



SOCIETY OF ACTUARIES

**Health Spring Meeting
June 2009**

**Session # 37 PD: Disability Experience in the
United States and Canada**

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Charles Tremblay



SOA Spring meeting June 9, 2009
Session 37 Disability Experience
in Canada and the USA

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Fraser Garand 2000-2004 Study

- Proprietary study
- Financial and technical support from:
 - Munich Re
 - Optimum Re
 - RGA Re
 - SCOR Re
 - Swiss Re



Fraser Garand 2000-2004 Study

- 13 companies
 - Small group market, average size 41 employees
 - 2,600,000 exposure from 2000 to 2004
 - 26,000 claims of which 18,000 terminate in first 2 years
 - one province Quebec, overrepresented
- The participating companies represent:
 - 34% of the market, groups less than 1000 employees



Demographic data

	Female	Male
Average age	39.7	40.1
Distribution in %	40%	60%

- Growth of portfolio higher in earlier years of the study
- 72% 119 day elimination period
- 91% initial own occ definition



Fraser Garand 2000-2004 Table

- 4 month elimination
- Own Occupation
- Benefit to age 65
- Tables by 5 year age band and gender
 - Quebec,
 - Canada except Quebec



Incidence per 1000, study population

Canada	8.4
Canada, except Quebec	6.2
Quebec	15.1

SOA GLTD 1987 Basic "4 months" expected
4.6



Variation Actual /Expected (F-G)

- By age (compare to SOA 87)
 - Younger female higher incidence
 - Older males lower incidence
- By amount insured
 - Lower benefits higher incidence
 - Higher benefits lower incidence
- By industry (50% to 150%)



Variation Actual /Expected (F-G)

- By region
 - Some provinces better (no control on industry)
- By cause of disability
 - Variations by Mental and Nervous, Musculoskeletal and all other causes
- By year of disability
 - 2000 highest, 2003 best
- By participating company (~70% to 125%)



Termination study

- 18,000 terminations within the first 24 months of duration.
- Produced termination rates for duration 5-12 months.
 - 159% versus SOA87 Basic 3 month
- Analysis of claims duration to 24 months by three major causes of disability.
 - Substantial variation in termination rates



Caveats

- Study not adjusted for industry.
- Short period of study was in a favourable economic cycle.
- Termination study requires more data



Uses of study

- Improve pricing for current environment (most companies operated on “old” data)
- Adjust valuation reserves for key parameters of region and cause of disability.
- Benchmark company versus industry

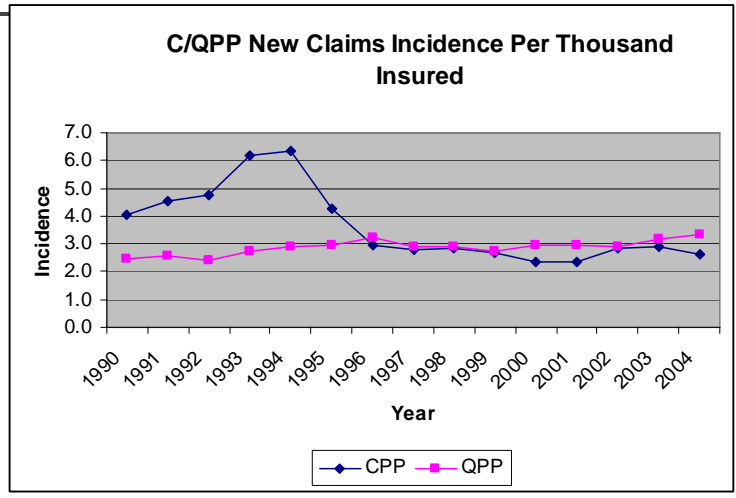


Future studies

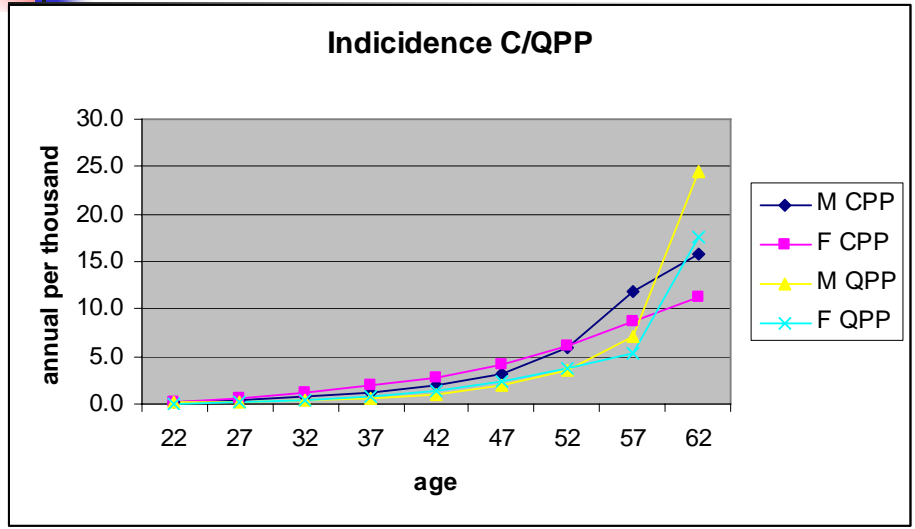
- Updating incidence and terminations for private study
- CIA will be doing an updated termination study on the whole insured population



Integration with C/QPP



Integration with C/QPP



SOA Health Spring Meeting Session 37 US Disability Experience Update

Douglas W. Taylor, FSA, MAAA
Vice President & Actuary
MassMutual Financial Group

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Agenda

- Update from the Individual Disability Experience Committee (IDEC)
- Update from Group LTD Experience Committee

