

REPORT OF THE INDIVIDUAL DISABILITY EXPERIENCE COMMITTEE
ANALYSIS OF EXPERIENCE FROM 1990 TO 1999
(Revised June, 2011)

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Section I: Introduction

In January of 2005, the Individual Experience Committee (IDEC) of the SOA released a report that presented the results of a study the committee performed on Individual Disability morbidity experience covering the period 1/1/90 to 12/31/99.

Subsequent to the distribution of that report, some contributing companies submitted revised data to the SOA. Along with the resulting data clean up, refinements were made to the actual to expected calculations. Additionally, claims resulting from normal pregnancy were removed from the study since modern contracts generally do not cover these claims. Lastly, two new sections were added to the report, one covering the morbidity experience by smoker status, and one covering morbidity experience by cause of disability.

Although results vary cell to cell, the overall actual to expected incidence rates dropped approximately 10% by amount and 5% by count when compared to the report released in January, 2005. The data clean up had less effect on termination rate results. Overall, actual to expected claim termination rates by amount increased by about 1%. By count, actual to expected claim termination rates did not change materially from those presented in the original report.

The tables from the original report have been revised to reflect the new data and are presented below, along with the two new sections. While the conclusions from the original report are generally still valid, the commentary has been updated where appropriate to reflect the revised data.

The methodology used in developing this report is the same as the one used in developing the January, 2005, report and is described in the remainder of this section.

This study examines individual disability income (IDI) experience in the U.S. from 1/1/1990 to 12/31/1999, which was a tumultuous period of time for the industry. IDI carriers in total suffered historically high statutory financial losses during the first half of this decade. As a result of actions taken by IDI carriers and a favorable economic environment, positive statutory profits for the industry started to re-emerge during the last few years of the decade. This study identifies and quantifies many of the significant trends occurring during this 10-year period. This report focuses on the experience trends relative to the 1985 Commissioner's Individual Disability A (85 CIDA)¹ tables. This revised report will be followed soon by another IDEC report on industry experience covering the 2000 - 2006 period. The IDEC will be combining the results of the two study periods, 1990-99 and 2000-06, as a basis for a new IDI valuation table for consideration by the NAIC HATF.

¹ "Report of the Society of Actuaries Committee to Recommend New Disability Tables for Valuation," Transactions of the Society of Actuaries, Volume XXXVII (1985), p.449.

Twelve IDI carriers submitted data, which was collected between May 2002 and December 2002. Appendix A lists the contributors. In terms of premium inforce, these twelve companies combined represent approximately 64% of the U.S. IDI market in 1995.

The SOA selected Towers Watson of Hartford, Connecticut to re-perform the data processing for the study. Towers Watson's responsibilities included collection and review of the data correction and development of the software to perform the claim incidence and termination studies, based upon specifications provided by the IDEC. The confidentiality of each contributor's data and results has been maintained.

Output from the studies were placed in Excel pivot tables, which allowed the IDEC to examine the incidence and termination experience based on a variety of combinations of the policy and claim characteristics represented in the data. The IDEC study explores claim incidence and/or termination experience for a wide range of policy and claim characteristics, which are listed in the following table.

Table I.a Policy and Claim Characteristics Discussed in Report		
Characteristic	Incidence Study	Termination Study
Contract Type - A&S, OE, DBO, etc.	X	X
Attained Age at Disablement	X	X
Attained Age During Disablement		X
Gender	X	X
85 CIDA Occupation Class	X	X
Key Occupations - Physicians & Surgeons, Executives, Lawyers, etc.	X	X
Elimination Period	X	X
Benefit Period	X	X
Duration of Disablement		X
Calendar Year of Incidence	X	X
Issue Year	X	
Underwriting Type - Normal, GSI, GTI, GI	X	
Market - Individual, Employer Sponsored, Association	X	X
Cost-of-Living Riders	X	X
Diagnosis	X	X
Smoking Status	X	
Social Insurance Supplement Riders	X	

Because of the nature of the data contributed to the study, we were unable to measure claims experience by different definitions of disablement, e.g., long term own occ, own occ and not working, etc.

The following points discuss specific aspects of the IDEC study:

- Only claims incidence or termination experience that occurred between 1/1/1990 and 12/31/1999 was included in the study. Not all contributors were able to provide claims experience for the full ten-year study period.
- The study measures experience in terms of count and amount. In general, claims experience is worse when measured in terms of amount (i.e., higher incidence and lower terminations). Except for several initial tables in Sections III and IV of this report, most results in this report are presented in terms of amount, since this measure reflects the financial impact of the claims experience more closely.
- As a rule, no cells of data were displayed in the various tables in this report if they reflected the results of fewer than 10 claims in the case of incidence results and fewer than 10 claim terminations in the case of termination results. We did not assign any credibility measure to the results that are displayed in these tables.
- In the claim termination portion of the study, the duration of disablement in which a claim terminated was measured in terms of the period of time between the date of disablement (i.e., the beginning of the elimination period) and the last paid-to date of the paid benefits. Because contributors could not consistently provide the necessary information on partial or residual disability benefits, our claim termination analysis was not able to measure the financial impact of paying less than the maximum monthly benefit for claims with residual or partial disability benefits.
- Because all contributors were not able to consistently distinguish between terminations due to expired benefits (i.e., expiries) and terminations due to recovery or death, the IDEC developed a rule for identifying expiries. For each claim in the termination study, the length of the maximum benefit period was calculated. For claims where the maximum benefit was 60 months or less, a claim termination was labeled an expiry if the last paid-to date was within 3 months prior to the end of the maximum benefit period. For claims where the maximum benefit period was longer than 60 months, a claim termination was labeled an expiry if the last paid-to date was within 6 months prior to the end of the maximum benefit period. The claims labeled as expiries were not counted as claim terminations.
- The impact of claim settlements was problematic in the termination study. A claim settlement is a claim termination in which the carrier has reached an agreement with the claimant to terminate the claim prior to the date the claimant has recovered or benefits expire. In such cases, the carrier typically pays a lump-sum amount (or in some cases, a new schedule of benefits not contingent upon continued disablement) that represents in some fashion the economic value of the future disability benefits should the claimant remain on claim. Claim settlements should not be treated as normal claim terminations since the financial impact associated with claim settlements with the lump-sum benefit is different than normal claim terminations where there is no benefit paid beyond the date of recovery or death. Two issues arise with claim settlements when performing a claim termination study:

