	76%
65–69		55%	54%	89%	45%	54%
70–79						
80 and over						
Total	92%	51%	73%	74%	58%	69%
Attained Age	**Number of Terminations**					
Under 50	31	9	39	50	8	57
50–54	40	14	54	84	21	105
55–59	69	18	86	129	27	157
60–64	37	12	50	163	18	181
65–69	5	10	16	20	16	36
70–79	0	7	7	2	18	20
80 and over	0	0	0	0	3	3
Total	184	75	259	452	128	581

For all attained ages combined, the lifetime female A/E termination ratios are lower than the nonlifetime ratios for both occupation class M (51% vs. 92%) and the non-M occupation classes (58% vs. 74%). The female nonlifetime A/E ratio for occupation class M is higher than the nonlifetime A/E ratio for the non-M occupation classes (92% vs. 74%). The female lifetime A/E ratio for occupation class M is lower than the lifetime A/E ratio for the non-M occupation classes (51% vs. 58%).

Figure 5.2 compares the A/E termination ratios by attained age for females by occupation class M and non-M.

Figure 5.2

A/E CLAIM TERMINATION RATIOS IN THE ULTIMATE CLAIM DURATIONS FOR FEMALES BY OCCUPATION CLASS, BENEFIT PERIOD AND ATTAINED AGE
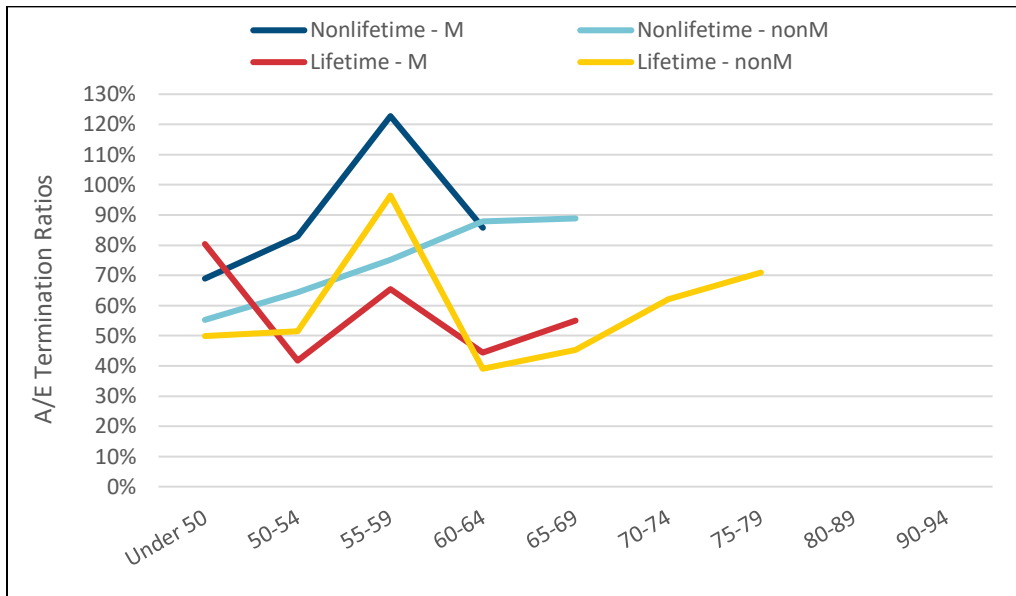

Figure 5.3 compares the average nonlifetime and lifetime A/E loss ratios in the ultimate durations by occupation class and gender for all attained ages combined. These results are from Tables 5.2, 5.3 and 5.4. The male nonlifetime A/E ratios are derived from smoothed data.

Figure 5.3

AVERAGE A/E CLAIM TERMINATION RATIOS IN THE ULTIMATE CLAIM DURATIONS BY BENEFIT PERIOD— OCCUPATION CLASS AND GENDER FOR ALL ATTAINED AGES COMBINED
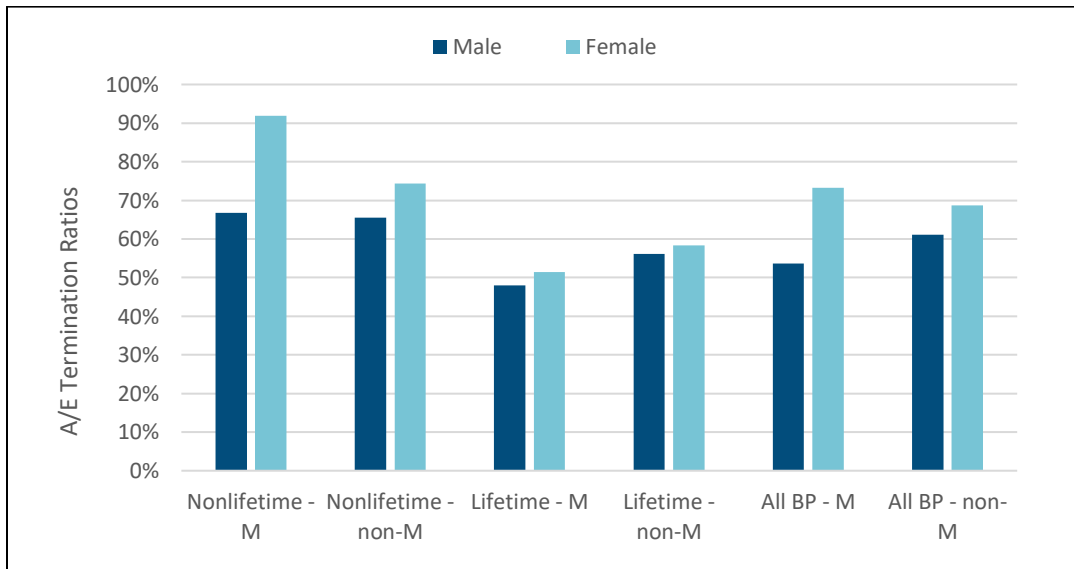
All of the A/E termination ratios in Figure 5.3 are significantly below 100%, and the nonlifetime ratios are always higher than the lifetime ratios. Female A/E termination ratios are higher than those for males, although the