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IDEC Progress-To-Date

- Purpose is to ultimately produce new industry valuation table
 - CIDA became official in the 1980's, based on experience of 1970's
 - CIDC an interim solution for disabled life reserves in 2001
- 2004-06
 - Published experience report on 1990-99 data
 - Published experience tables (incidence & terminations)
 - Conducted full day seminar on both
 - Produced spreadsheet that allows comparisons of various disability rates and reserves vs. CIDA table
- Since then
 - Dealing with data transition issues, but back on track

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IDEC - Current Status

- Updating 1990-99 experience report
 - Preliminary high-level results later in presentation
 - Expect report to be published late summer
- Updating 1990-99 experience table
 - Incidence & Terminations
 - Expect to have by end of year
- Gathering 2000+ data from larger base of contributors
 - Will create 2000+ experience report
 - Will create experience and valuation tables using combined 1990-2000+ data

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IDEC – Preliminary Results

- Revising 1990-99 experience report
 - Data corrections and cleanup
 - Removed normal pregnancy claims
 - Definition clarification
 - Tightened A/E calculation formulas
- Some items unchanged
 - No additional data / no data removed except normal pregnancy
 - Expected basis is CIDA
 - Data weighted heavily to Occ Class 1
 - 12 companies, some of which have merged over time, most of the larger writers
- Semantics
 - Old report = report published in 2005
 - New report = revision to be published in 2009
 - Amount = Indemnity
 - A&S Contracts = Accident & Sickness contracts
 - OE = Overhead Expense

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IDEC – Preliminary Results

- High-level results
 - Amount-based except where noted
 - Focus on certain contract types
- Incidence
 - Count-based A/E down 5% points vs. original report
 - Indemnity-based A/E down 10% points vs. original report
 - Wider variances with smaller cells
 - Messages seem to be unchanged
 - Lower A/E → more favorable experience
- Terminations
 - Count-based A/E very close to original report
 - Indemnity-based A/E up about 1% higher vs. original report
 - Wider variances with smaller cells
 - Messages seem to be unchanged
 - Higher A/E → more favorable experience

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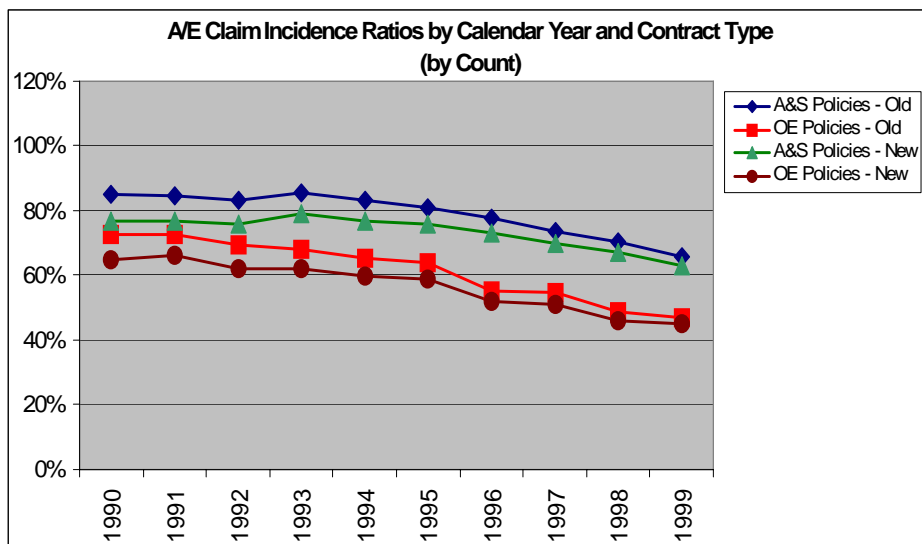
IDEC - Revised Experience Report

Sections – generally same layout, with 2 new sections

- Executive Summary
- III – Incidence results
- IV – Termination results
- V – Issue year & policy year
- VI – Benefit provisions
- VII – Occupation
- VIII – Geographic
- IX – Market
- X – Underwriting type
- **XI – Smoker status (new section)**
- **XII – Diagnosis (new section)**

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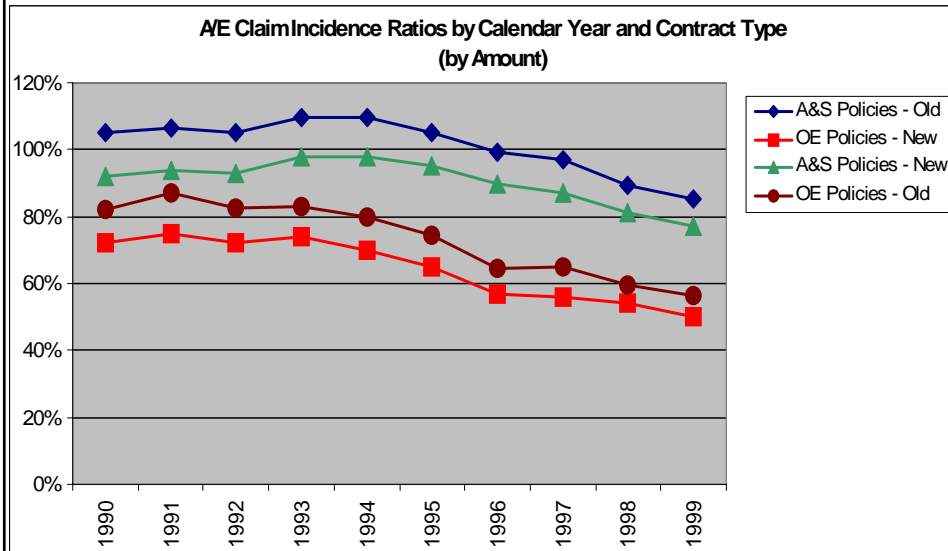
Aggregate Incidence Results