1. *Identifying claim settlements from normal claim terminations.*

Contributors were not able to consistently identify claim settlements. Further, contributors could possibly have different definitions of what constituted claim settlements. For example, claims for which the carriers had advanced two or three months of benefits to facilitate a claimant's return to work may have been labeled as claim settlements by some contributors. For our purposes, such "advance-pay-and-close" terminations should not be treated as claim settlements, provided the last paid-to date reflected the end of the period for which benefits were advanced. Additionally, contributors may not have identified claim settlements consistently throughout the study period.

2. *Handling identified claim settlements.*

Assuming that a claim could be appropriately identified as a claim settlement, it is not clear how to treat the claim termination within the study. For the most part, claims that are settled in this fashion should represent longer term claims. In other words, such claims should have a lower chance of recovery. The IDEC considered recalculating the last paid-to date of claim settlements to reflect a claim duration that was equivalent to the total benefit payout, including the lump-sum benefit. This approach proved difficult because (a) the total benefit payout often included cost-of-living benefits, residual benefits and other types of benefits that would distort any derived claim duration based on the total benefit payout or (b) the lump-sum benefit at time of settlement often reflected the interest rate environment at that time or each contributor's own claim settlement guidelines.

As a result, the IDEC developed a rule for identifying claim settlements consistently among all contributed claim terminations. The rule is as follows:

- a. The total of all claims payments on a terminated claim was divided by the maximum monthly benefit.
- b. The number of months between the end of the elimination period and the last paid-to date of a terminated claims was calculated
- c. An X-ratio equal to the value from (a) divided by the value from (b) was calculated.
- d. If the X-ratio was greater than 1.50, then the terminated claim was considered a claim settlement for the purpose of performing the claim termination study.
- e. A claim settlement in the claim termination study contributed exposure from the end of the elimination period to the earlier of the end of the benefit period or the end of the study period, but was not counted as a claim termination within the study.

The X-ratio of 1.50 was selected after considering the actual-to-expected claim termination experience under a range of alternative thresholds. We concluded that setting the X-ratio at 1.50 did not significantly increase the average actual-to-expected claim termination ratios above the average ratios at lower thresholds, and that increasing the X-ratio materially higher than 1.50 would produce significantly higher average actual-to-expected claim termination ratios.

Although the rules regarding the identification of claim settlements are less than perfect, i.e., they may not identify all claim settlements or incorrectly label some normal claim terminations as settlements, the rules were applied consistently to all contributed data. Furthermore, the IDEC believes that the resulting claim termination results relative to the 85 CIDA table appear reasonable.

- The NAIC has adopted adjustments to the 85 CIDA claim termination rates for the purpose of calculating statutory minimum claim reserves. The resulting table of claim termination rates is called the CIDC table. The claim termination analysis in this report does not measure experience relative to the CIDC table. However, the reader is welcome to make that comparison. Table I.b provides the claim termination rate adjustments used to derive the CIDC table:

<p style="text-align: center;">Table I.b CIDC Table Percentages of 85 CIDA Claim Termination Rates</p>			
Duration	Adjustment Factor	Duration	Adjustment Factor
Week		Month	
1-4	0.366	15	0.888
5-8	0.365	16	0.932
9-13	0.370	17	0.976
Month		18	1.020
4	0.391	19	1.049
5	0.371	20	1.078
6	0.435	21	1.107
7	0.500	22	1.136
8	0.564	23	1.165
9	0.613	24	1.195
10	0.663	Year	
11	0.712	3	1.369
12	0.756	4	1.204
13	0.800	5	1.199
14	0.844	6+	1.000

The results of the IDEC study represent average industry IDI experience during the 1990's as represented by the twelve contributing companies. The study identifies and quantifies many claim trends and relationships that have never been developed at the industry level. Readers should use caution in assuming that these results will apply to their own companies' experience. Companies are encouraged to measure their own experience to determine whether such claim trends and relationships are applicable to their blocks of IDI business.