differences by gender are much smaller for lifetime claims. On average, females also tend to have lower monthly indemnity amounts than males, which could affect the comparison of the A/E ratios by gender.

5.3 Trend Analysis of A&S A/E Termination Ratios

Figure 5.4 compares the A/E termination ratios by amount from the prior and current IDEC studies. To observe trends in the A/E ratios, each study was separated into two subsets by calendar period. The prior study was separated into 1990 through 1999 and 2000 through 2007, and the current study was separated into 2006 through 2010 and 2011 through 2014. For this comparison, all occupation classes, genders and attained ages were combined. The nonlifetime A/E ratios are shown as both unadjusted and smoothed, using the smoothing methodology described in section 5.2.

Figure 5.4

COMPARISON OF A/E CLAIM TERMINATION RATIOS BETWEEN THE PRIOR AND CURRENT IDEC STUDIES—ALL OCCUPATION CLASSES, GENDERS AND ATTAINED AGES COMBINED
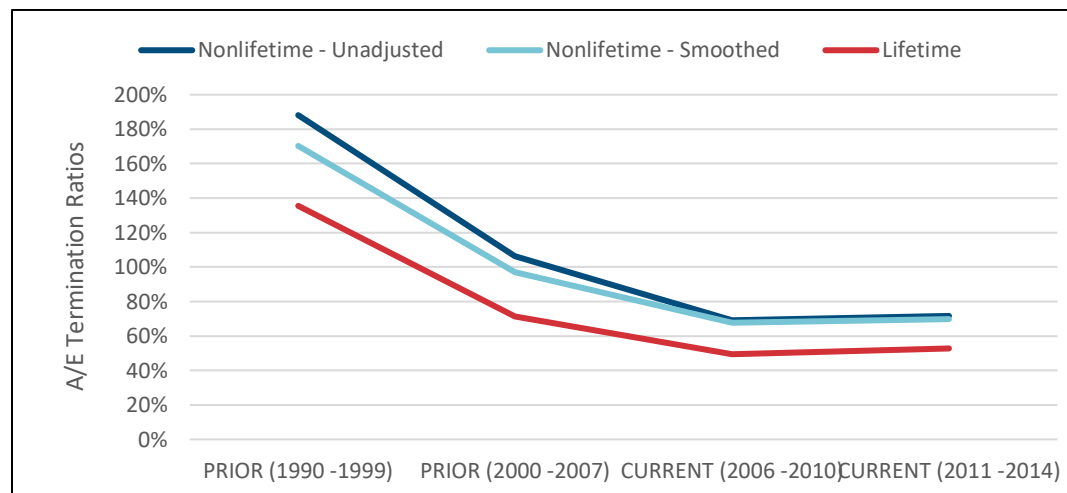
The A/E termination ratios in years 1990 through 1999 were high compared to the subsequent study periods. This may reflect unidentified data issues associated with the prior IDEC study, or it may be a by-product of an unusually chaotic time during the 1990s for IDI insurance. The A/E termination rates dropped considerably in years 2000 through 2007 of the prior study, but they were still higher than A/E ratios observed in the current study. Although the A/E termination ratios for 2006 through 2014 are lower than those from the prior study, they appear to have stabilized from 2006 through 2010 to 2011 through 2014. This stabilization of A/E ratios throughout the 2006–2014 study period may imply that mortality improvement in those years was not significant. This will be studied in more detail in the IDEC's next report.

Lifetime A/E termination ratios have been lower than the nonlifetime A/E ratios in each of the four study periods. This suggests that claim termination rates for IDI may need to be differentiated between lifetime and nonlifetime benefit periods in the ultimate durations. The upcoming IDEC analysis splitting termination rates between death and recovery should provide additional insight into the differentiation of the claim termination rates between lifetime and nonlifetime benefit periods.

5.4 A/E Experience by Monthly Indemnity

This section discusses the impact that monthly indemnity has on A/E termination ratios in the ultimate claim durations. The reader should be aware that monthly indemnity measures the face amount of a claim and not the face amount per life. For example, a claimant with $10,000 of monthly indemnity from two policies of $5,000 each would be recorded as two separate claims with $5,000 of monthly indemnity each.