New incidence rates about 5% lower than old on a count basis

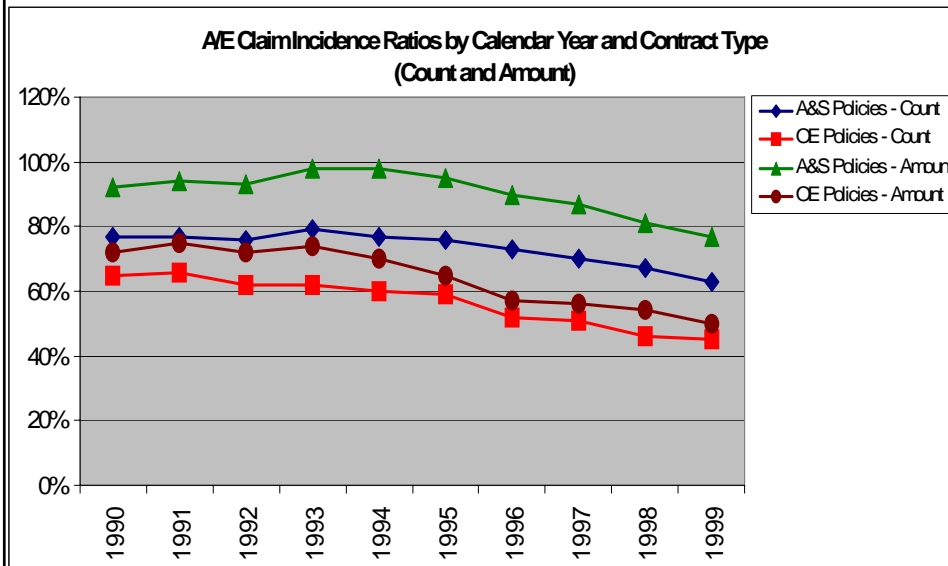
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Aggregate Incidence Results



