



SOCIETY OF
ACTUARIES®

2019 **ANNUAL
MEETING**
& EXHIBIT

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Session 096: IDEC Update

[SOA Antitrust Compliance Guidelines](#)

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2019 Annual Meeting

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Session 96, IDEC Update

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There is no safe harbor under the antitrust law for professional association activities. Therefore, association meeting participants should refrain from discussing any activity that could potentially be construed as having an anti-competitive effect. Discussions relating to product or service pricing, market allocations, membership restrictions, product standardization or other conditions on trade could arguably be perceived as a restraint on trade and may expose the SOA and its members to antitrust enforcement procedures.

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- **Do not** discuss prices for services or products or anything else that might affect prices
- **Do not** discuss what you or other entities plan to do in a particular geographic or product markets or with particular customers.
- **Do not** speak on behalf of the SOA or any of its committees unless specifically authorized to do so.
- **Do** leave a meeting where any anticompetitive pricing or market allocation discussion occurs.
- **Do** alert SOA staff and/or legal counsel to any concerning discussions
- **Do** consult with legal counsel before raising any matter or making a statement that may involve competitively sensitive information.

Adherence to these guidelines involves not only avoidance of antitrust violations, but avoidance of behavior which might be so construed. These guidelines only provide an overview of prohibited activities. SOA legal counsel reviews meeting agenda and materials as deemed appropriate and any discussion that departs from the formal agenda should be scrutinized carefully. Antitrust compliance is everyone's responsibility; however, please seek legal counsel if you have any questions or concerns.

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Background

- The 2013 IDIVT modeled claim incidence and termination rate experience from 1990 to 2006, based on the study performed by the Individual Disability Experience Committee (IDEC).
- IDEC resumed activities in 2015 and requested experience data covering 2005 – 2015.
 - Analysis of the data resulted in the committee dropping 2005 and 2015 due to incomplete data years.
- A report on incidence should be published in 2019 and a report on termination will follow in early 2020.
- The new IDEC study will not only update the industry IDI experience; it will provide insights that we have not had yet from the additional field requested including.
 - Exposure trends in new sales and inforce policy mix
 - Incidence A/E by market segment (individual vs. ER sponsored)
 - Incidence A/E by state

List of Contributing Companies

Contributors	1990 - 1999	2000 - 2006	2005 - 2015
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		

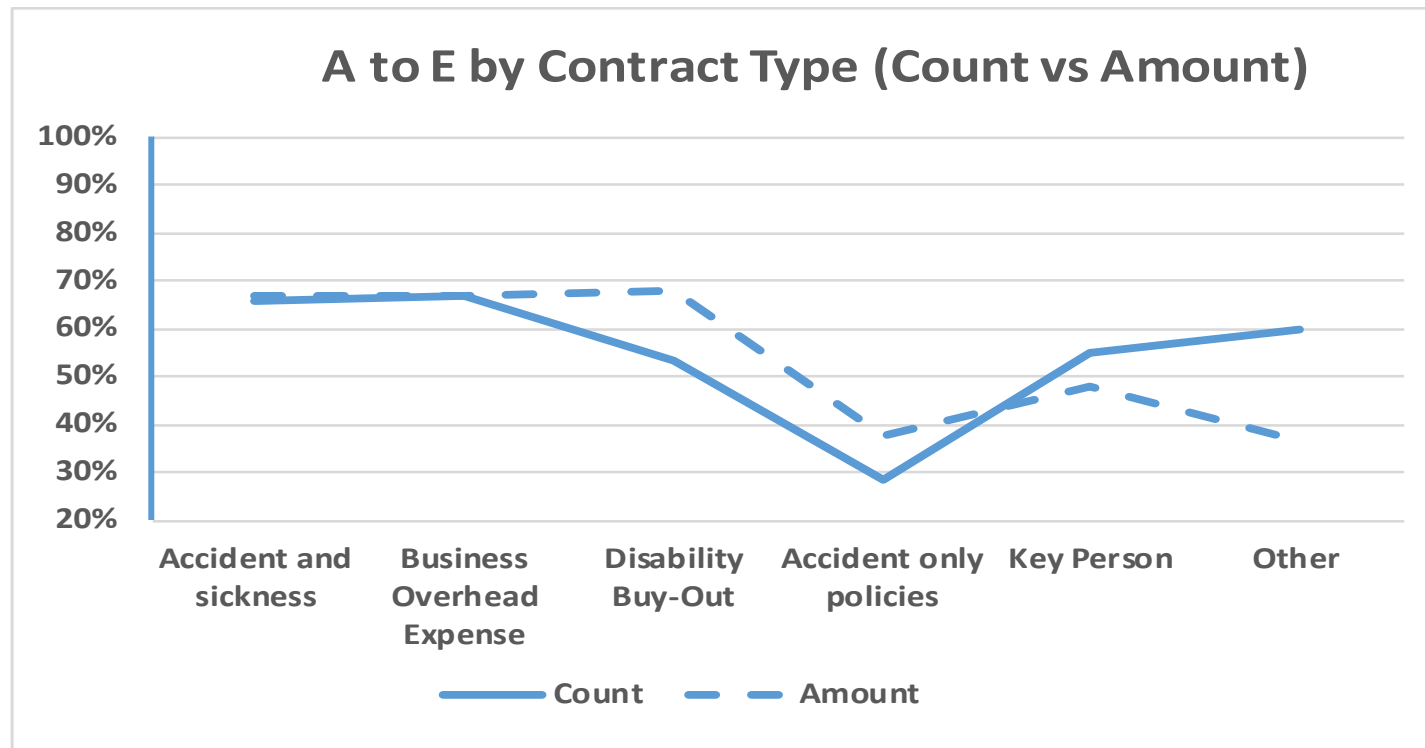
IDI Claim Incidence Trend Analysis

Methodology:

- Measured Actual-to-Expected (A/E) claim incidence ratios where Expected = 2013 IDIVT base incidence rates **WITH** incidence modifiers.
- All contract types are included in this analysis.
- Incidence Modifiers apply for:
 - Contract Type – Business Products use 67% of base table.
 - Smoker Type – About a 28% increase for smokers.
 - Benefit Duration – Lifetime has 20% higher incidence, Fixed/Limited BPs have 10% lower incidence.
 - Underwriting Type – ER sponsored plans have lower incidence based on funding method. 3% lower for voluntary and 43% lower for mandatory GSI.

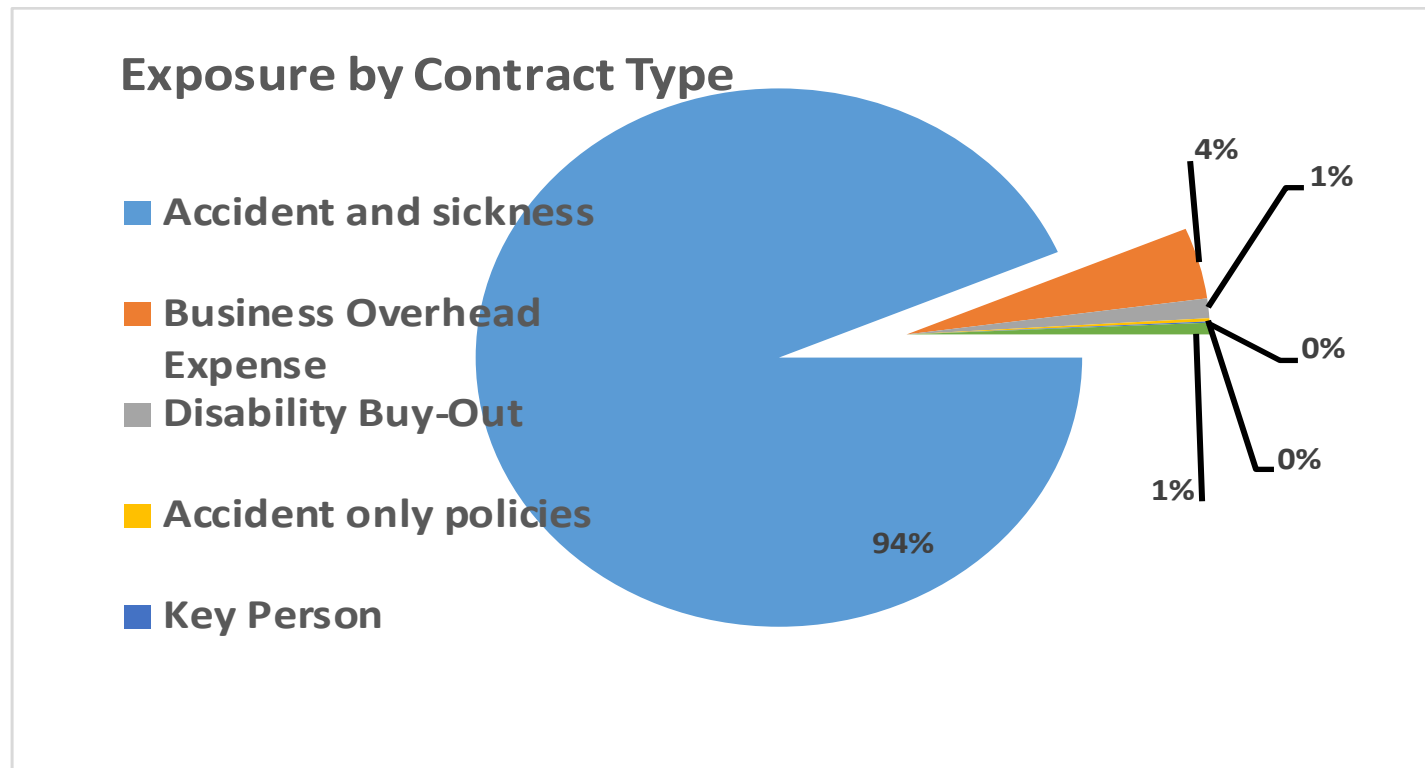
Compare A/E count vs. indemnity/amount by contract type

- A to E is similar by count and amount for major contract types.
- Remainder of presentation will be amount based.



Exposure by contract type

- Accident and Sickness combined with BOE account for 98% of study exposure.