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Current members of the IDEC would like to recognize past members of the committee for their contribution to the original release of the REPORT OF THE INDIVIDUAL DISABILITY EXPERIENCE COMMITTEE ANALYSIS OF EXPERIENCE FROM 1990 TO 1999

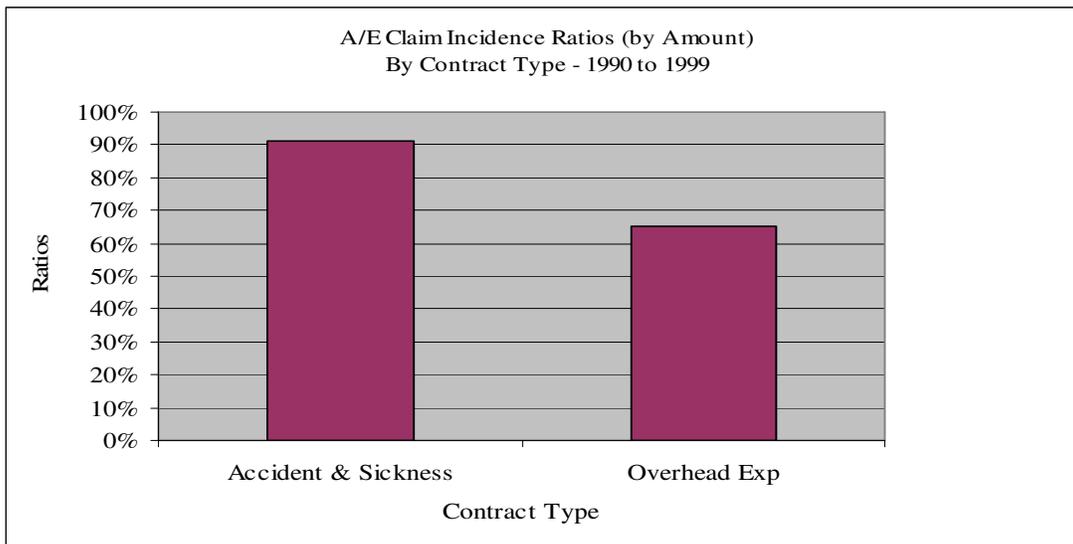
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Section II: Summary of Results

This section summarizes some of the more significant results from the IDEC study. References to occupation class refer to the four 85 CIDA occupation classes, which are described in Section III. Most of the analyses are based on the (face) amount of policies and claims and not on count for reasons discussed in Section III.

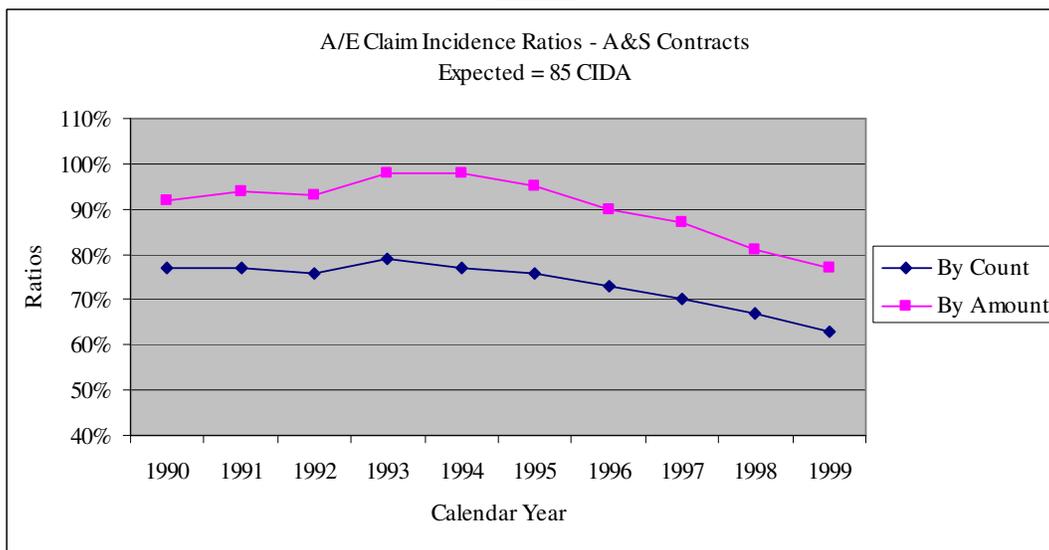
1. In general, average claim incidence experience over the 1990-99 time period was equivalent to or lower than 85 CIDA claim incidence.

Chart 1



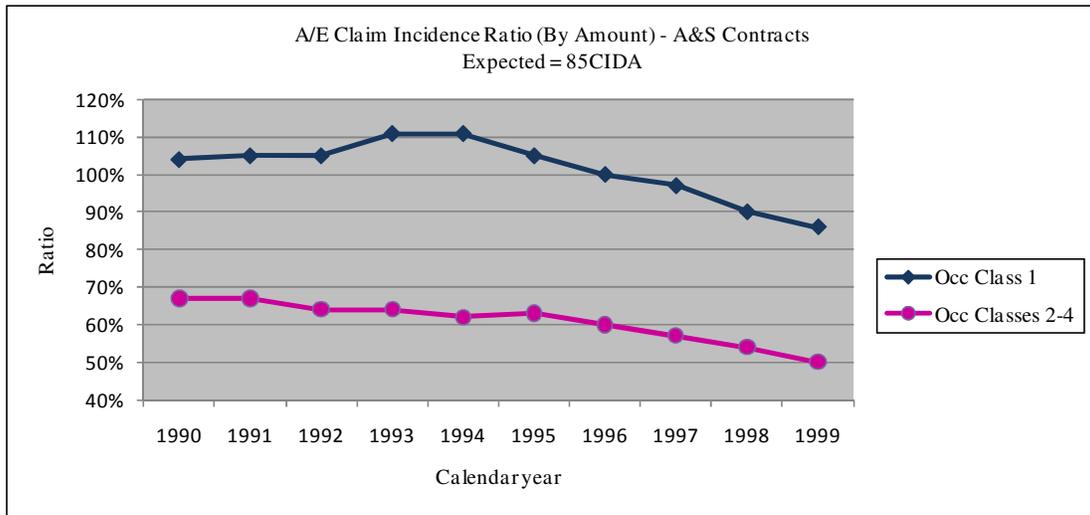
2. Claim incidence rates improved steadily after 1994, relative to 85 CIDA incidence.