New incidence rates about 10% lower on an amount basis

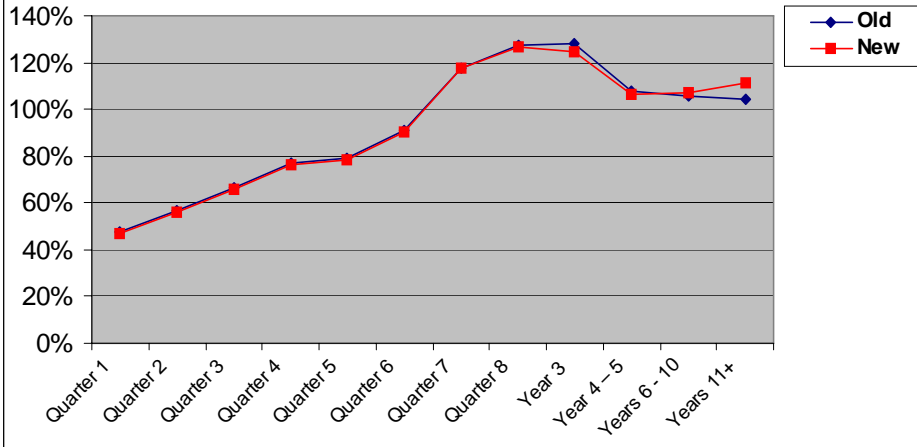
Aggregate Incidence Results



Distinct differences between count and amount-based

Aggregate Terminations

**A/E Claim Termination Ratios by Duration of Disablement
(by Count)**

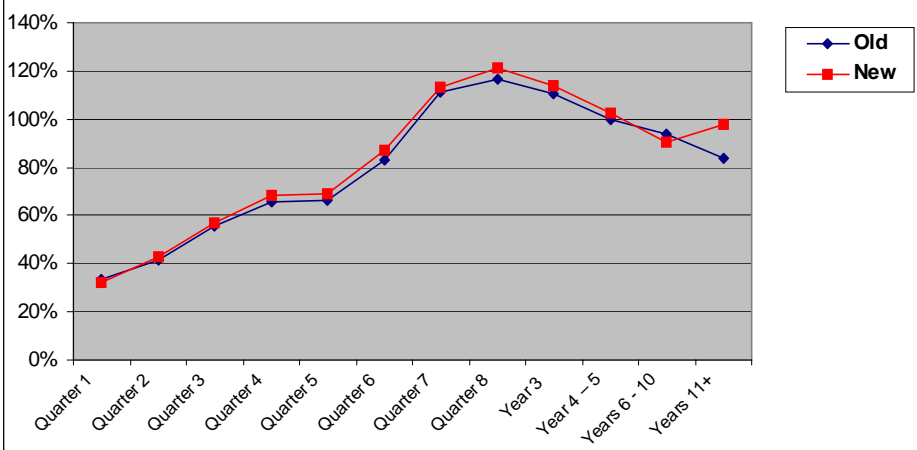


Minimal difference old vs. new on a count basis

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Aggregate Terminations

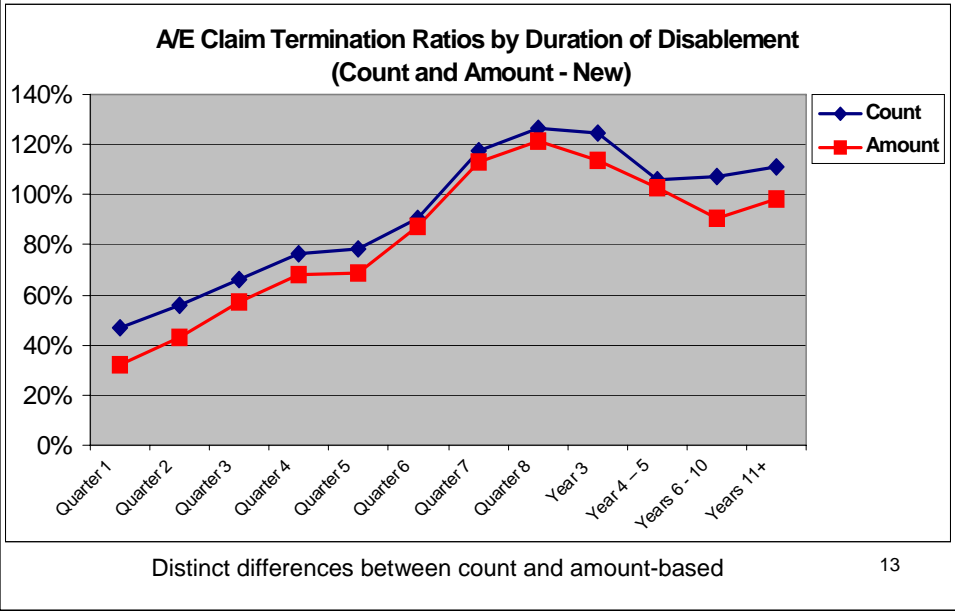
**A/E Claim Termination Ratios by Duration of Disablement
(by Amount)**



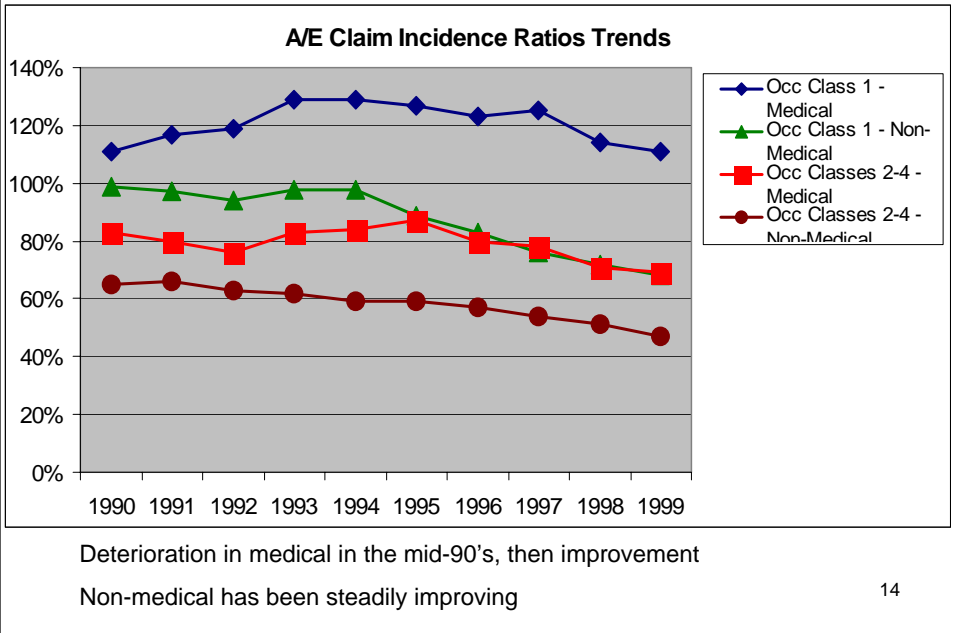
Little change from old to new on an amount basis

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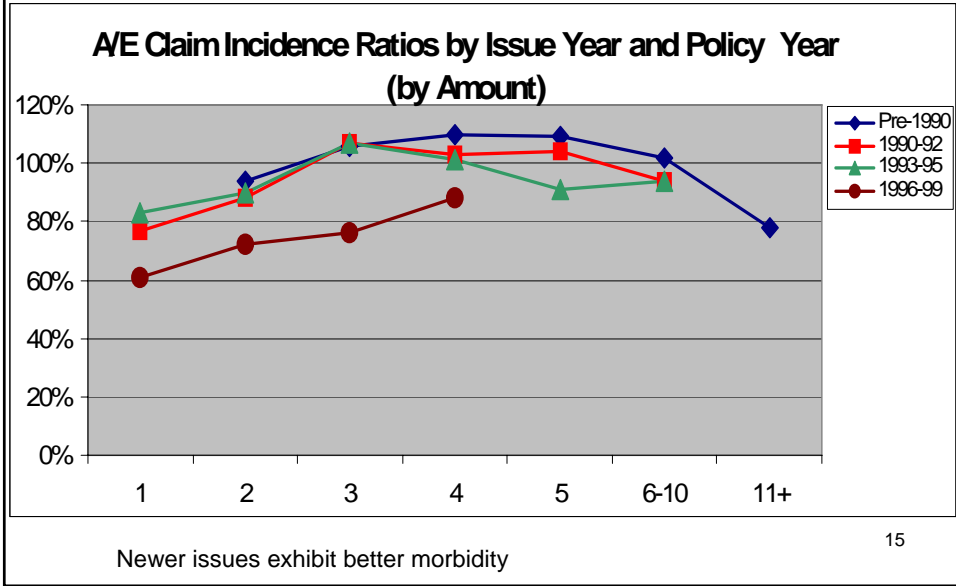
Aggregate Terminations