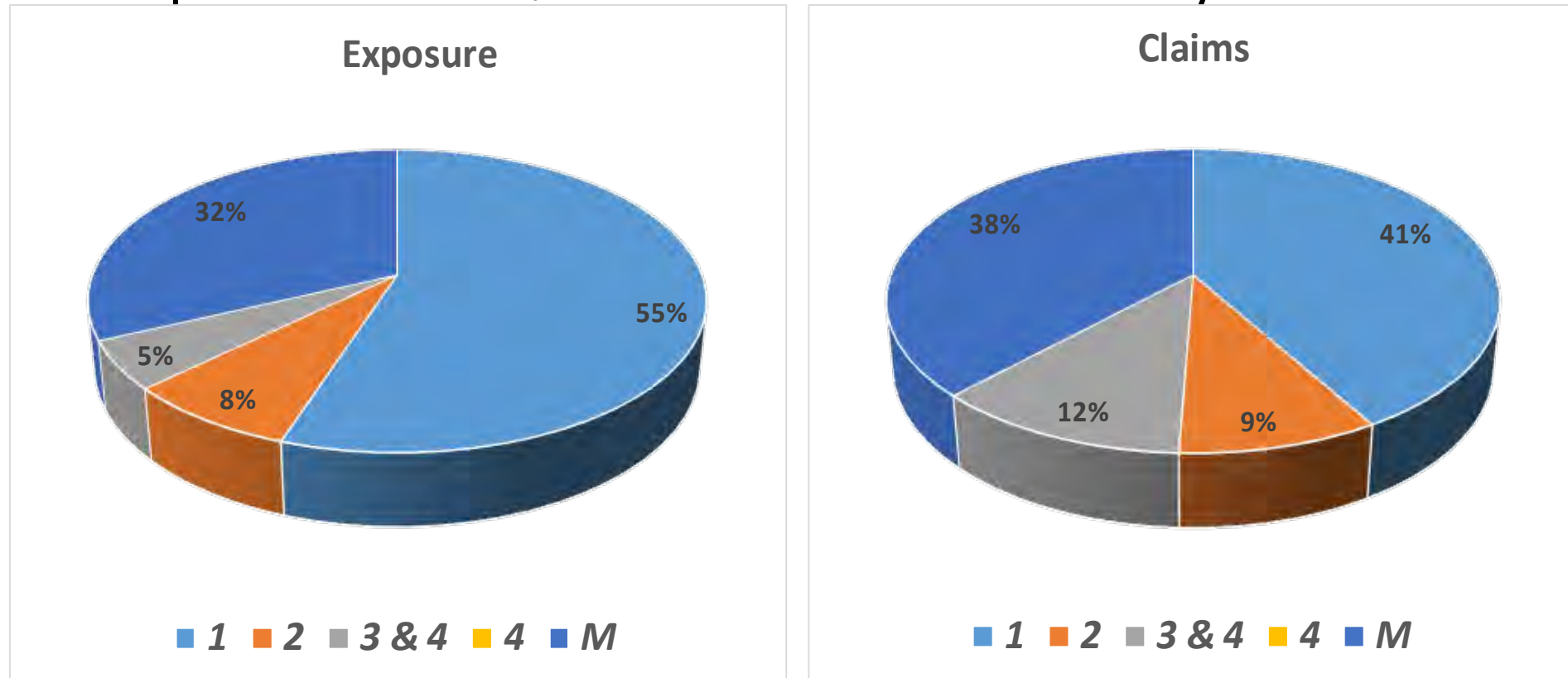


Occupation Splits



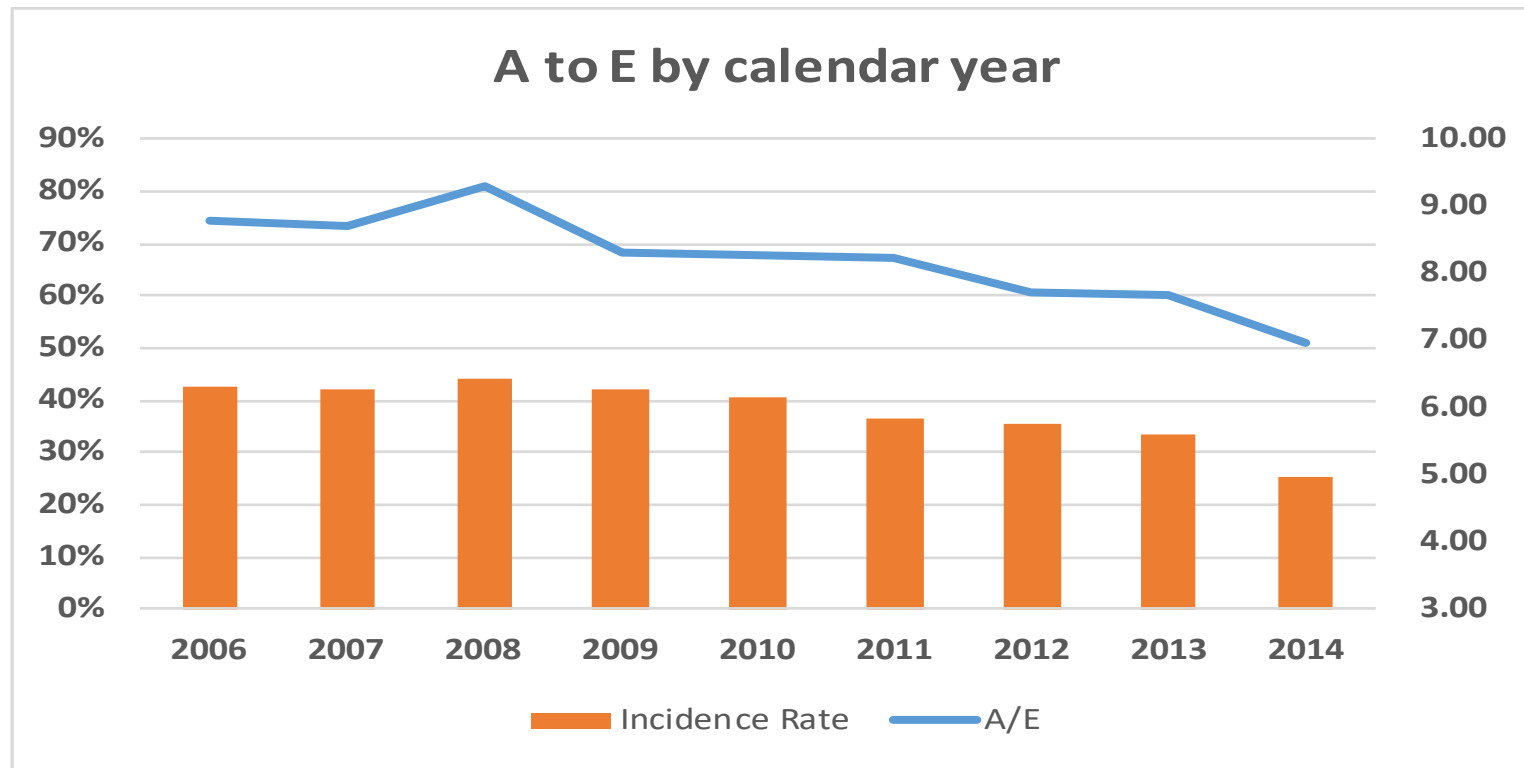
Exposure splits by occupation

- Occupation classes 1 and M represent 87% of the exposure and 80% of the claims in the study.



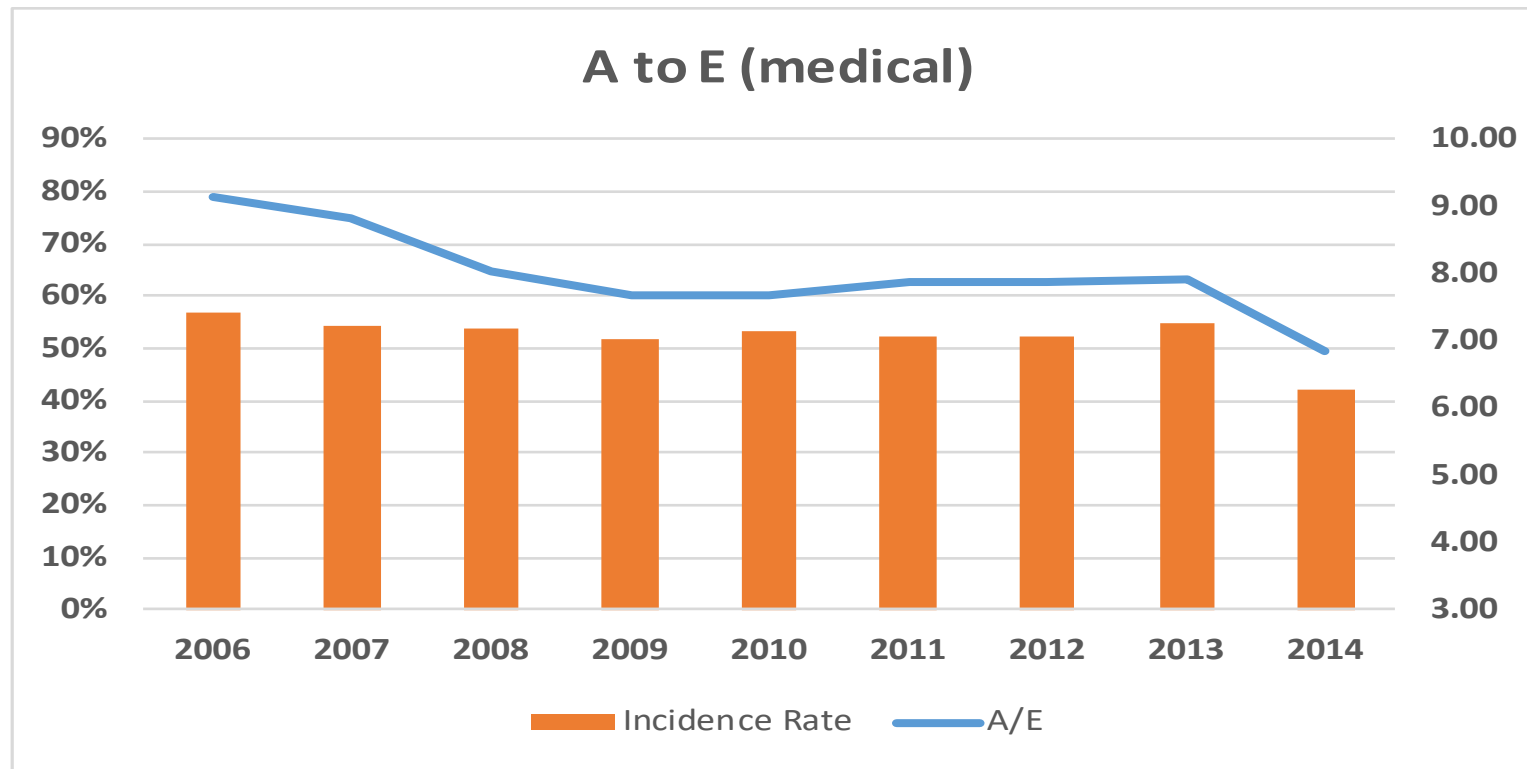
A/E by calendar year (all occupations)

- Both A/E and incidence display decreasing trends. A/E is dropping 4.5% annually.
- 2008 uptick may be due to financial crisis.



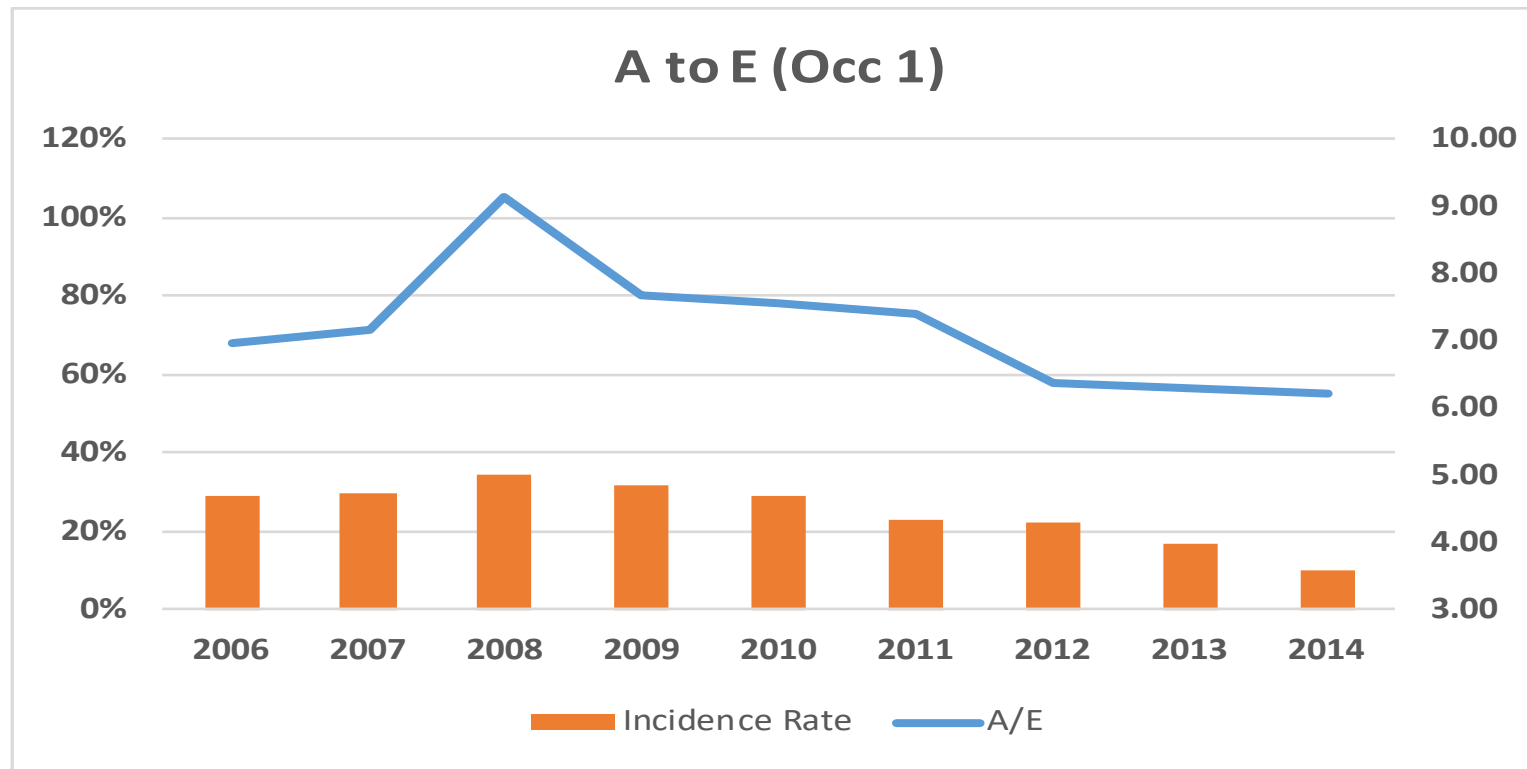
A/E by calendar year (medical occupations)

- Both A/E and incidence display decreasing trends. A/E is dropping 4% annually.
- Flatter A/E curve, with no uptick in 2008.