Table 5.5 compares the A/E termination ratios in the ultimate durations for nonlifetime and lifetime claims and increasing monthly indemnities. All occupation classes, gender and attained ages are combined.

Table 5.5

A/E CLAIM TERMINATION RATIOS FOR A&S CLAIMS FOR YEARS 2006 THROUGH 2014 BY MONTHLY INDEMNITY—ALL OCCUPATION CLASSES, GENDERS AND ATTAINED AGES COMBINED

Monthly Indemnity	Nonlifetime	Lifetime	All Benefit Periods
Under $2,500	82%	67%	76%
$2,500-4,999	73%	53%	63%
$5,000-7,499	59%	58%	58%
$7,500-9,999	68%	32%	44%
$10,000-14,999	33%	41%	39%
$15,000-19,999		35%	37%
$20,000 and higher			
Total	71%	51%	60%
Monthly Indemnity per Claim			
Under $2,500	1,902	1,109	2,557
$2,500-4,999	400	309	602
$5,000-7,499	105	150	237
$7,500-9,999	37	34	64
$10,000-14,999	12	48	58
$15,000-19,999	2	10	12
$20,000 and higher	1	7	7
Total	2,460	1,666	3,537

Both nonlifetime and lifetime claims exhibit downward trends in the A/E termination ratios in the ultimate durations as the monthly indemnity increases. Figure 5.5 illustrates these trends. As discussed in other sections, where the data are sparse, their credibility should be considered.

Figure 5.5

A/E CLAIM TERMINATION RATIO FOR A&S CLAIMS FOR YEARS 2006 THROUGH 2014 BY MONTHLY INDEMITY—ALL OCCUPATION CLASSES, GENDERS AND ATTAINED AGES COMBINED
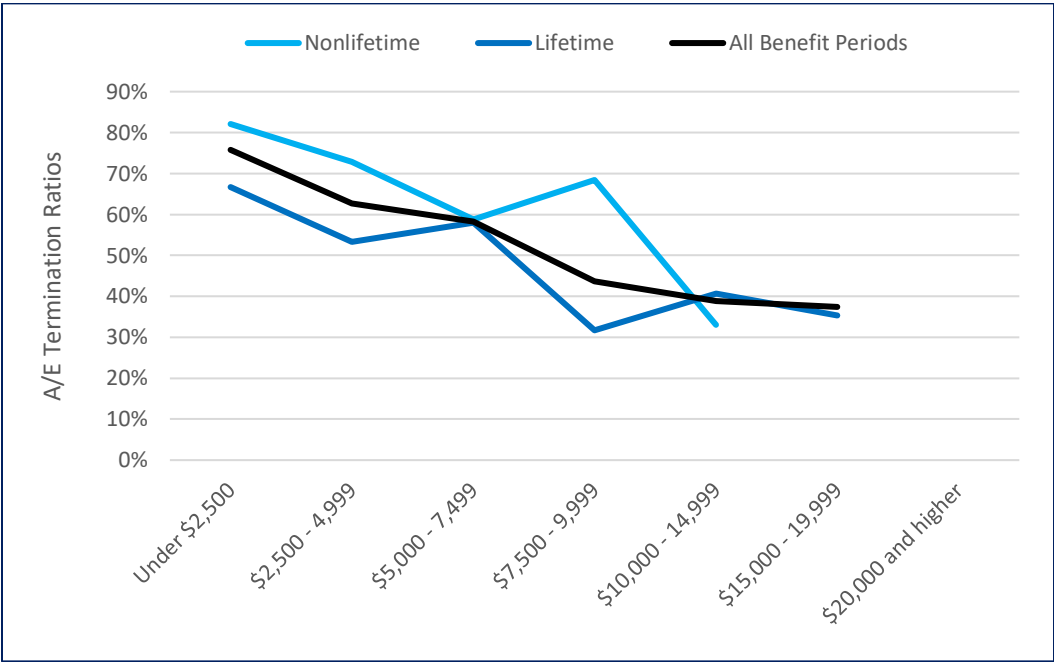

The nonlifetime A/E ratios in the ultimate durations remain higher than the lifetime ratios for amounts under $10,000.

5.5 A&S Experience by COLA Benefit

The section discusses the impact that a COLA benefit may have on A/E termination ratios in the ultimate durations. The 2013 IDIVT ultimate termination rates do not vary by COLA benefit. COLA benefit increases typically stop at age 65.

Table 5.6 compares the A/E ratios for claims with and without COLA benefits in the ultimate durations. In light of the impact of monthly indemnity on ultimate A/E termination ratios (discussed in section 5.4), this analysis also separates claims with monthly indemnity under $7,500 and $7,500 and over. All occupation classes, genders and attained ages are combined. Claims where the COLA identifier is unknown are excluded. Table 5.6 also includes the ratios of COLA A/E ratios to non-COLA A/E ratios.