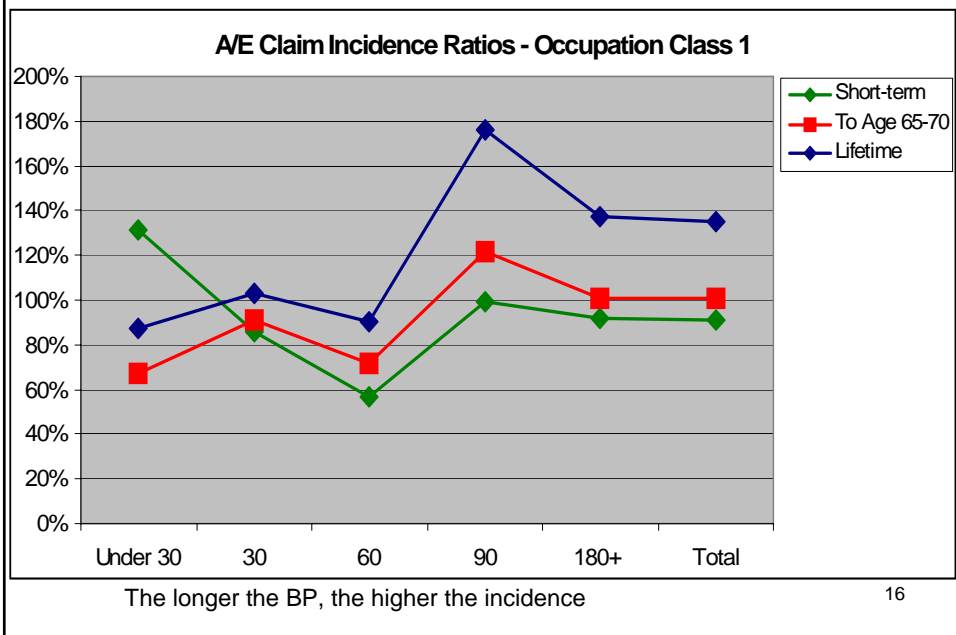
Incidence – Medical vs. Non-Medical



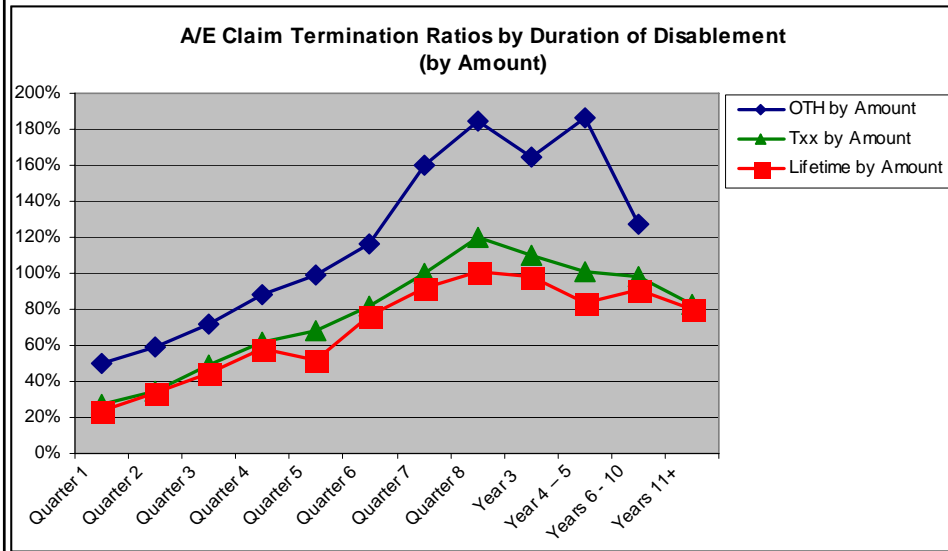
Incidence - Policy Duration & Issue Year