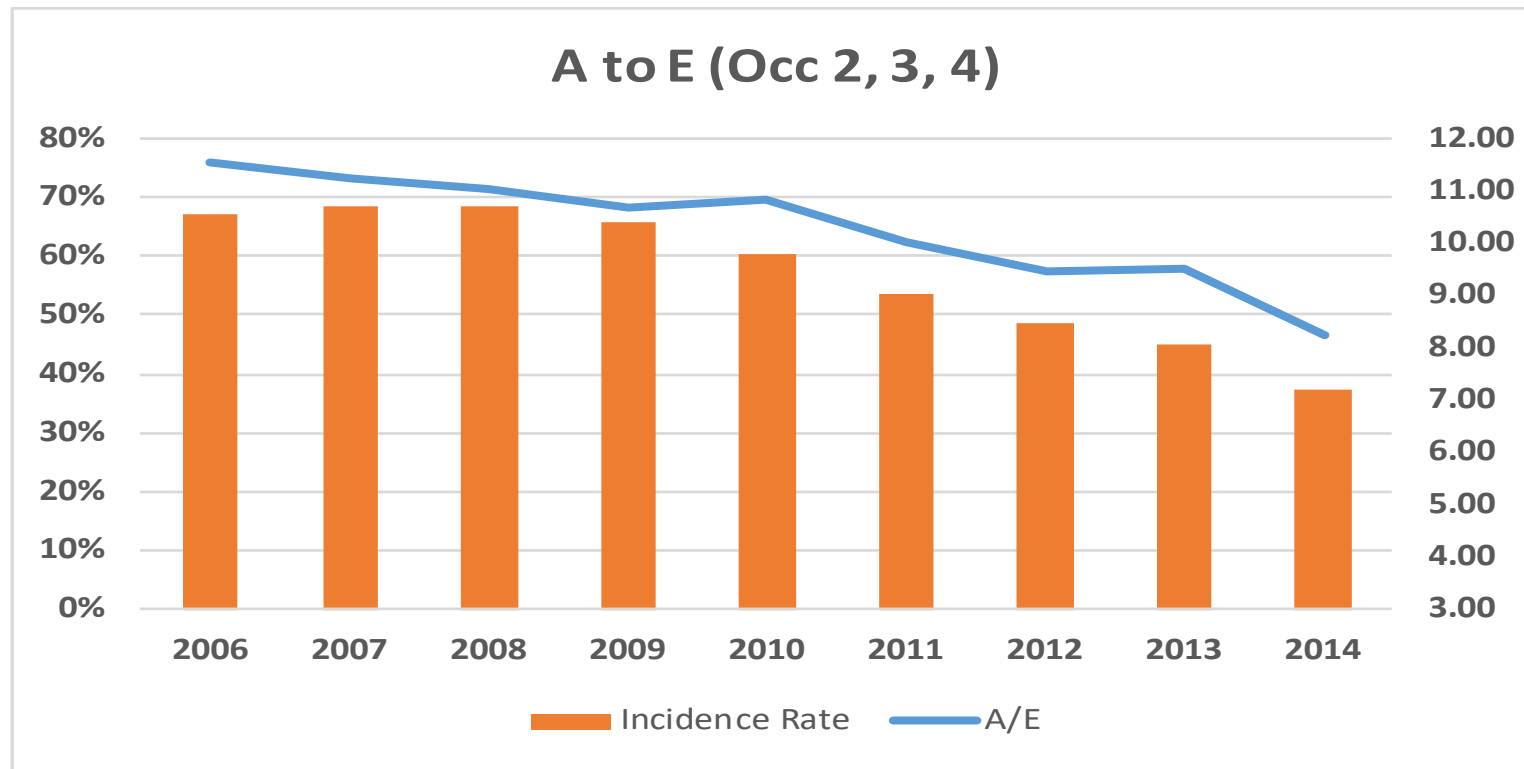
A/E by calendar year (occ class 1)

- Both A/E and incidence display decreasing trends. A/E is dropping 4.7% annually.
- Large uptick in A/E in 2008.



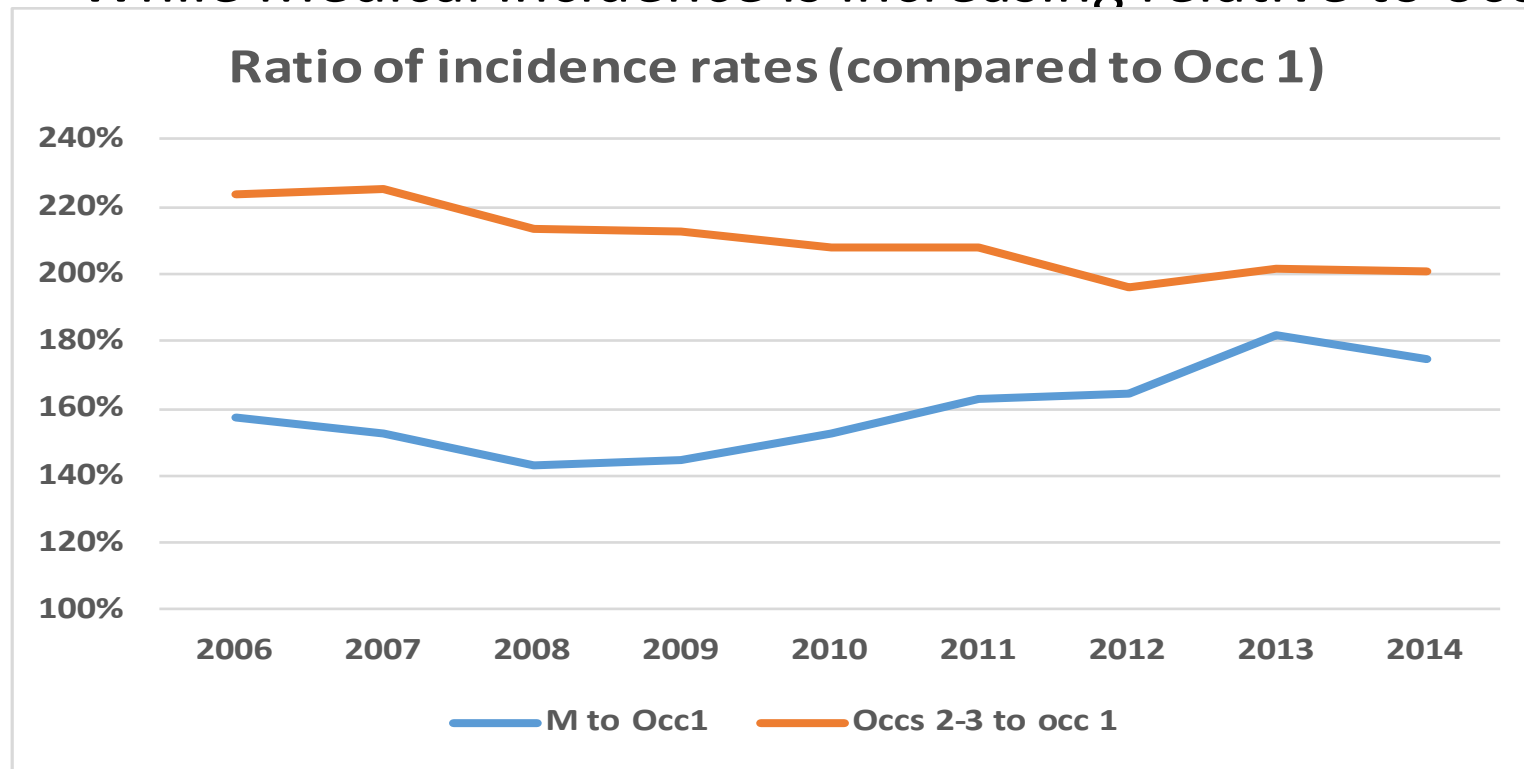
A/E by calendar year (occ class 2,3,4)

- Both A/E and incidence display decreasing trends. A/E is dropping 5% annually.



Incidence rate ratios compared to occ class 1

- The ratio of average incidence rates of occ class 2-3 (orange line) is decreasing relative to occ class 1.
- While Medical incidence is increasing relative to occ class 1.



Detailed occupation analysis – Occ class M

Note: this experience limited to 2000+ issues, due occupation detail provided in data submission.

- Dentists and nurses are amongst the higher A/E's of the group.
- General practitioners, psychologists and anesthesiologist among the lower A/E's.

A to E by market	A/E	Relative A/E	Claims	Incidence Rate	% of Exposure
Physicians	62%	97%	26,426	6.29	54%
Dentists	71%	112%	11,191	7.87	18%
Nurses	98%	154%	3,643	13.45	3%
Surgeons	46%	73%	1,075	4.79	3%
Pharmacists	46%	72%	616	5.32	1%
Veterinarians	59%	92%	700	6.16	1%
General Practitioner	25%	40%	327	2.95	1%
Psychologists & Psychiatrists	36%	57%	498	5.04	1%
Anesthesiologist	39%	61%	252	2.92	1%
ER Physician	45%	71%	203	3.30	1%
Chiropractors	98%	155%	533	12.34	1%
Resident/Student	41%	64%	117	2.50	1%
Other Medical Occupations	66%	104%	8,747	9.30	12%
Other Dental Occupations	202%	318%	663	18.19	0%
Total	64%	100%	54,993	7.07	100%

Detailed occupation analysis – Occ class 1

Note: this experience limited to 2000+ issues, due to occupation detail provided in data submission.

- Programmers/analysts and other sales among the higher A/E's of the nonmedical occs.
- Lawyers, accountants/actuaries, education and engineers/architects have amongst the lower A/E's of the group.