Chart 2



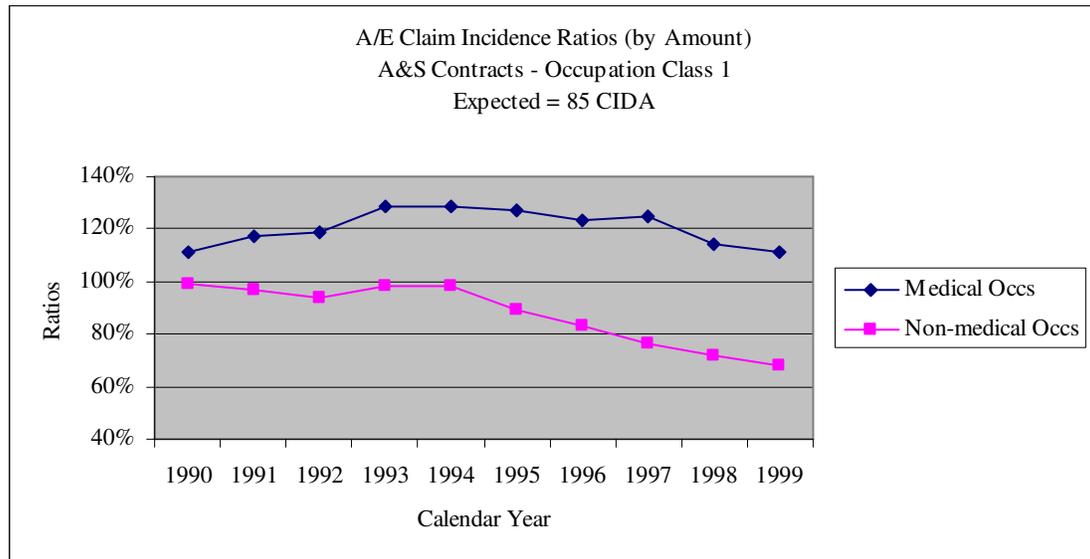
- Blue/grey collar occupations experienced significantly better claim incidence experience relative to 85 CIDA than the white collar/ professional/ executive occupations.

Chart 3



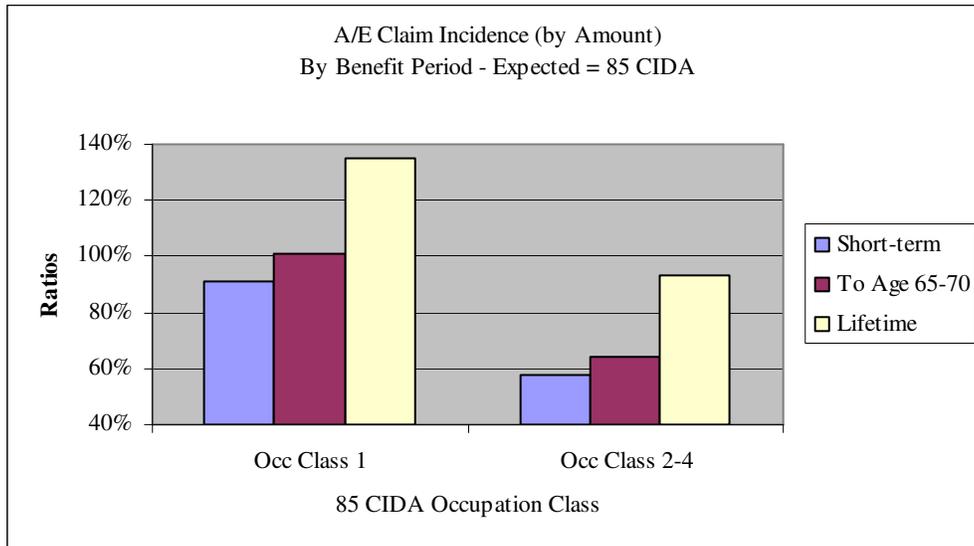
- Non-medical occupations in Occupation Class 1 experienced a 30% drop in claim incidence rates between 1990 and 1999. Medical occupations experienced increasing claim incidence ratios between 1990 and 1994 and moderately decreasing claim incidence thereafter.

Chart 4



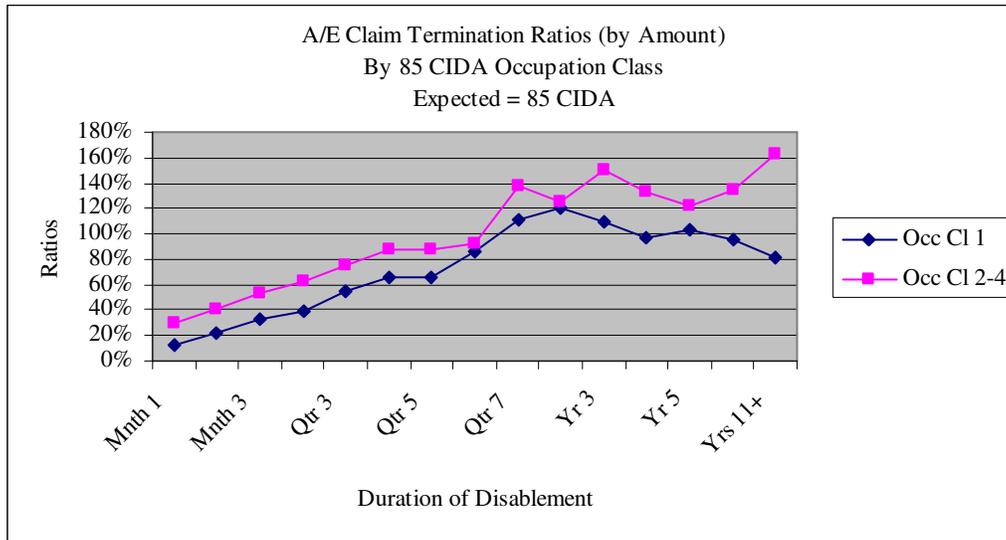
5. Claims with lifetime benefit periods have significantly higher claim incidence than claims with either short-term or To Age 65-70 benefit periods.