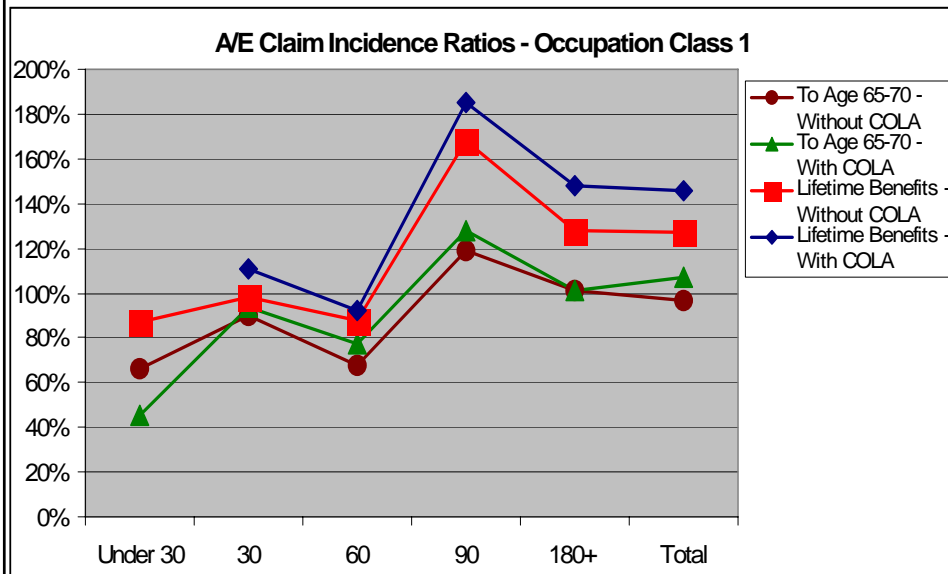
Incidence – Lifetime Benefits



Terminations – Lifetime Benefits

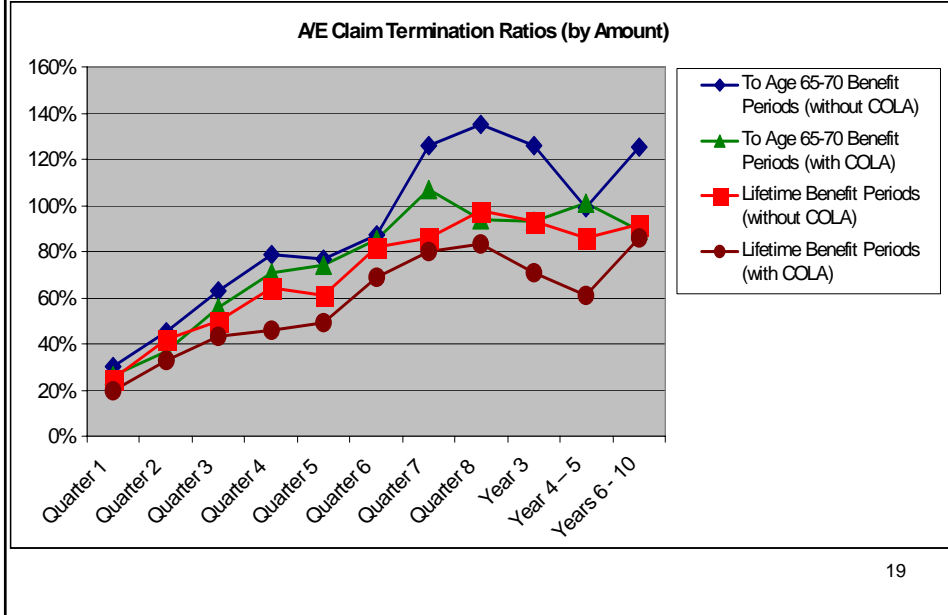


Incidence – Lifetime & COLA Benefits



Presence of lifetime and COLA benefits

Terminations – Lifetime & COLA



Incidence – Geography

Table VIII.a - Revised
Exposure Percent and
A/E Claim Incidence Ratios (by Amount)
A&S Contracts By Key State
Study Period: 1/1/1990 – 12/31/1999

State	% of Exposure	A/E	Ratio to All Other
California	11.00%	119%	138%
Florida	6.16%	109%	127%
All Other	82.84%	86%	100%
Total	100.00%	91%	106%

California & Florida have higher incidence than the rest of the US

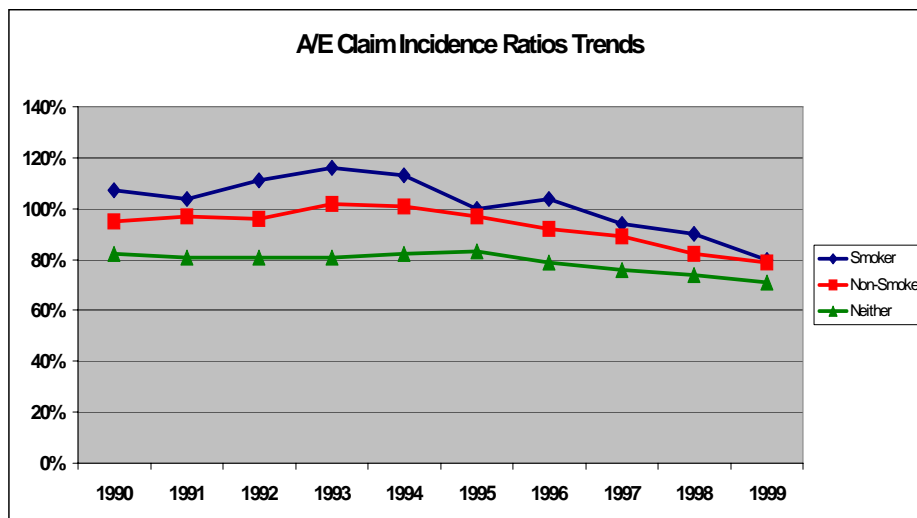
Terminations – Geography

Table VIII.d - Revised
A/E Claim Termination Ratios (by Amount)
By Key State
Study Period: 1/1/1990 – 12/31/1999

Year of Disablement	Occupation Class 1			CA/All Other	FL/All Other
	California	Florida	All Other		
Year 1	37%	28%	44%	84%	64%
Year 2	88%	89%	85%	104%	105%
Year 3	109%	124%	129%	84%	96%
Year 4-5	112%	75%	104%	108%	72%
Year 6+	107%	67%	94%	114%	71%

Year of Disablement	Occupation Class 2-4			CA/All Other	FL/All Other
	California	Florida	All Other		
Year 1	47%	46%	61%	77%	75%
Year 2	108%	64%	101%	107%	63%
Year 3	168%	132%	148%	114%	89%
Year 4-5	135%	131%	127%	106%	103%
Year 6+	75%	125%	154%	49%	81%

Incidence - Smoker



Terminations – Smokers

A/E Claim Termination Ratios by Duration of Disablement (by amt)
A&S by Benefit Period