A to E by market	A/E	Relative A/E	Claims	Incidence Rate	% of Exposure
Executives & Managers	77%	107%	30,438	4.80	55%
Lawyers	63%	88%	6,889	3.59	17%
Accountants & Actuaries	46%	64%	2,255	3.32	6%
Clerical	78%	108%	1,233	4.85	2%
Engineers & Architects	35%	48%	1,034	2.29	4%
Education	60%	83%	545	3.27	1%
Programmers & Analysts	126%	175%	311	2.83	1%
Other Occupations	90%	125%	3,807	3.45	10%
Other White Collar	73%	101%	828	3.70	2%
Other Professionals	88%	122%	623	3.40	2%
Total	72%	100%	47,963	4.21	99%

A/E observations

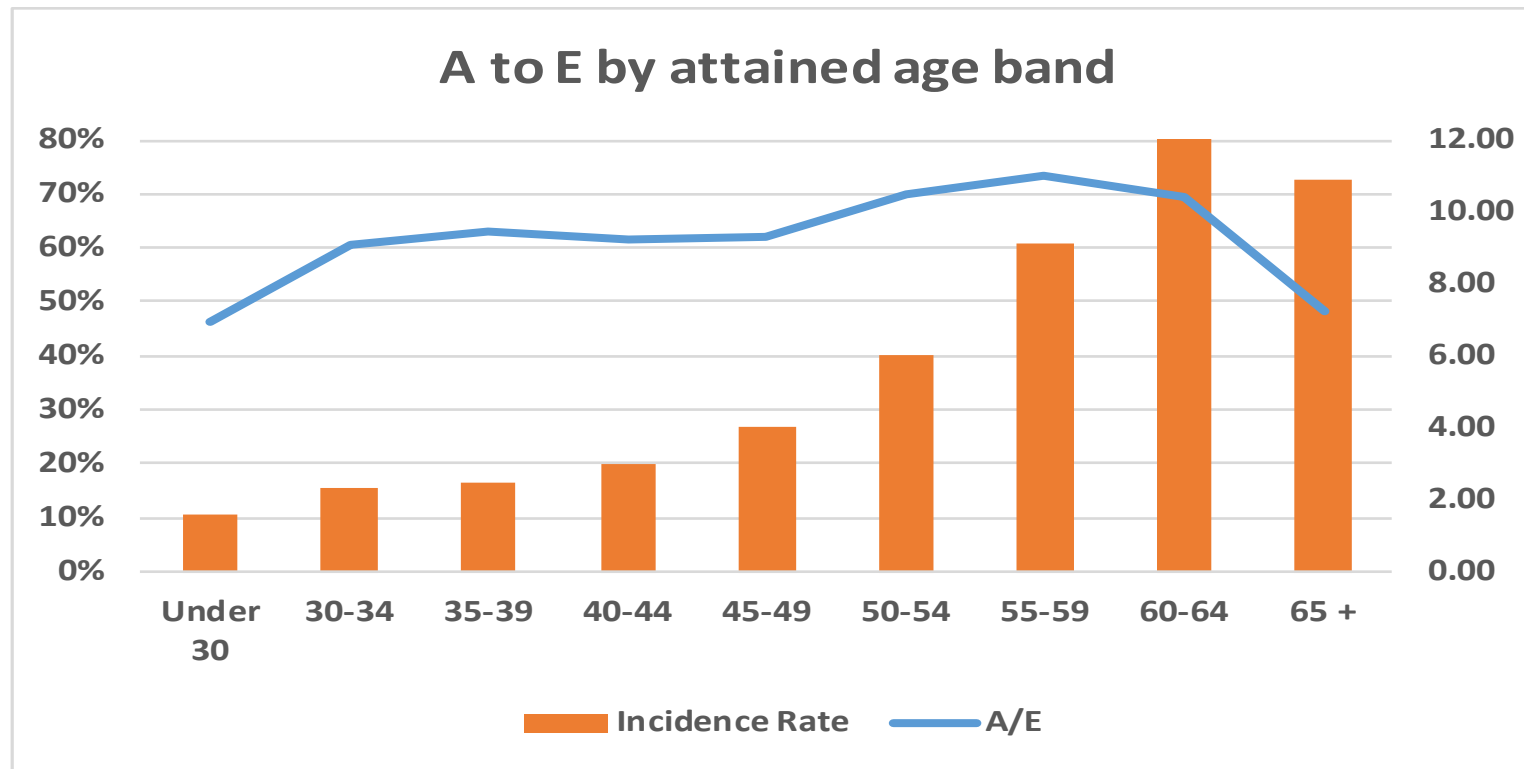
- A/E incidence rates have improved over experience period.
- Some evidence on increase in A/E during financial crisis/2008. Large increase in occupation 1 A/E.
- Detailed occupations provide insight into differences w/i occupation classes.
 - Dentists, Nurses and Chiropractors have high A/E.
- The relationship of incidence rates to occupation 1 are changing. Class M is increasing, while blue collar occ are decreasing.
- Despite aging IDI blocks, raw incidence rates are decreasing.

Additional Splits



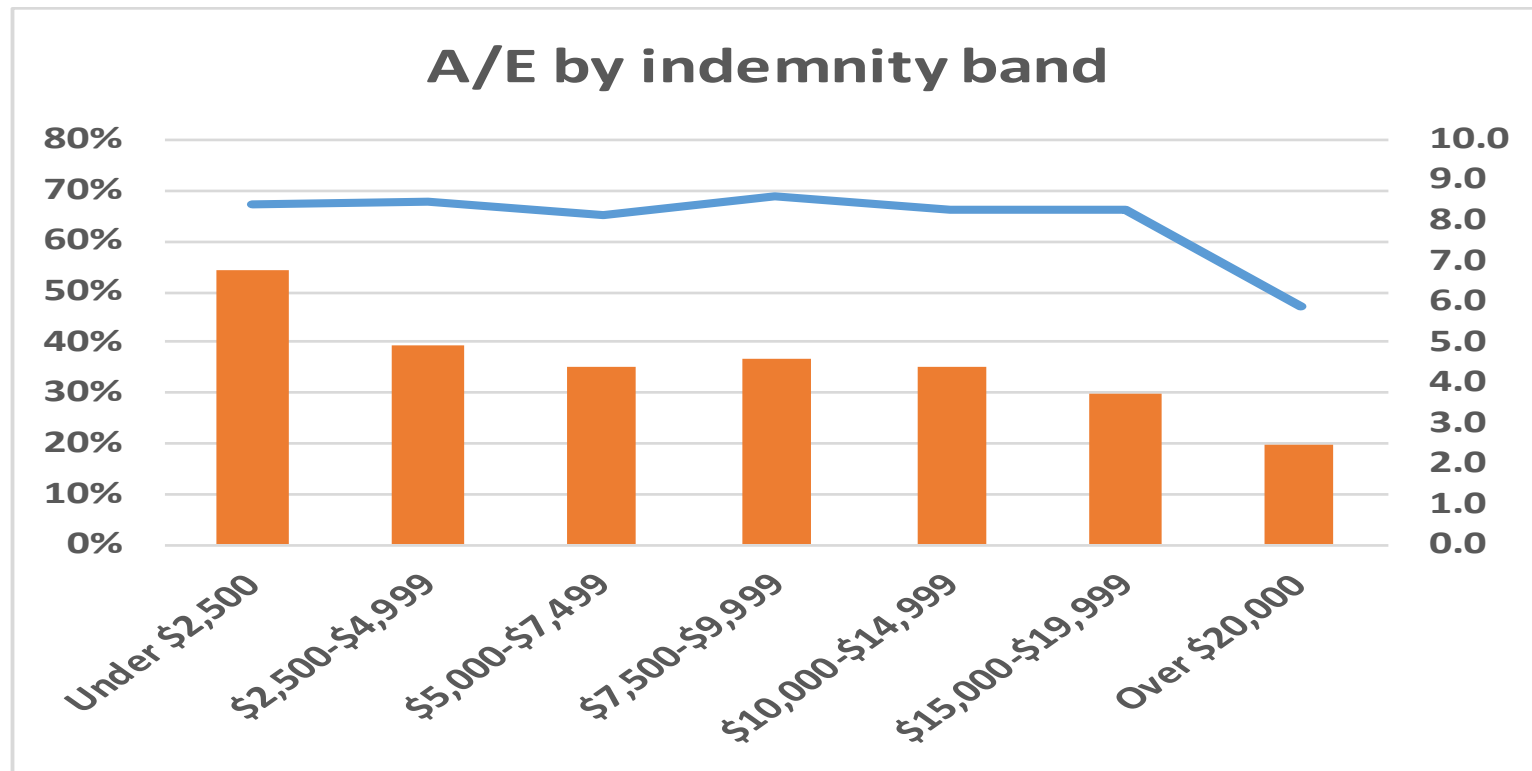
A/E by attained age

- A/E's are 60% for attained ages 30 to 50. Then increase to 70% from 50 to 65.
- Decreasing A/E over age 65, probably due to over-age U/W requirements.



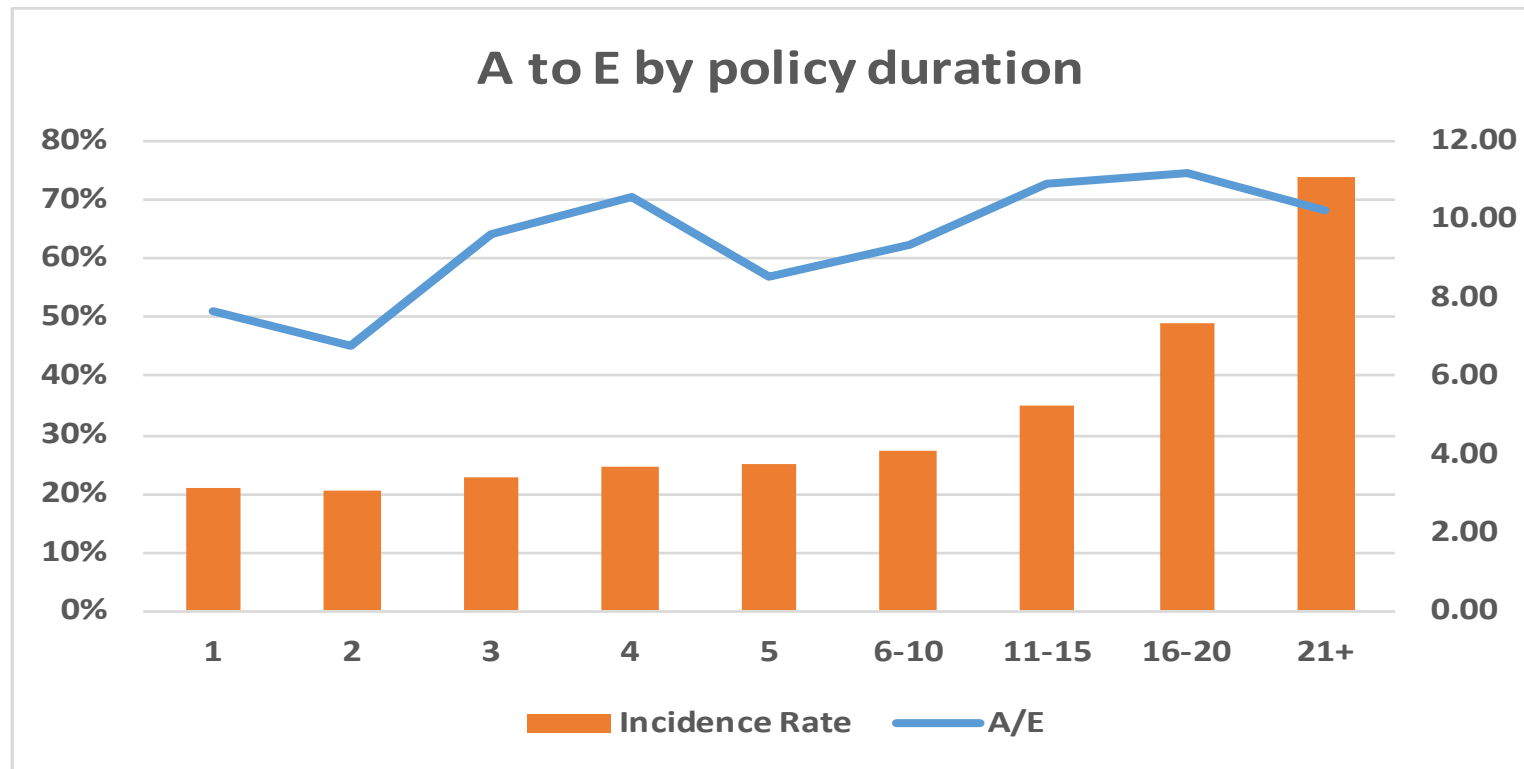
A/E by indemnity band (A/S contracts only)

- Note business products are excluded below. A/E is very stable by indemnity band. Indemnity is determined at policy not insured level.
- Only 4% of exposure > \$10,000. .1% of exposure over \$20,000.