Table 5.6

A/E CLAIM TERMINATION RATIOS FOR YEARS 2006 THROUGH 2014 FOR CLAIMS WITH AND WITHOUT COLA BENEFITS IN THE ULTIMATE DURATIONS—ALL OCCUPATION CLASSES, GENDERS AND ATTAINED AGES COMBINED

Monthly Indemnity	Nonlifetime		Lifetime		All Benefit Periods		COLA / Non-COLA		
	Non-COLA	COLA	Non-COLA	COLA	Non-COLA	COLA	Nonlifetime	Lifetime	All BP
Under $7,500	77%	67%	65%	49%	71%	57%	0.874	0.755	0.800
$7,500 and over	47%	62%	40%	38%	42%	43%	1.318	0.941	1.027
Total	73%	66%	57%	44%	65%	52%	0.904	0.772	.803
Monthly Indemnity	Number of Terminations								
Under $7,500	1,877	482	1,186	334	3,063	816			
$7,500 and over	27	26	50	48	77	74			
Total	1,904	508	1,236	382	3,140	890			

The COLA A/E to non-COLA A/E ratio is lower than 1.000 in three of the four categories shown. The fourth category may be an outlier because it is based on very limited data. It is reasonable to expect a "ratio of ratios" to be subject to much greater volatility than the underlying ratios themselves.

Please note that these results are in contrast to the select durations where the current study did not observe a material impact from COLA benefits on A/E termination ratios. This is discussed in section 4.10.

5.6 A&S Experience by Diagnosis Grouping

The A/E termination ratios vary considerably by diagnosis grouping in the ultimate durations. Figure 5.6 (males) and Figure 5.7 (females) show the A/E termination ratios in the ultimate durations by diagnosis grouping ordered from lowest to highest when all benefit periods are combined. Nonlifetime and lifetime claims are shown separately. Gaps in the lines on the graph represent cells with less than 10 claims.

Figure 5.6

MALE A/E CLAIM TERMINATION RATIOS FOR YEARS 2006 THROUGH 2014 FOR A&S CLAIMS IN THE ULTIMATE DURATIONS BY DIAGNOSIS GROUPING—ALL OCCUPATION CLASSES AND ATTAINED AGES COMBINED
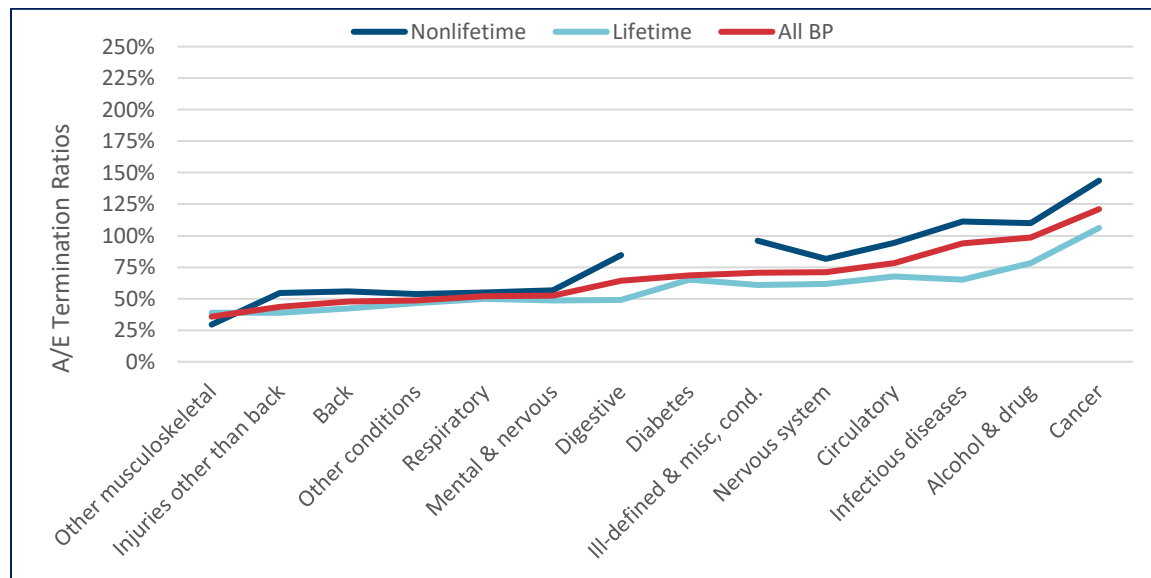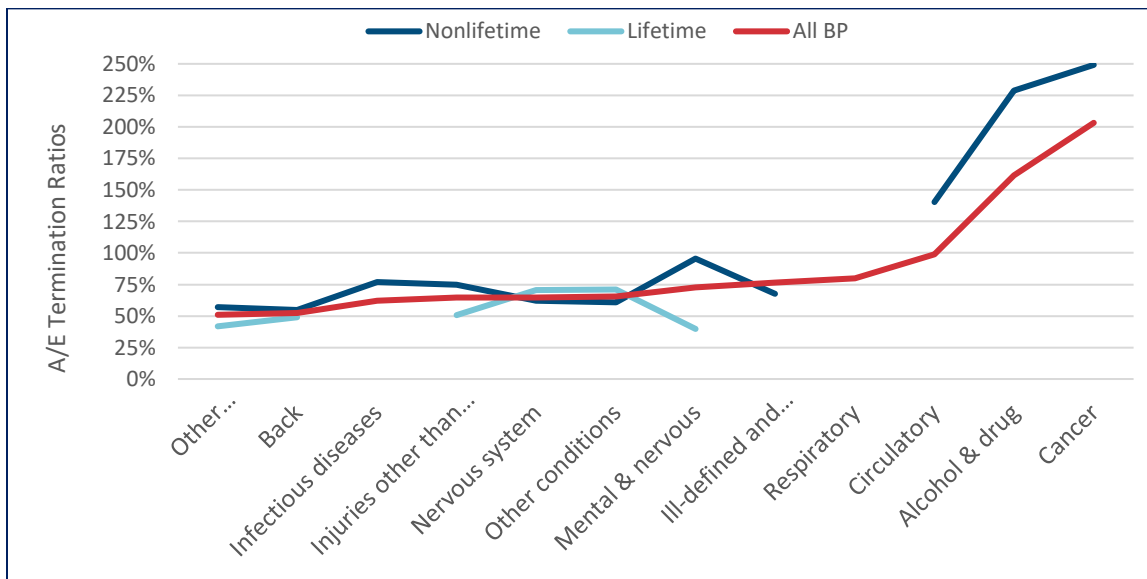
For male claims, the three diagnosis groupings with the lowest A/E termination ratios are other musculoskeletal, injuries other than back, and back. Infectious diseases, alcohol & drug, and cancer are the three diagnosis groupings with the highest A/E ratios in the ultimate durations. The A/E termination ratios for the nonlifetime claims are somewhat higher than those for the lifetime claims for most diagnosis groupings.