Study Period: 1/1/1990 – 12/31/1999

Duration of Disablement	NS	SM	Unknown	SM/NS
	By Amount	By Amount	By Amount	
Quarter 1	28%	28%	48%	100%
Quarter 2	40%	35%	62%	88%
Quarter 3	56%	52%	76%	93%
Quarter 4	67%	59%	83%	88%
Quarter 5	66%	70%	91%	106%
Quarter 6	92%	72%	98%	78%
Quarter 7	118%	96%	185%	81%
Quarter 8	119%	130%	135%	109%
Year 3	127%	109%	141%	86%
Year 4 – 5	104%	93%	114%	89%
Years 6 - 10	90%	127%	116%	141%
Years 11+	72%	82%	117%	114%

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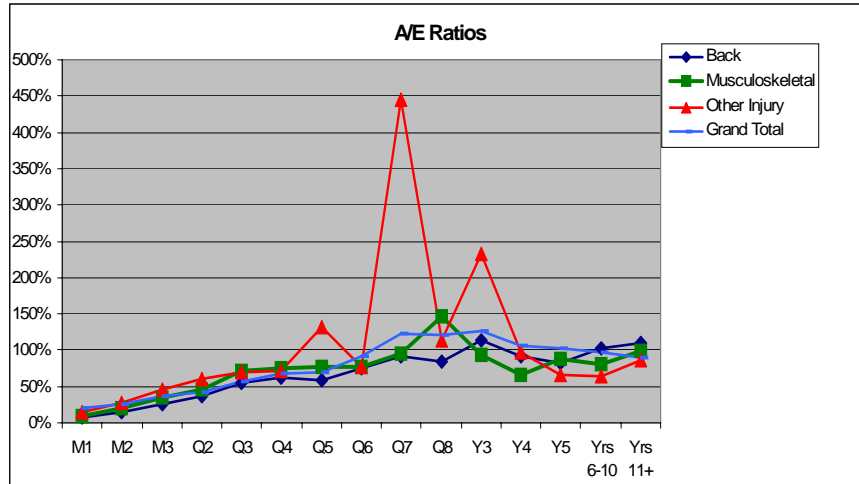
Terminations – Diagnosis

Terminations in Study

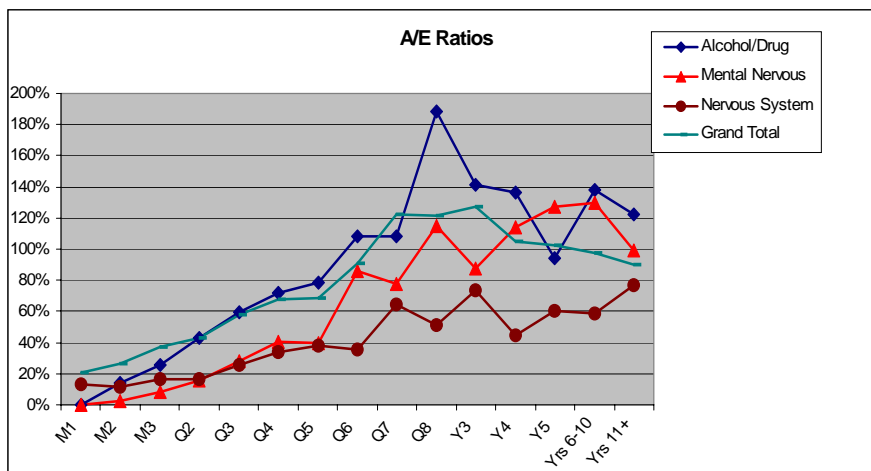
	# in study	% total
Alcohol/Drug	5,558	3.4%
Back	13,132	8.0%
Cancer	12,174	7.4%
Cardiovascular	23,495	14.3%
Complications of Pregnancy	6,548	4.0%
Immunodeficiency	1,120	0.7%
Mental/Nervous	5,247	3.2%
Musculoskeletal	25,872	15.7%
Nervous System	3,584	2.2%
Other	61,588	37.5%
Other Injury	5,979	3.6%
Grand Total	164,297	100.0%

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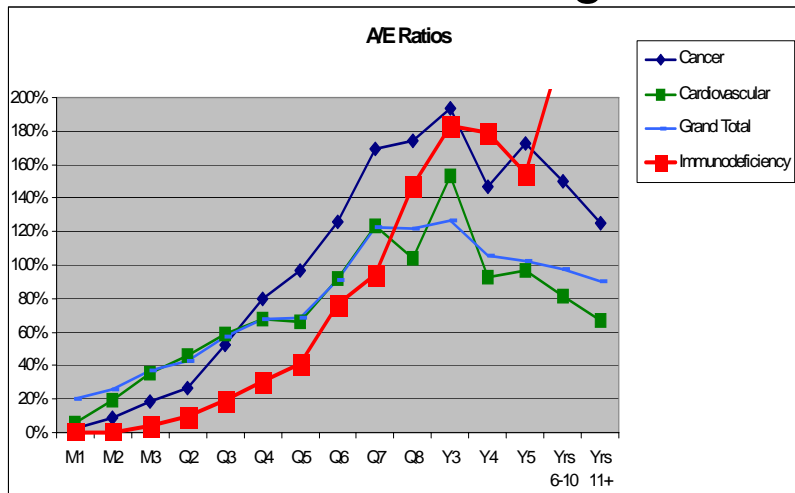
Terminations – Diagnosis 1



Terminations – Diagnosis 2



Terminations – Diagnosis 3



Group LTD Update

Group LTD Update

Current Status

- Data collection completed May of 2008. Extensive audit, validation and reasonability testing completed September 2008.
- Preliminary experience results (pivot table format) provided to participating companies January 2009.
- Preliminary experience results presented at JHA Dynamics of Disability Seminar in March of 2009.