A/E by policy duration

- A/E's are favorable during contestable period (≤ 2 years), then increase.
- Incidence rates are fairly flat through first 5 policy years.



A/E for top 10 states

- These states represent 56% of the study.
- Note high A/E in NY, CA, and FL. IDTWG originally recommended NY, FL and CA factors for incidence for the 2013 IDIVT.

State	A/E	relative A/E	% of Exposure
NY	73%	110%	12%
CA	86%	128%	9%
TX	56%	84%	5%
IL	59%	88%	5%
PA	62%	93%	5%
FL	74%	110%	5%
NJ	71%	106%	4%
OH	60%	89%	4%
MA	62%	93%	4%
GA	61%	90%	3%

Highest and lowest A/E by state

- Only states with exposure > 1% of study considered.
- Midwest states have favorable A/E.

State	A/E	relative A/E	% of Exposure
CA	86%	128%	9%
AZ	76%	114%	1%
FL	74%	110%	5%
NY	73%	110%	12%
WA	72%	107%	2%
NJ	71%	106%	4%
LA	71%	105%	1%
MI	70%	104%	3%
CT	69%	103%	2%
AL	68%	102%	1%

State	A/E	relative A/E	% of Exposure
IN	54%	80%	2%
MD	55%	83%	2%
TX	56%	84%	5%
IA	57%	85%	1%
IL	59%	88%	5%
OH	60%	89%	4%
SC	60%	90%	1%
GA	61%	90%	3%
VA	61%	90%	3%
MO	61%	91%	2%

A/E other splits

A/E trends for the following splits were reviewed and included in the SOA report, but are not presented here as A/E results weren't significantly different.

- Gender
- Cost of Living Provisions
- Benefit Period
- Elimination Period
- Smoker status

Additional A/E incidence observations

- Lower attained ages have better A/E results.
- A/E results are similar by policy indemnity size.
- Use caution interpreting durational and issue year results. Because of nature of data call, older issues are skewed to later durations.
- Comparing just new recent policies (2005 to 2009 and 2010 to 2015) in early policy durations, shows improvement for newer issues.
- A/E data continue to show significant A/E differences by state.
- A/E by state show favorable results in Midwestern states (Indiana, Iowa, Illinois, Ohio, and Missouri)
- CA, FL and NY continue amongst the highest A/E's by state.

Market and underwriting type

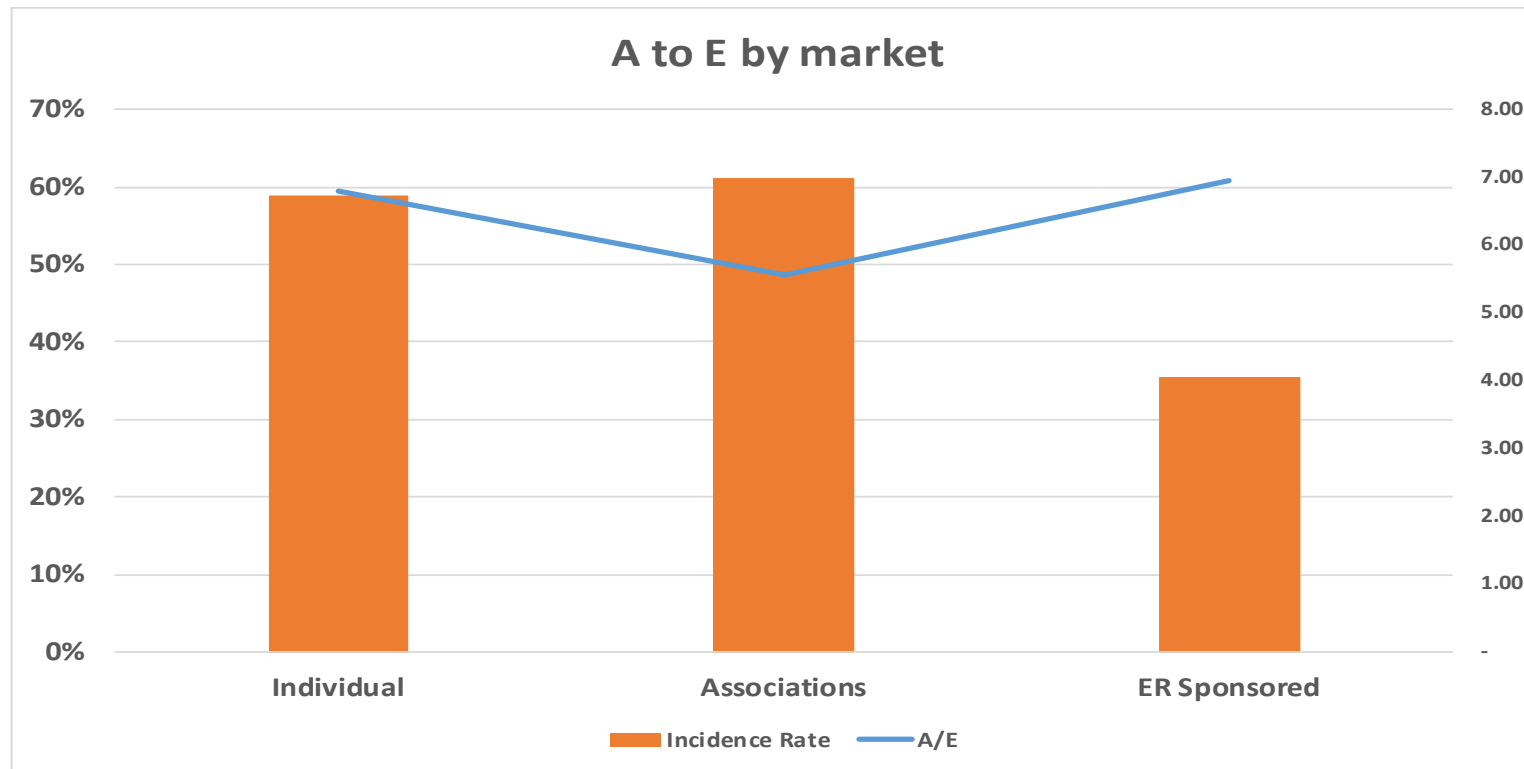


Incidence modifications for market and u/w type

- Individual and association markets use 105.3% factor
- ERSP policies that are fully underwritten use 81.2%. So a 23% credit.
- ERSP policies that are not fully underwritten use 96.7% factor for EE pay and 57.4% factor for ER pay. ER pay is a 45% credit relative to individual market policies.
- Note market and u/w type incidence modifiers do not vary by duration.
- Analysis is limited to 2000+ issues.
- We removed the marketing/underwriting modifiers in the expected basis (“semi-modified A/E’s”) because the current modifiers may not have captured the true differentials.

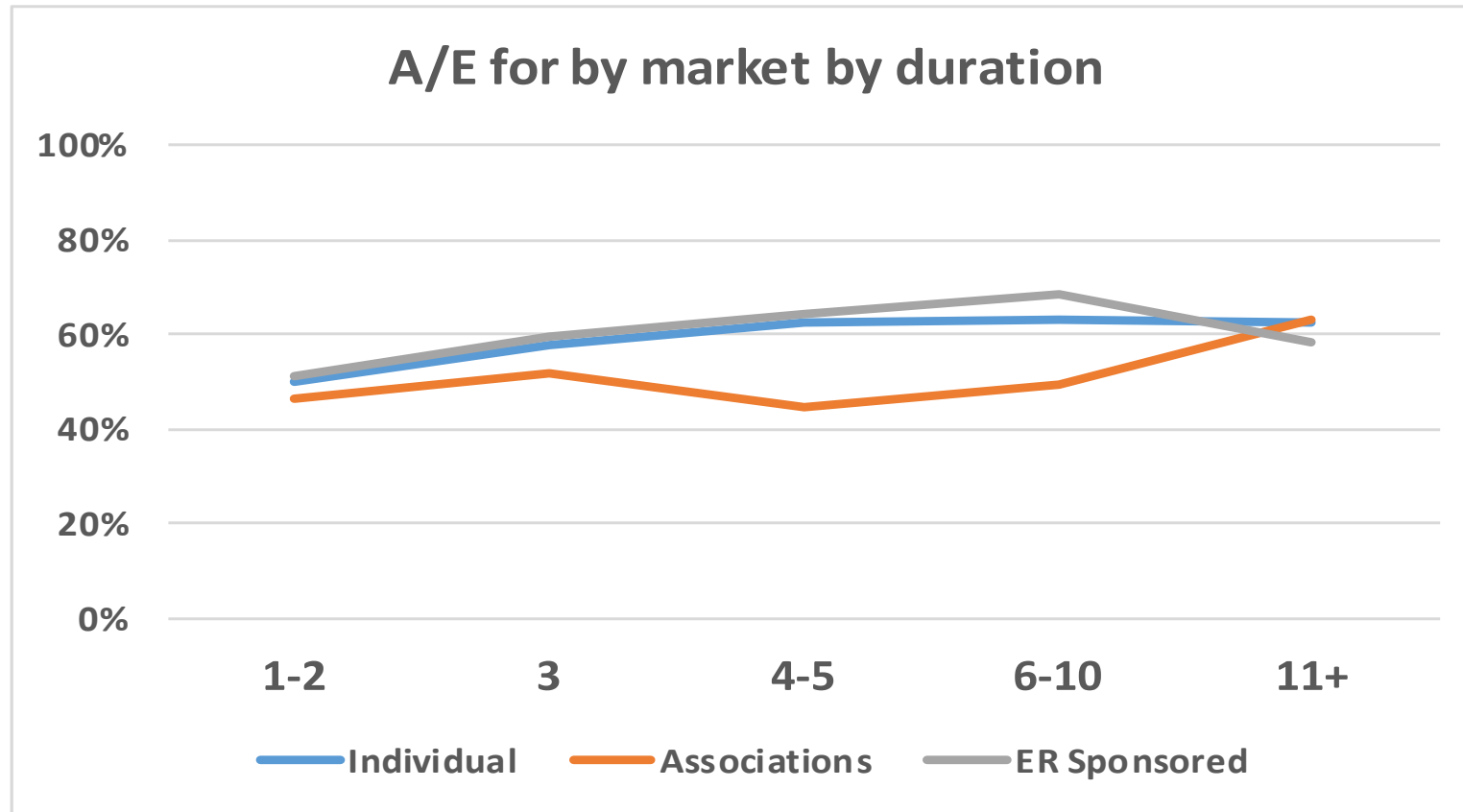
Semi-modified A/E by market

- Semi-modified A/E for employer sponsored plans are similar to the individual market.
- Note incidence rates are lower in ERSP market due to limited longer duration experience in the study.