Chart 5



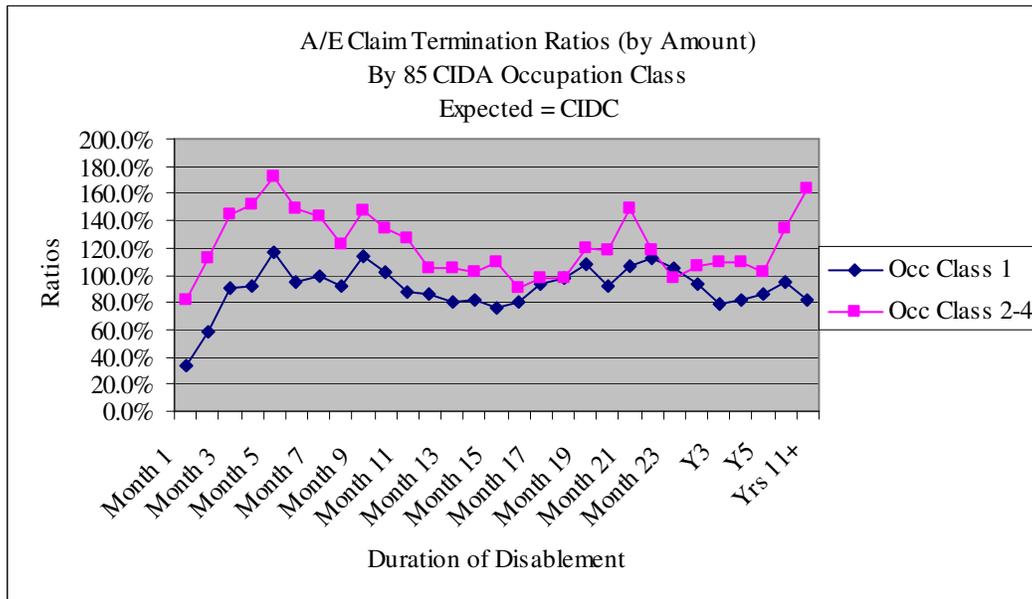
6. Claim termination rates are generally below 85 CIDA termination rates for the first 18 months of disablement. For Occupation Class 1, claim terminations fall below 100% of 85 CIDA termination rates after year 5.

Chart 6



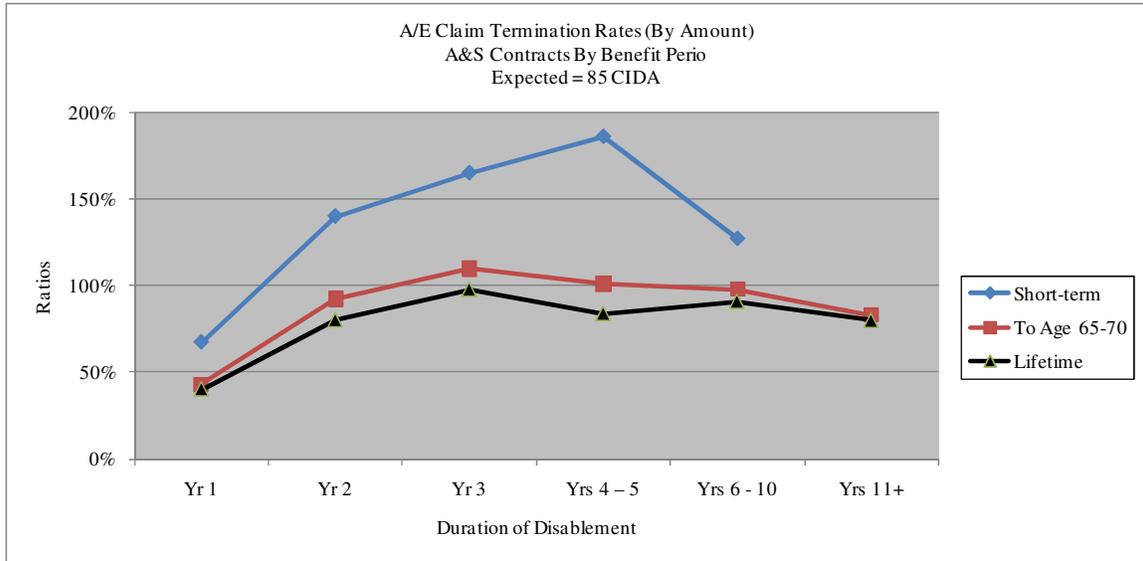
7. Claim termination rates for Occupation Classes 2-4 are generally above the CIDC termination rates. Claim termination rates for Occupation Class 1 are generally lower than CIDC termination rates.