Figure 5.7

For females, the three diagnosis groupings with the lowest A/E termination ratios are other musculoskeletal, back, and infectious diseases. Injuries other than back had the fourth lowest A/E ratio. Circulatory, alcohol & drug, and cancer are the three diagnosis groupings with the highest A/E ratios in the ultimate durations. Differences in the A/E termination ratios by benefit period for females are not as consistent across the diagnoses as they are for males, due to the lower volume of female claim terminations. Claims with other musculoskeletal diagnoses have the lowest A/E ratios for both genders, whereas claims with alcohol & drug or cancer have the highest A/E ratios for both.

Figure 5.8 (males) and Figure 5.9 (females) show the distribution of the total amount of exposure in the ultimate durations by diagnosis grouping.

Figure 5.8

DISTRIBUTION OF AMOUNT EXPOSURE BY DIAGNOSIS GROUPING IN THE ULTIMATE DURATIONS AMONG MALE CLAIMS
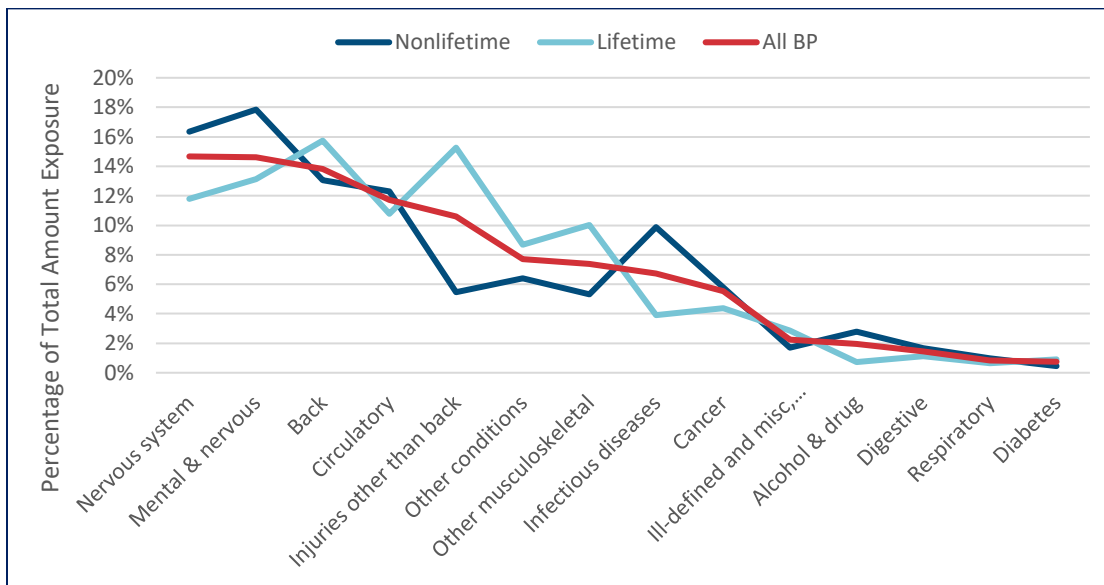
The three diagnosis groupings with the highest amount of exposure among male claims in the ultimate claim durations are nervous systems, mental & nervous, and back.