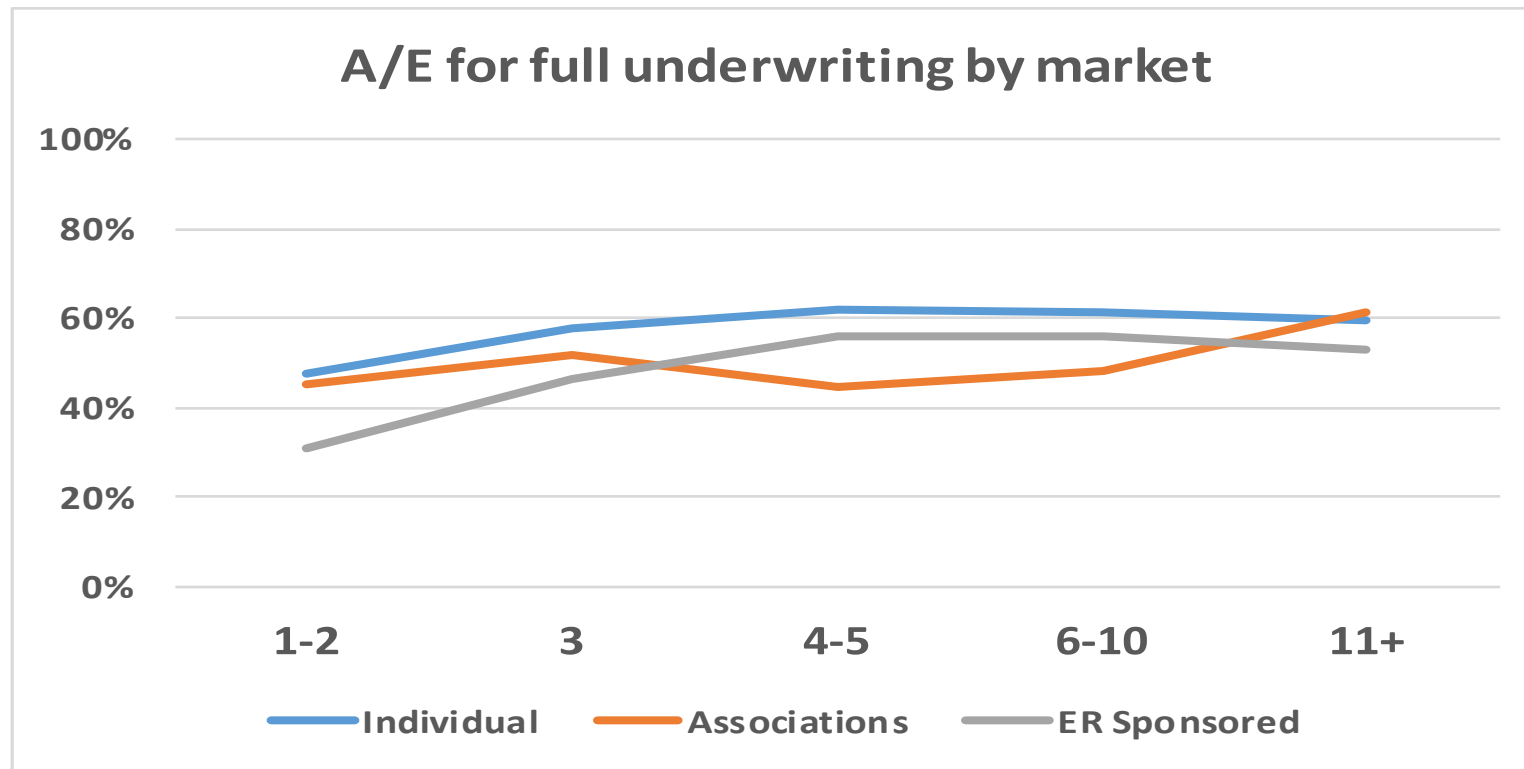
Semi-modified A/E by market by duration

- Note all payor and u/w types have been combined in ERSP data point.
- ERSP A/E is similar to Individual at most durations



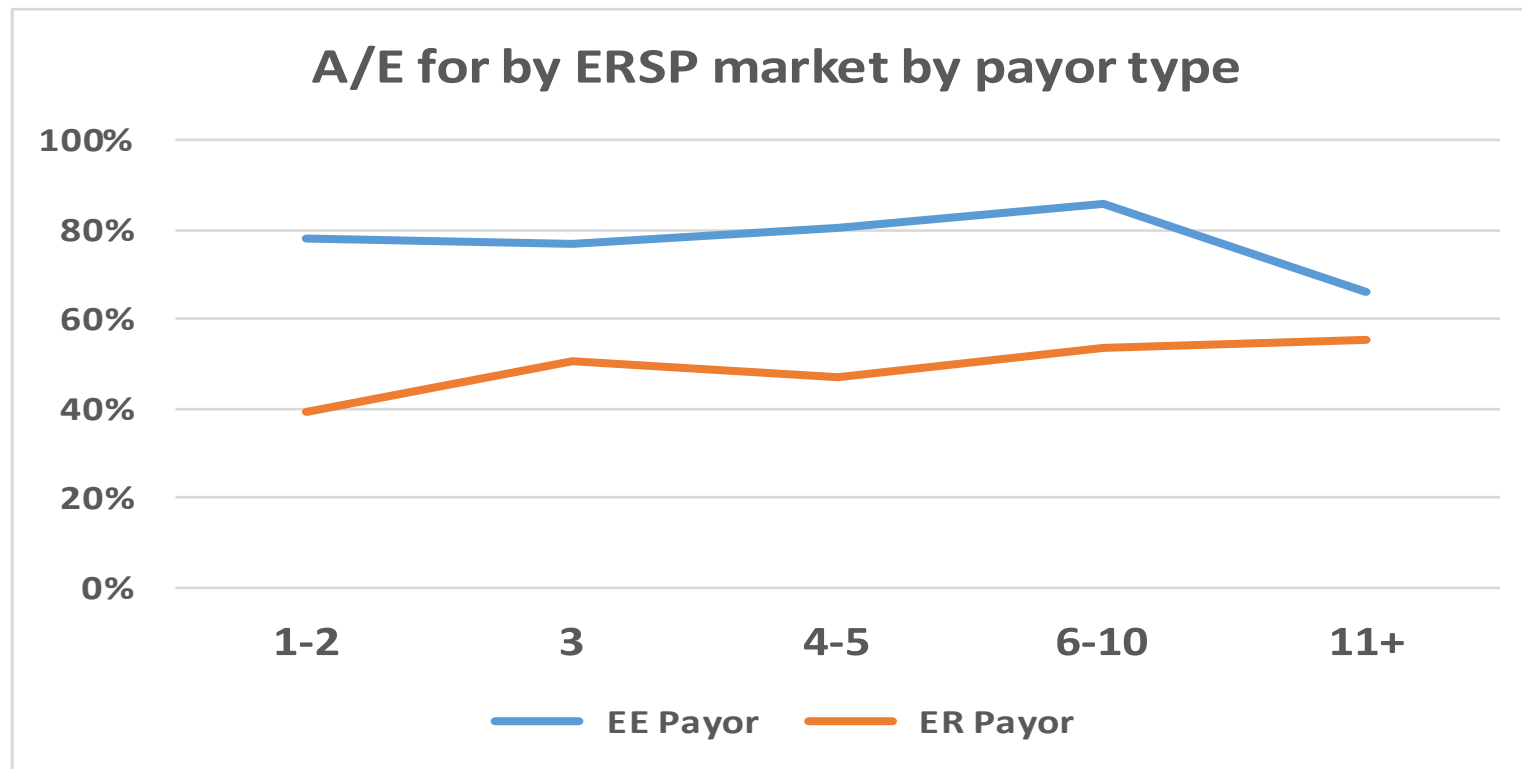
Semi-modified A/E by duration in fully underwritten market

- ERSP policies have about 17% better experience than individual market.
- Favorable A/E's for ERSP most noticeable prior to year 6.



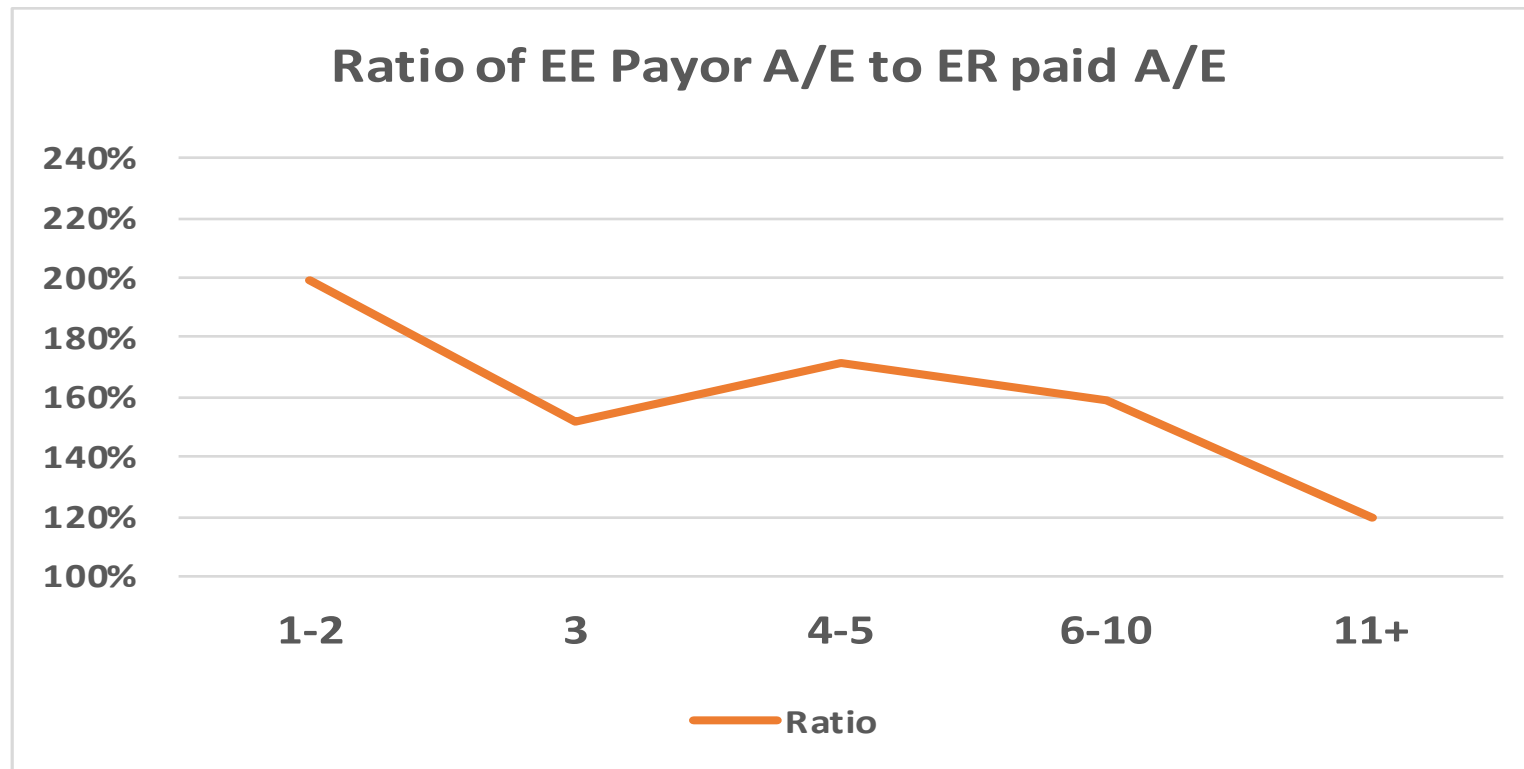
Semi-modified A/E by payor type by duration within ERSP market - GSI/GTI policies only

- Evidence of anti-selection present in voluntary market observed in durations through year 10.



Ratio of A/E by payor type with ERSP market – GSI/GTI policies only

- EE payor A/E are double ER payor A/E is duration 1.
- While A/E ratio is trending downward with policy duration, the ultimate A/E for EE payor is still 20% higher than ER payor.



Market/Underwriting A/E incidence observations

- ERSP market doesn't have high exposure in later duration cohorts.
- ER sponsored policies when all u/w is combined have slightly higher semi-modified A/E to individual market.
- Use of semi-modified A/E shows fully u/w ER sponsored plans are 17% better than fully u/w individual plans.
- A/E's for ER paid plans average 40% lower than EE paid plans for GSI/GTI policies.
- The anti-selection associated with EE pay - GSI/GTI business is evident throughout the first 10 policy years.