Chart 7



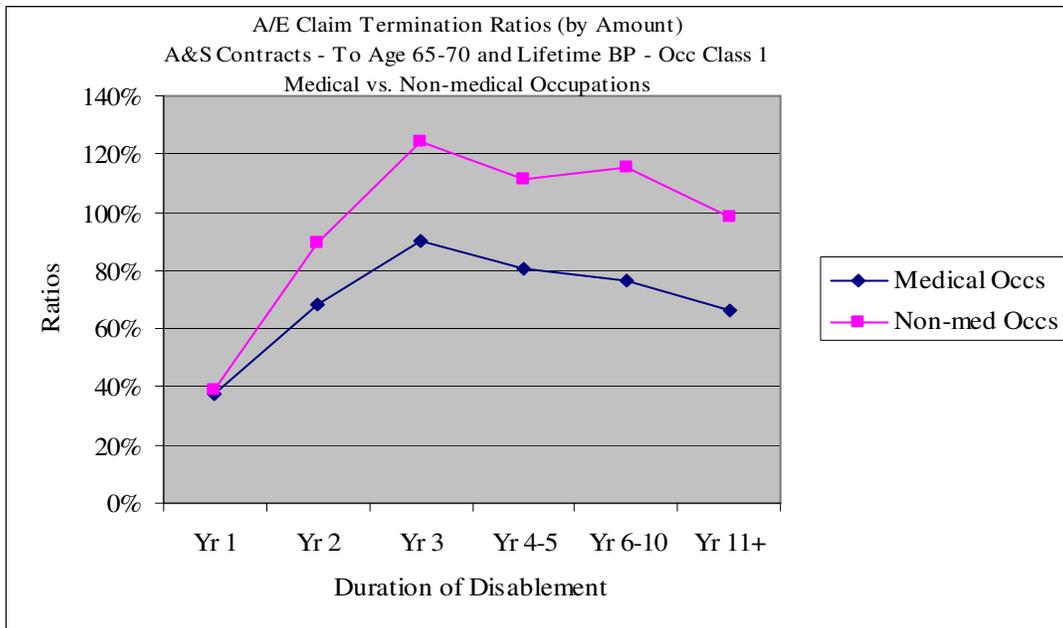
8. Longer benefit periods produced significantly lower claim termination experience.

Chart 8



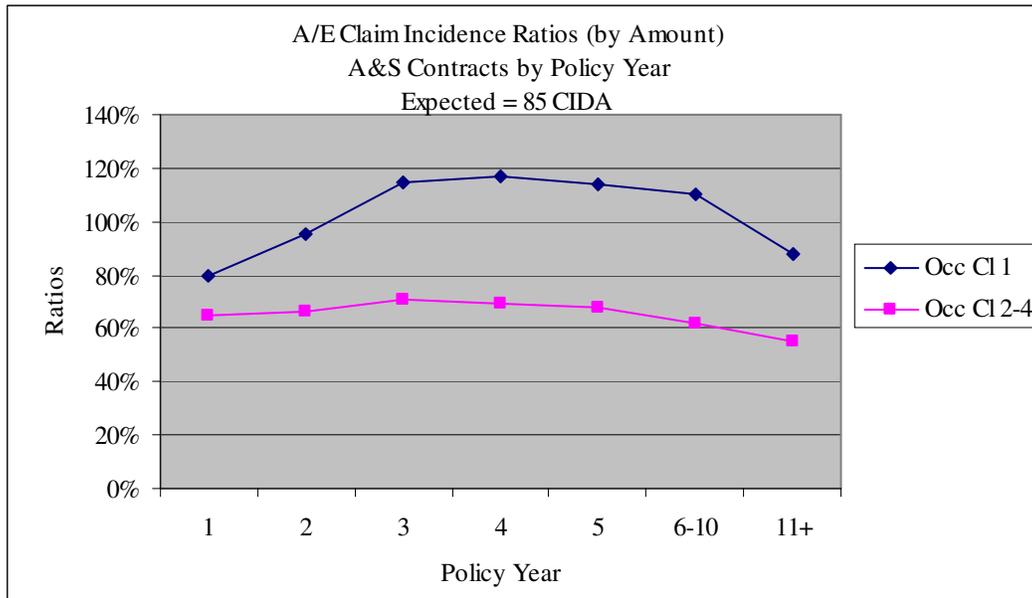
9. Medical occupations had significantly lower claim termination experience than Non-medical occupations.

Chart 9



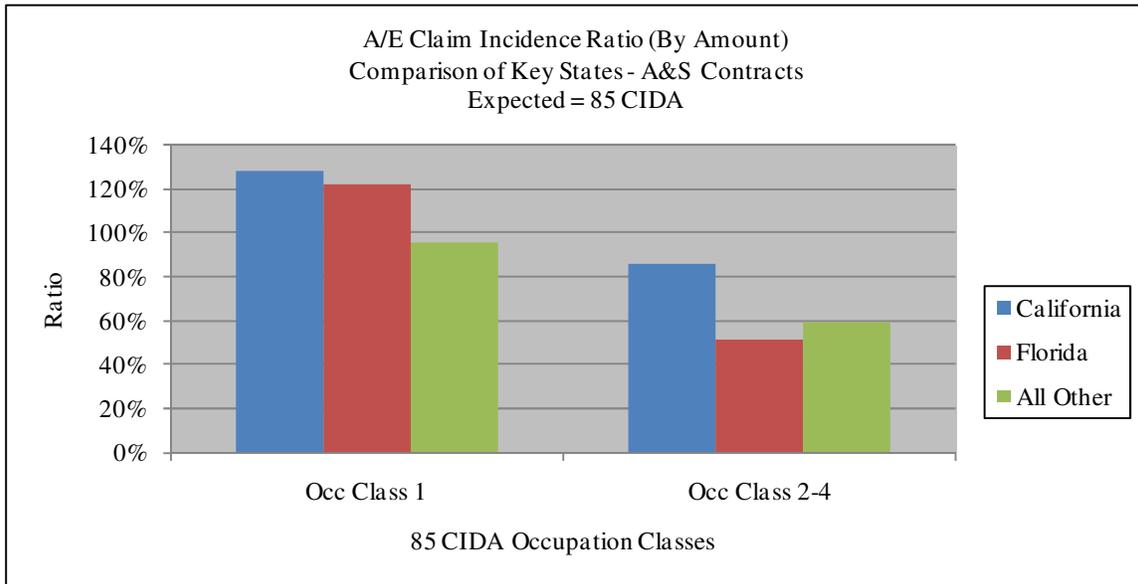
10. A/E claim incidence ratios by policy year in Occupation Class 1 (white collar, professional, executive occupations) reflect the impact of the 2-year contestable period, followed by higher incidence ratios that grade down gradually as a percent of 85 CIDA after policy year 4. Claim incidence ratios by policy year in the other occupation classes are much flatter.