Figure 5.9

DISTRIBUTION OF AMOUNT EXPOSURE BY DIAGNOSIS GROUPING IN THE ULTIMATE DURATIONS AMONG FEMALE CLAIMS
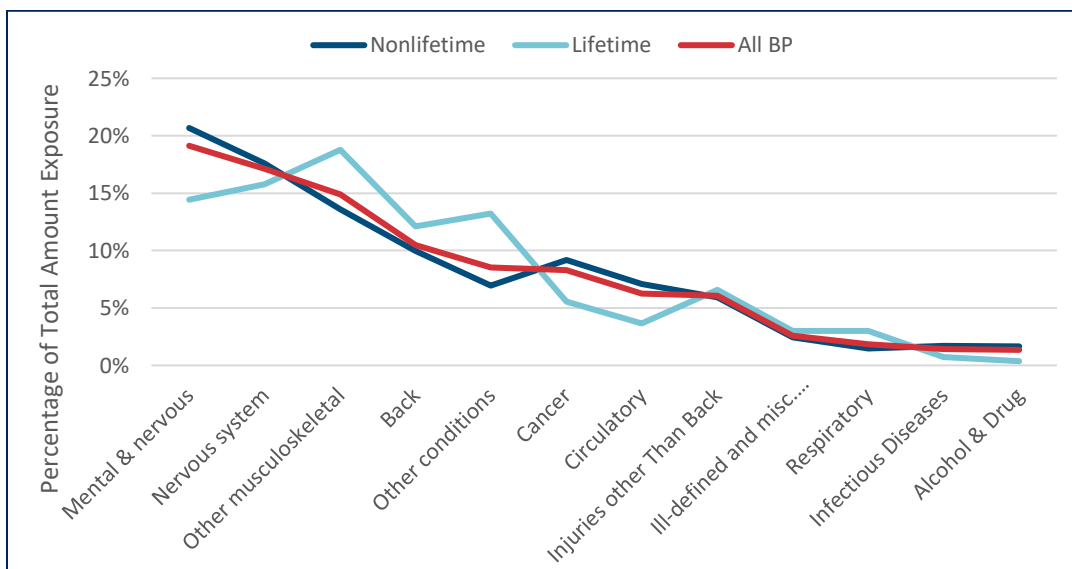
The three diagnosis groupings with the highest amount of exposure among female claims in the ultimate durations are mental & nervous, nervous systems, and other musculoskeletal.

Section 6: Reliances and Limitations

No assessment has been made concerning the applicability of this experience to other purposes. In developing this report, the SOA relied on data and information supplied by the participating companies. For each participant, this information includes, but is not limited to, the data submission for claims experience and the responses to follow-up questions.

The results in this report are technical in nature and dependent on certain assumptions and methods. No party should rely on these results without a thorough understanding of those assumptions and methods. Such an understanding may require consultation with qualified professionals. This report should be distributed and reviewed only in its entirety.

Give us your feedback!
Take a short survey on this report.

Click here

SOCIETY OF ACTUARIES.

Appendix A: 2013 IDIVT Claim Termination Rates in the Ultimate Durations

Attained Age	Male			Female		
	Occ Cl M	Occ Cl Non-M	M / Non-M	Occ Cl M	Occ Cl Non-M	M / Non-M
32	0.02564	0.03633	71%	0.01973	0.02796	71%
33	0.02586	0.03663	71%	0.01986	0.02813	71%
34	0.02607	0.03693	71%	0.02010	0.02847	71%
35	0.02639	0.03738	71%	0.02034	0.02882	71%
36	0.02575	0.03648	71%	0.01974	0.02796	71%
37	0.02512	0.03558	71%	0.01914	0.02711	71%
38	0.02448	0.03468	71%	0.01853	0.02626	71%
39	0.02385	0.03378	71%	0.01793	0.02540	71%
40	0.02321	0.03288	71%	0.01733	0.02455	71%
41	0.02258	0.03198	71%	0.01672	0.02369	71%
42	0.02194	0.03109	71%	0.01612	0.02284	71%
43	0.02131	0.03019	71%	0.01552	0.02198	71%
44	0.02067	0.02929	71%	0.01492	0.02113	71%
45	0.02004	0.02839	71%	0.01431	0.02027	71%
46	0.01977	0.02801	71%	0.01403	0.01987	71%
47	0.01950	0.02763	71%	0.01374	0.01946	71%
48	0.01923	0.02725	71%	0.01345	0.01906	71%
49	0.01897	0.02687	71%	0.01317	0.01865	71%
50	0.01870	0.02649	71%	0.01288	0.01825	71%
51	0.01843	0.02611	71%	0.01260	0.01784	71%
52	0.01816	0.02573	71%	0.01231	0.01744	71%
53	0.01789	0.02535	71%	0.01203	0.01704	71%
54	0.01762	0.02497	71%	0.01174	0.01663	71%
55	0.01736	0.02459	71%	0.01145	0.01623	71%
56	0.01750	0.02478	71%	0.01150	0.01629	71%
57	0.01764	0.02498	71%	0.01155	0.01636	71%
58	0.01778	0.02518	71%	0.01160	0.01643	71%
59	0.01792	0.02538	71%	0.01164	0.01649	71%
60	0.01806	0.02558	71%	0.01169	0.01656	71%
61	0.01820	0.02578	71%	0.01174	0.01663	71%
62	0.01834	0.02598	71%	0.01179	0.01670	71%
63	0.01920	0.02720	71%	0.01248	0.01768	71%
64	0.02006	0.02841	71%	0.01317	0.01866	71%
65	0.02091	0.02963	71%	0.01386	0.01964	71%
66	0.02265	0.03081	74%	0.01514	0.02060	74%
67	0.02445	0.03199	76%	0.01647	0.02155	76%
68	0.02701	0.03404	79%	0.01855	0.02338	79%
69	0.02969	0.03608	82%	0.02074	0.02521	82%
70	0.03248	0.03812	85%	0.02303	0.02703	85%
71	0.03540	0.04015	88%	0.02543	0.02884	88%
72	0.03843	0.04218	91%	0.02793	0.03066	91%
73	0.04238	0.04506	94%	0.03135	0.03333	94%
74	0.04650	0.04793	97%	0.03493	0.03600	97%
75	0.05079	0.05079	100%	0.03866	0.03866	100%
76	0.05370	0.05370	100%	0.04137	0.04137	100%
77	0.05661	0.05661	100%	0.04407	0.04407	100%
78	0.06068	0.06068	100%	0.04744	0.04744	100%
79	0.06561	0.06561	100%	0.05107	0.05107	100%
80	0.07069	0.07069	100%	0.05500	0.05500	100%