Inforce exposure trends



Inforce exposure slides

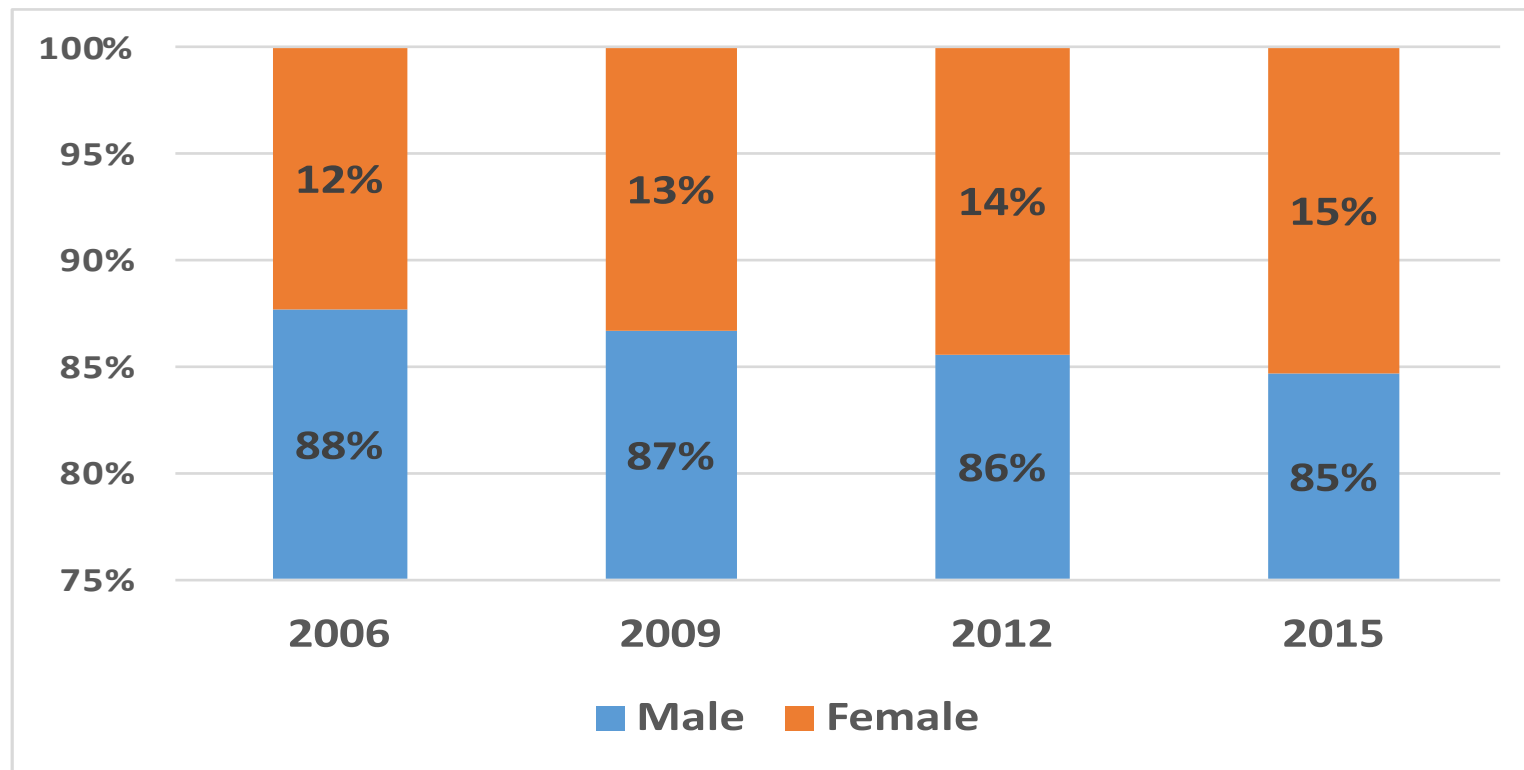
- Only segments with significant movement are presented.
- To keep data manageable only 4 points of time are presented instead of each year.
- Exposure splits are indemnity, not count based.
- New issue distributions will be presented later

Methodology of issue year slides

- Policies inforce sometime between 2006 and 2015 were grouped by issue year cohort to approximate changes in new sales mix over time.
- Due to limitations of data submission, policies which are not inforce as of 12/31/2014 are NOT included in issue year cohorts.
- If lapse rates are similar across group categories, chart portrayal over time still could provide insight into new sales trends.

Inforce gender % over time

- Female content is increasing over time.



Issue year distribution - Gender

- Female content has nearly doubled from 14% in pre-1990 issues to 27% in 2010 – 2015.

Issue Year	Male	Female	Grand Total
Pre-1990	86%	14%	100%
1990-1994	81%	19%	100%
1995-1999	81%	19%	100%
2000-2004	79%	21%	100%
2005-2009	77%	23%	100%
2010-2015	73%	27%	100%
Grand Total	77%	23%	100%

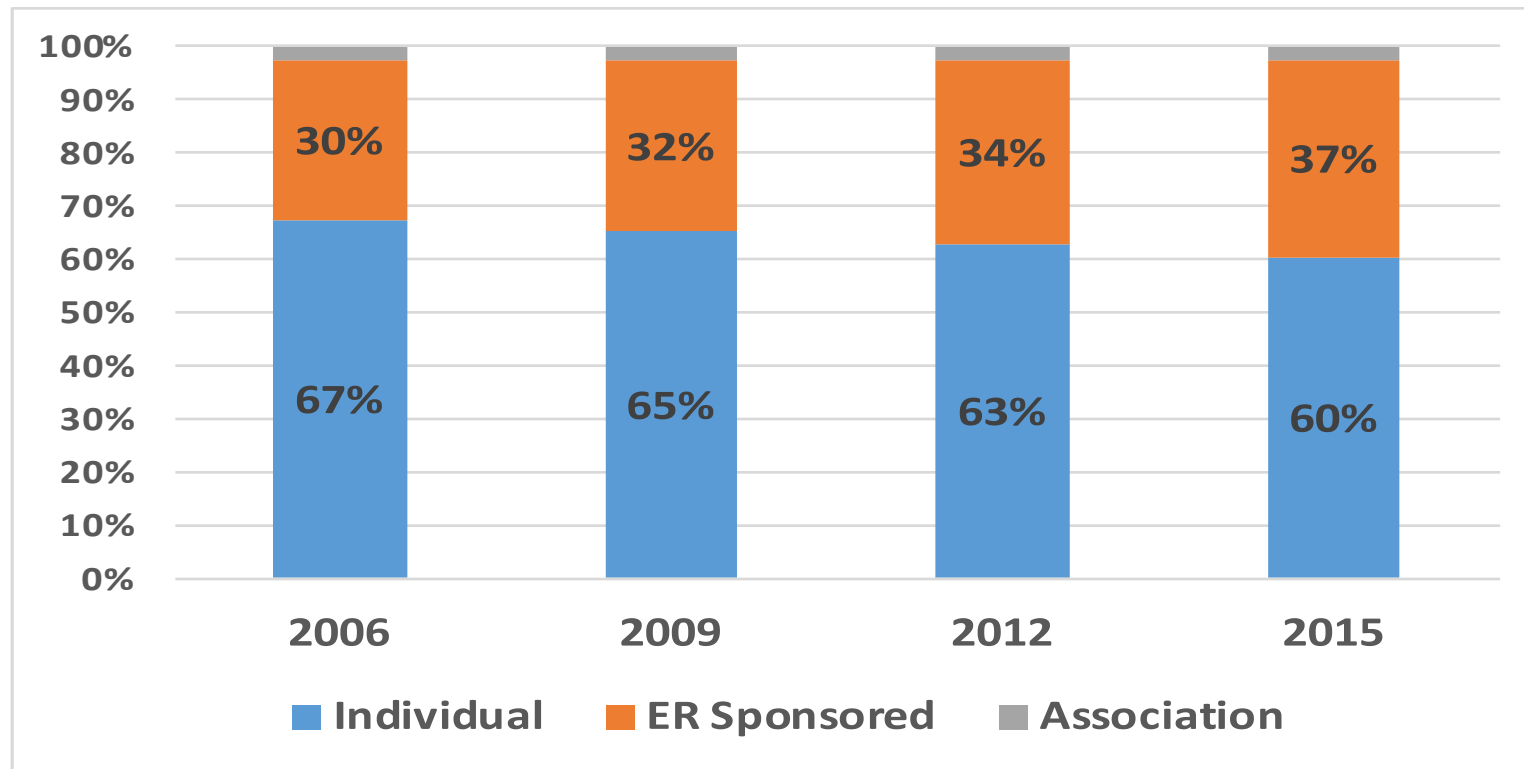
Issue year distribution – Market/Gender

- Female content has growth more quickly in employer sponsored than in the individual market

Female Content		
Issue Year	Individual	ERSP
Pre-1990	15%	12%
1990-1994	20%	18%
1995-1999	16%	24%
2000-2004	19%	27%
2005-2009	20%	29%
2010-2015	23%	33%
Grand Total	20%	29%

Inforce market % over time

- Significant growth has occurred in the employer sponsored segment in the last 10 years.



Issue year distribution - Market

- The individual market has dropped from 85% pre-1990 to about 57% in 2010 – 2015.
- Rapid growth in employer sponsored market, particularly EE pay segment.

Issue Year	Individual	ERSP - Employee Pay	ERSP - Employer Pay	ERSP- Unknown	Association	Grand Total
Pre-1990	85%	4%	4%	1%	5%	100%
1990-1994	74%	8%	3%	4%	11%	100%
1995-1999	76%	9%	3%	7%	5%	100%
2000-2004	72%	17%	4%	5%	2%	100%
2005-2009	66%	18%	6%	5%	5%	100%
2010-2015	57%	26%	6%	7%	4%	100%
Grand Total	67%	17%	5%	5%	5%	100%

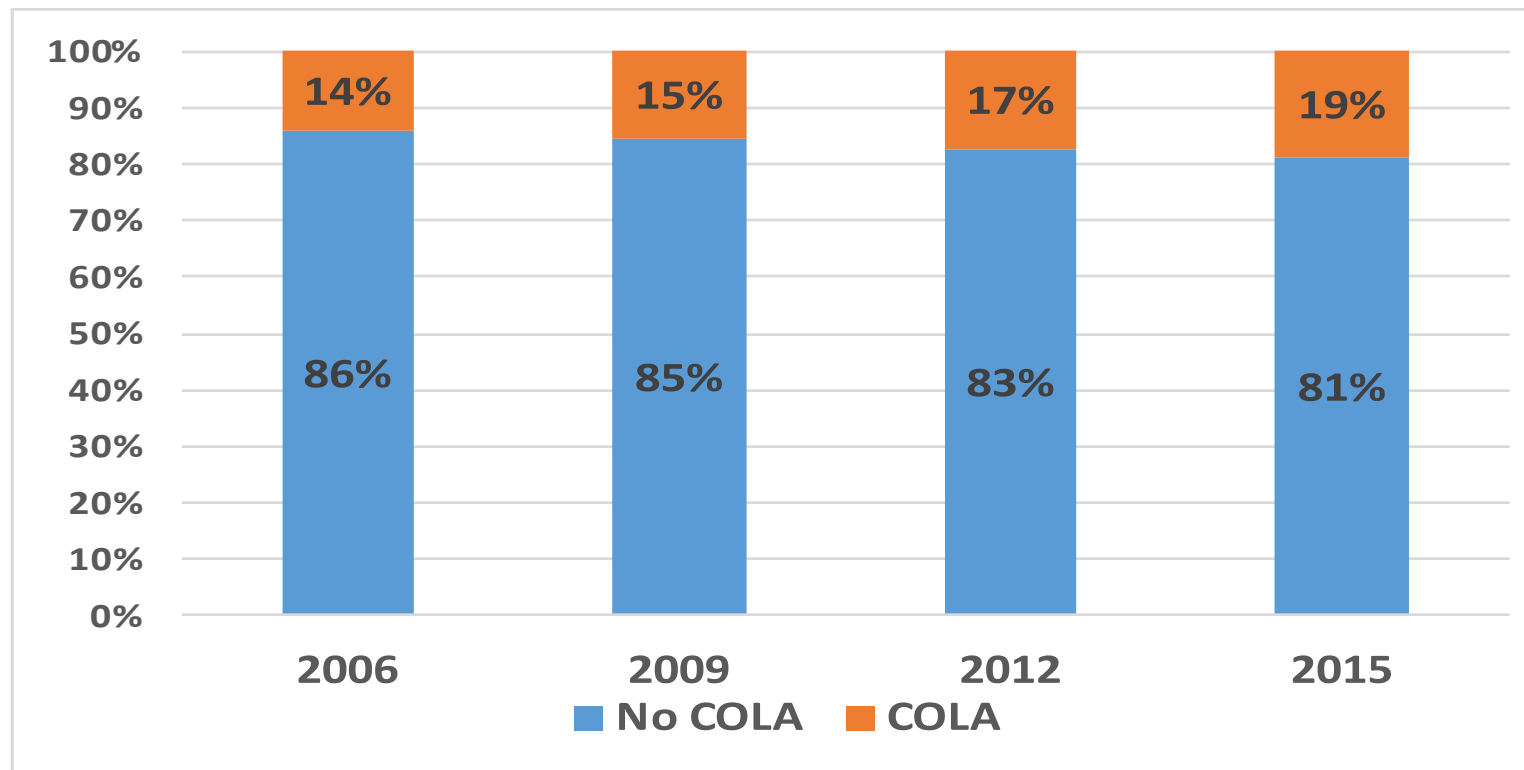
Issue year distribution – Underwriting type

- As expected, with the growth in the employer sponsored market, the guaranteed standard issue and guaranteed to issue market has also grown.