Chart 10



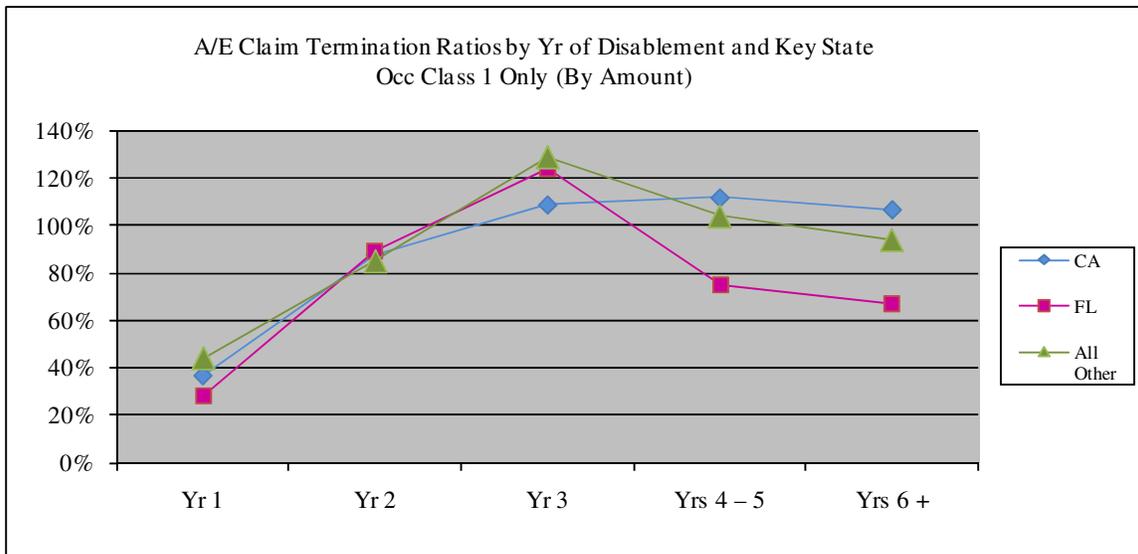
11. California and Florida have significantly higher claim incidence experience in Occupation Class 1 than all other states combined. In the other occupation classes, Florida claim incidence experience is somewhat better than the experience of other states combined, but California incidence remains relatively high.

Chart 11



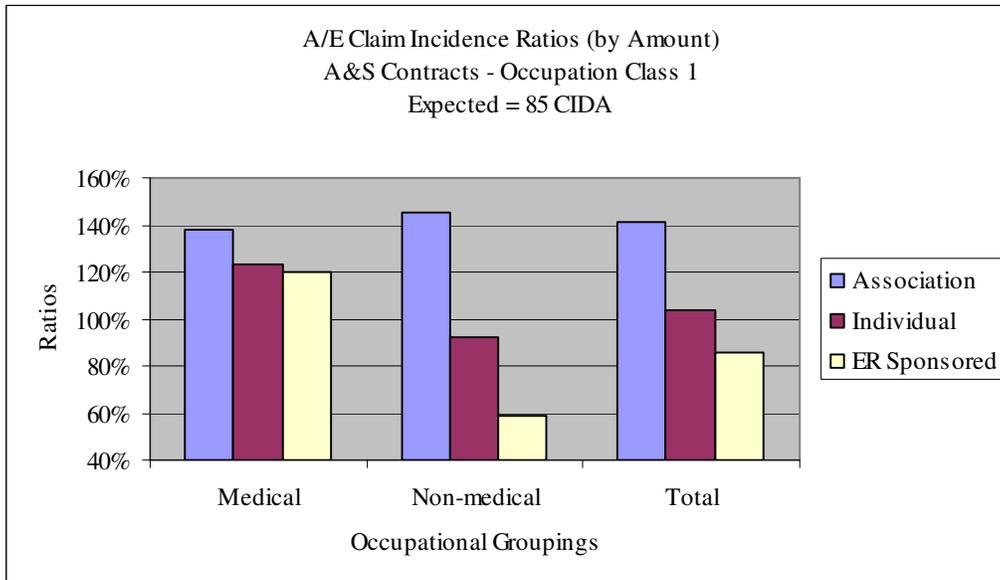
12. In general, claim termination experience in Florida is lower than claim termination experience in California or all other states combined. California claim termination experience is more consistent with that of all other states (excluding Florida).