Attained Age	Male			Female		
	Occ Class M	Occ Class Non-M	M / Non-M	Occ Class M	Occ Class Non-M	M / Non-M
81	0.07611	0.07611	100%	0.05924	0.05924	100%
82	0.08198	0.08198	100%	0.06379	0.06379	100%
83	0.08827	0.08827	100%	0.07079	0.07079	100%
84	0.09630	0.09630	100%	0.07845	0.07845	100%
85	0.10756	0.10756	100%	0.08677	0.08677	100%
86	0.12019	0.12019	100%	0.09580	0.09580	100%
87	0.13446	0.13446	100%	0.10555	0.10555	100%
88	0.15067	0.15067	100%	0.11610	0.11610	100%
89	0.16848	0.16848	100%	0.12732	0.12732	100%
90	0.18827	0.18827	100%	0.13910	0.13910	100%
91	0.21009	0.21009	100%	0.15158	0.15158	100%
92	0.23299	0.23299	100%	0.16489	0.16489	100%
93	0.25618	0.25618	100%	0.17905	0.17905	100%
94	0.27779	0.27779	100%	0.19409	0.19409	100%
95	0.29872	0.29872	100%	0.21003	0.21003	100%
96	0.32055	0.32055	100%	0.22689	0.22689	100%
97	0.34380	0.34380	100%	0.25129	0.25129	100%
98	0.37068	0.37068	100%	0.28444	0.28444	100%
99	0.39928	0.39928	100%	0.31804	0.31804	100%
100	0.42704	0.42704	100%	0.35165	0.35165	100%
101	0.45286	0.45286	100%	0.38478	0.38478	100%
102	0.47570	0.47570	100%	0.41688	0.41688	100%
103	0.49476	0.49476	100%	0.44683	0.44683	100%
104	0.51079	0.51079	100%	0.47469	0.47469	100%
105	0.52511	0.52511	100%	0.49783	0.49783	100%
106	0.53830	0.53830	100%	0.51330	0.51330	100%
107	0.54891	0.54891	100%	0.52799	0.52799	100%
108	0.55521	0.55521	100%	0.54180	0.54180	100%
109	0.56003	0.56003	100%	0.55465	0.55465	100%
110	0.56250	0.56250	100%	0.56250	0.56250	100%
111	0.56250	0.56250	100%	0.56250	0.56250	100%
112	0.56250	0.56250	100%	0.56250	0.56250	100%
113	0.56250	0.56250	100%	0.56250	0.56250	100%
114	0.56250	0.56250	100%	0.56250	0.56250	100%
115	0.56250	0.56250	100%	0.56250	0.56250	100%
116	0.56250	0.56250	100%	0.56250	0.56250	100%
117	0.56250	0.56250	100%	0.56250	0.56250	100%
118	0.56250	0.56250	100%	0.56250	0.56250	100%
119	0.56250	0.56250	100%	0.56250	0.56250	100%
120	0.45000	0.45000	100%	0.45000	0.45000	100%

Appendix B: 2013 IDIVT Claim Termination Modifiers

There are three types of claim incidence modifiers:

1. By contract type
2. By maximum benefit period and COLA benefit
3. By diagnosis rating

The claim incidence modifiers by diagnosis rating are only applied in the calculation of claim reserves, not active life reserves.

Table B.1
CLAIM TERMINATION MODIFIERS BY CONTRACT TYPE

Claim Duration	BOE	All Other
Year 1	94.7%	100.0%
Year 2	259.4%	100.0%
Years 3–5	259.4%	100.0%
Years 6–10	259.4%	100.0%

Table B.2
CLAIM TERMINATION MODIFIERS BY MAXIMUM BENEFIT PERIOD AND COLA BENEFIT

| Claim Duration | Without COLA Benefit | | |
	To Age 65–70	Lifetime	Short-term
Year 1	100.0%	78.3%	117.2%
Year 2	100.0%	78.3%	117.2%
Years 3–5	100.0%	78.3%	117.2%
Years 6–10	100.0%	78.3%	117.2%

| Claim Duration | With COLA Benefit | | |
	To Age 65–70	Lifetime	Short-term
Year 1	83.5%	78.3%	117.2%
Year 2	83.5%	78.3%	117.2%
Years 3–5	83.5%	78.3%	117.2%
Years 6–10	83.5%	78.3%	117.2%

The claim termination modifiers in Table A.2 are not applied to BOE contracts. There are only claim termination modifiers by COLA benefit for to age 65–70 maximum benefit periods.