Issue Year	Full Underwriting	GSI/GTI	Grand Total
Pre-1990	99%	1%	100%
1990-1994	97%	3%	100%
1995-1999	88%	12%	100%
2000-2004	79%	21%	100%
2005-2009	76%	24%	100%
2010-2015	70%	30%	100%
Grand Total	80%	20%	100%

Presence of Cost of Living Adjustment

- Significant growth has occurred in the employer sponsored segment in the last 10 years.



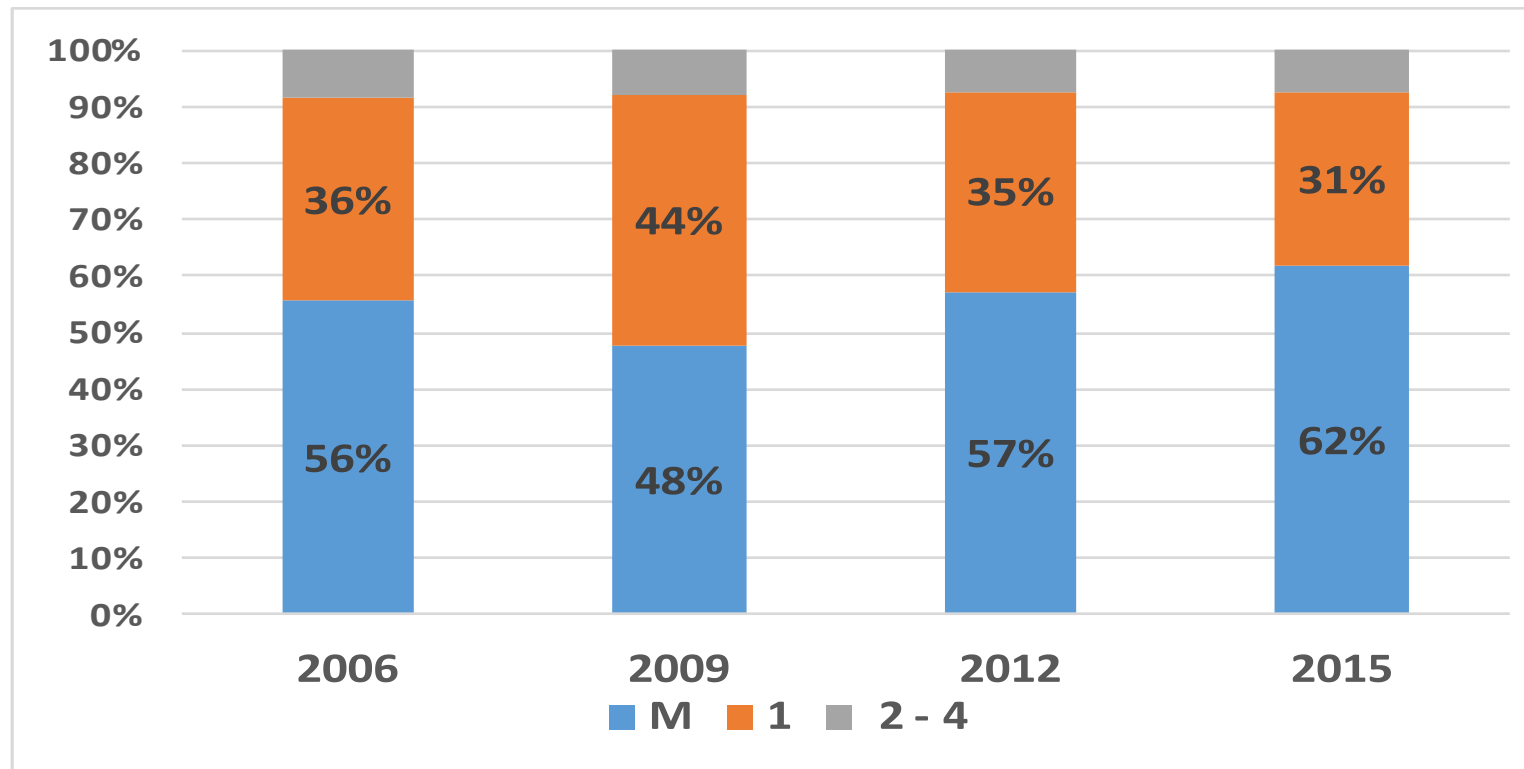
Issue year distribution – Cost of living provisions

- % of policies with COLA has growth in recent years.

Issue Year	COLA	No COLA	Grand Total
Pre-1990	29%	71%	100%
1990-1994	37%	63%	100%
1995-1999	42%	58%	100%
2000-2004	48%	52%	100%
2005-2009	51%	49%	100%
2010-2015	51%	49%	100%
Grand Total	46%	54%	100%

Inforce % by occupation class

- While many carriers have tried to penetrate the white collar market, the industry has higher medical content in 2015 vs. 2005.



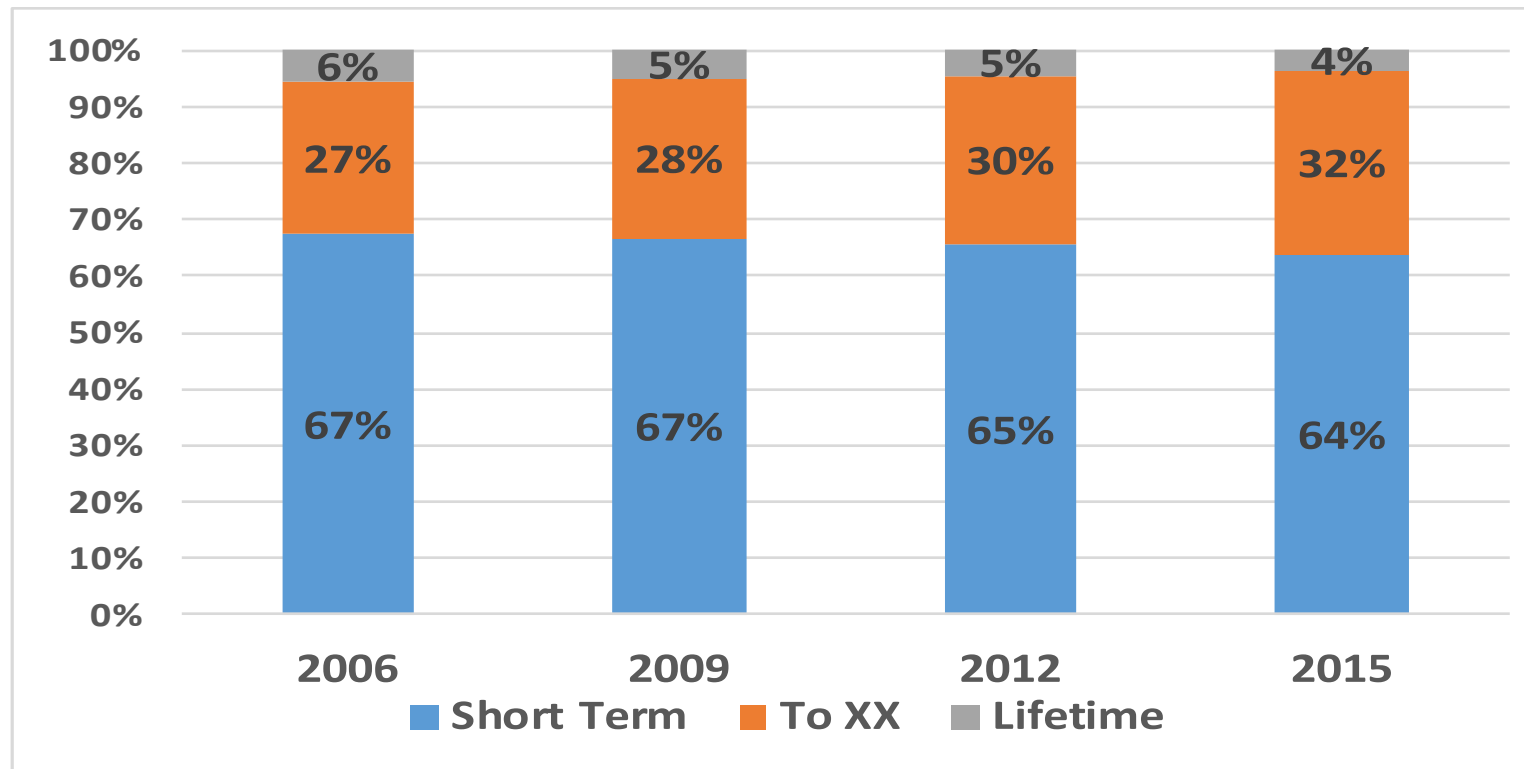
Issue year distribution – Occupation

- Blue collar content has dropped, while occupation class 1 has grown slightly.

Issue Year	M	1	2	3	4	Grand Total
Pre-1990	45%	47%	5%	2%	1%	100%
1990-1994	53%	43%	3%	1%	1%	100%
1995-1999	41%	52%	5%	2%	1%	100%
2000-2004	34%	58%	6%	2%	1%	100%
2005-2009	35%	57%	6%	1%	1%	100%
2010-2015	40%	53%	5%	1%	1%	100%
Grand Total	40%	52%	5%	1%	1%	100%

Inforce % by benefit period

- As older issue policies sold in 1980's mature, the market has fewer lifetime benefit policies.



Issue year distribution – Benefit Period

- % of policies with lifetime benefits has dropped substantially in 2000's.

Issue Year	Short Term	To XX	Lifetime	Grand Total
Pre-1990	25%	47%	28%	100%
1990-1994	19%	51%	30%	100%
1995-1999	18%	73%	10%	100%
2000-2004	20%	74%	6%	100%
2005-2009	23%	73%	4%	100%
2010-2015	23%	76%	1%	100%
Grand Total	21%	70%	9%	100%

Inforce Age distribution

- Average age of inforce block was 47.8 in 2005, and is 49.1 in 2015.

Attained Age Group ▾	2006	2009	2012	2015
Under 30	1%	1%	1%	1%
30-34	4%	4%	4%	4%
35-39	11%	10%	9%	9%
40-44	18%	16%	15%	14%
45-49	23%	22%	19%	18%
50-54	22%	22%	22%	21%
55-59	14%	16%	19%	19%
60-64	6%	8%	9%	12%
65 +	1%	1%	2%	2%
Grand Total	100%	100%	100%	100%

New Issue observations

- Female content has increased substantially in all market segments.
- Female sales have almost tripled in the ER sponsored segment.
- ER sponsored market is almost 40% of new issued IDI policies.
- As expected the increase in ER sponsored policies has led to an increase in guaranteed standard and guaranteed to issue policies.
- < 2% of recently issued policies have lifetime benefits.
- Almost 50% of newly issue policies have COLA.
- Industry has made some progress penetrating white collar market with 53% of new issue being occ class 1, but from 48% in 1990's.

Questions?