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Group LTD Update

The Preliminary Study

- Excellent participation with 21 participating companies: 72% of 2007 total market share
- 12 of the top 15 carriers participated
- 1997 - 2006 claim termination experience
- Over 1 million LTD claims from fairly homogeneous products
- 120,000 deaths, 560,000 recoveries; 17 times larger than data supporting 87CGDT and 5 times that of Table95A

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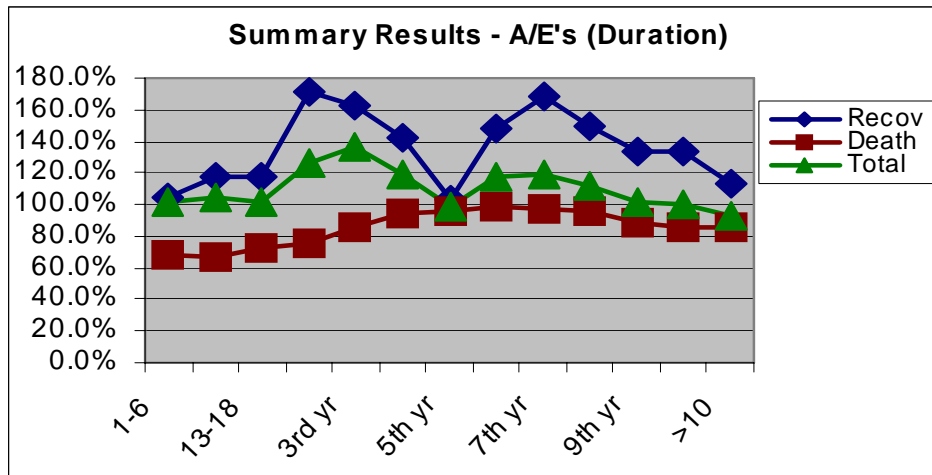
Group LTD Update

Next Steps

- Experience analysis report expected mid-year 2009
- Vendor selection for development of experience table
- Publish experience tables by year end 2009
- New valuation table 2010?

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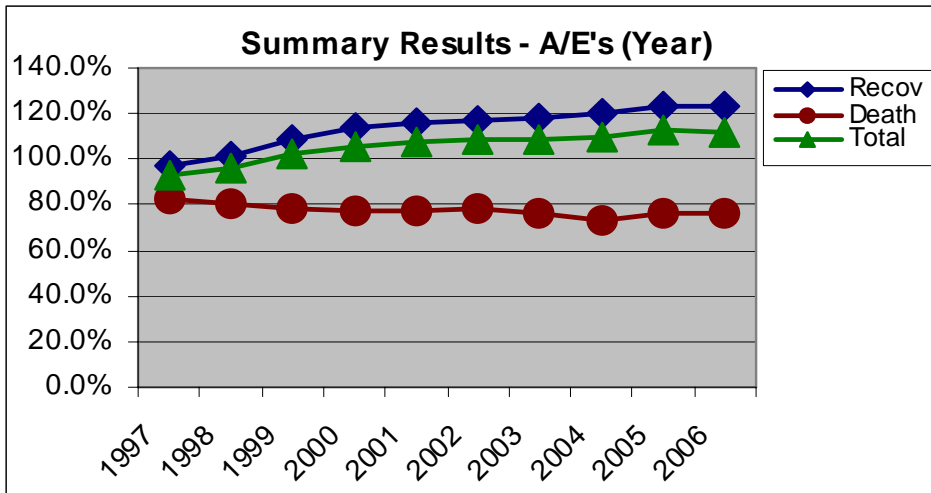
LTD Results by Claim Durations



- Tb95a: Conservative at durations 19-36
- Recoveries improved over time
- Experience is significantly different by cause

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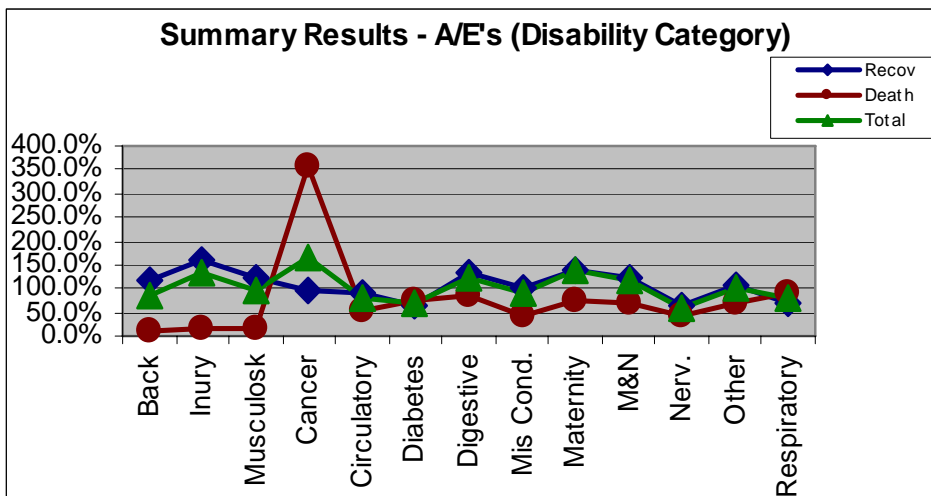
LTD Results – by Calendar Year



- Tb95a: Conservative at durations 19-36
- Recoveries improved over time
- Experience is significantly different by cause

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LTD Results – by Diagnosis



- Tb95a: Conservative at durations 19-36
- Recoveries improved over time
- Experience is significantly different by cause

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