Table B.3
CLAIM TERMINATION MODIFIERS BY DIAGNOSIS MAPPING

Claim Duration	Very Low	Low	Mid	High	Very High
Months 1–12	44.4%	87.0%	113.0%	115.0%	132.7%
Months 13–24	69.1%	97.4%	94.3%	114.1%	212.6%
Months 25–60	84.8%	85.6%	96.3%	134.3%	209.6%
Years 6–10	108.5%	92.9%	97.2%	122.2%	176.1%

Appendix C: Diagnosis Groupings

Diagnosis Grouping	Example of Diagnoses within Grouping
Alcohol & drug	Dependence on alcohol, cocaine, amphetamines, opioids
Back	Back and spinal cord disorders, curvature of the spine, back sprains, vertebrae disorders, backaches
Cancer	Malignant neoplasms, lymphoma, Hodgkin's disease
Circulatory	Myocardial infarctions, heart failure, hypertension, angina, aortic and venous embolisms, atherosclerosis
Diabetes	Types I and II diabetes
Digestive	Duodenal, gastric and peptic ulcers; appendicitis; gingivitis; cirrhosis of the liver; dental and jaw issues; diseases of the small intestine and colon; hernias; irritable bowel syndrome
Ill-defined & misc. conditions	Comas, hallucinations, convulsions, insomnia, sleep apnea, anorexia, chronic fatigue syndrome, diarrhea, generalized pain, septic shock
Infectious diseases	Hepatitis, tuberculosis, polio myelitis, syphilis, diphtheria, autoimmune disease, bacterial infection, food poisoning, cholera, colitis, immunodeficiency, salmonella, Lyme disease, meningitis, scarlet fever, measles
Injuries other than back	Fractures, concussions, abrasions, burns, falls, animal bites, accidental poisoning, sports activities, amputation
Maternity	Abnormal pregnancies, complications of pregnancy, anemia of the mother, maternal hypertension, rubella in the mother, tubal pregnancy, shock during or after labor
Mental & nervous	Anxiety, paranoia, obsessive compulsive disorder, antisocial personality disorder, manic disorder, autism bipolar disorder, schizophrenia, dementia
Nervous systems	Multiple sclerosis, Alzheimer's disease, cerebral palsy, carpal tunnel syndrome, meningitis, Reye's syndrome, acute and chronic pain
Other conditions	Benign neoplasms, acute and chronic kidney failure, hearing loss, cystic fibrosis, dermatitis, glaucoma, gout, motion sickness, nephritis, obesity, toxicity
Other musculoskeletal	Arthritis, bursitis, osteomyelitis, rupture of rotator cuff, walking disorders, soft tissue disorders, general muscle weakness, osteopathy, joint pain
Respiratory	Acute and chronic respiratory failure, bronchitis, asthma, influenza, pneumonia, pulmonary collapse, emphysema, chronic obstructive pulmonary disease

Diagnosis Groupings	Prior IDEC Groupings *	3-Digit ICD-9 Codes
Alcohol & drug	Alcohol & drug	291, 292, 303, 304
Back	Back, Other injury, Other musculoskeletal	720–724, 737, 805, 806, 847, 952
Cancer	Cancer	140–165, 170–176, 179–209, 230–239
Circulatory	Circulatory, Diseases of blood	280–289, 390–398, 401–405, 410–417, 420–438, 440–449, 451–459
Diabetes	Endocrine, Nutritional & Metabolic	250
Digestive	Digestive	520–543, 550–560, 562, 564–579
Ill-defined & misc. conditions	Ill-defined & misc. conditions	780–799
Infectious diseases	Immunodeficiency, Other infectious diseases	001–004, 011–118, 120–139, 279
Injuries other than back	Other injury, Other musculoskeletal	800–804, 807–846, 848–854, 860–887, 890–897, 900–979, E000–E030, E800–E888, E990–E999, NOIN
Maternity	Complications of pregnancy, Congenital/prenatal, Normal pregnancy	630–679, 760–779
Mental & nervous	Chronic fatigue syndrome, Mental & nervous, Mental disorders	290, 293–319
Nervous systems	Carpal tunnel syndrome, Nervous system	320–327, 330, 359
Other conditions	Cancer, Congenital/prenatal, Diseases of skin, Endocrine, Nutritional & Metabolic, Genitourinary, Nervous system, Toxicity	210–229, 240–246, 249, 251–278, 360–389, 580–629, 680–686, 690–698, 700–709, 740–759, 980–999
Other musculoskeletal	Other musculoskeletal	710–719, 725–739
Respiratory	Respiratory	460–466, 470–478, 480–488, 490–496, 500–508, 510–519

* For the current IDEC study, the diagnosis groupings underwent minor changes to those used in the prior study and development of the 2013 IDIVT.

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 more than 32,000 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.

Society of Actuaries
475 N. Martingale Road, Suite 600
Schaumburg, Illinois 60173
www.SOA.org