Chart 12



13. Significant differences in incidence experience exist among Individually Sold business, Employer Sponsored multi-life business, and business purchased through Association endorsements. In Occupation Class 1, Employer Sponsored claim incidence was 83% of Individual claim incidence: 64% for Non-medical occupations and 98% for Medical occupations. Overall, Association claim incidence for Occupation Class 1 was 136% of Individual claim incidence.

Chart 13

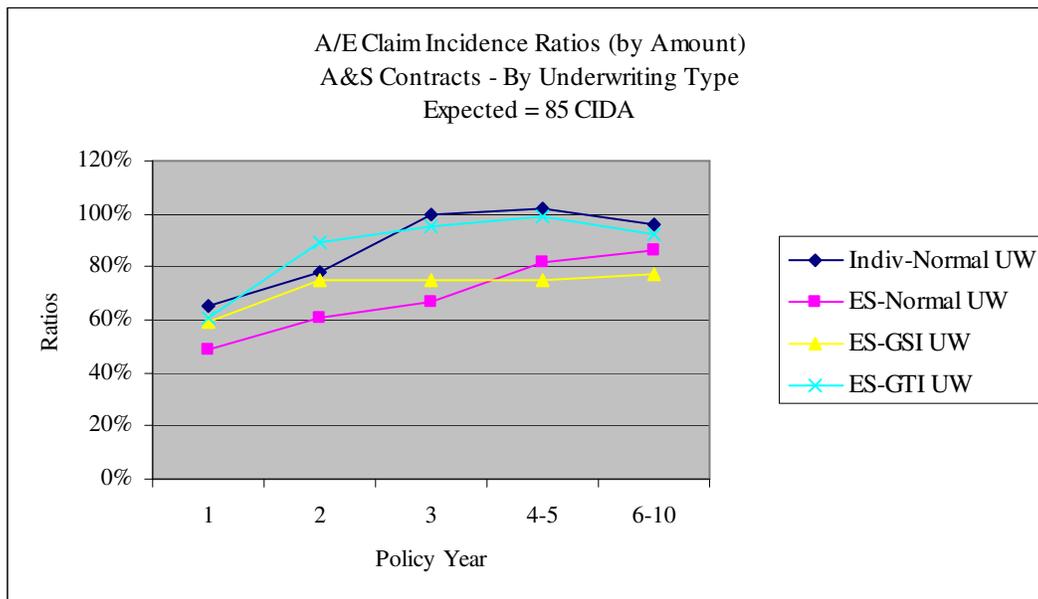


14. Guaranteed standard issue (GSI) underwritten business in the Employer Sponsored market produced claim incidence ratios that were slightly worse during the first three policy years than the incidence rates for traditionally underwritten business in the Employer Sponsored market. In policy years 4-10, GSI underwritten business had better experience than traditionally underwritten business in the Employer Sponsored market.

Both GSI and traditionally underwritten business in the Employer Sponsored market produced consistently lower claim incidence rates than traditionally underwritten business in the Individually Sold market. A large portion of the Employer Sponsored GSI business was employer paid (with 100% participation of eligible lives) while voluntary employee paid (with less than 100% participation of eligible lives) completes the category. The IDEC study was unable to distinguish between employer paid and employee paid Employer Sponsored business.

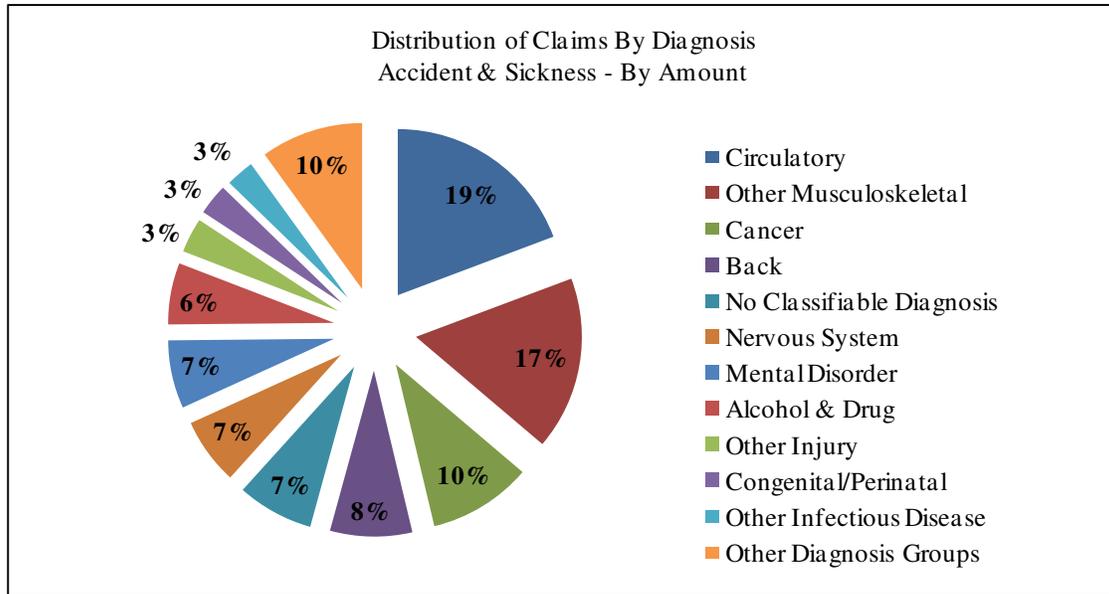
Guaranteed-to-Issue (GTI) underwritten business in the Employer Sponsored market produced claim incidence rates that were higher than claim incidence of either GSI or traditionally underwritten Employer Sponsored business, but were similar to traditionally underwritten Individually Sold business.

Chart 14



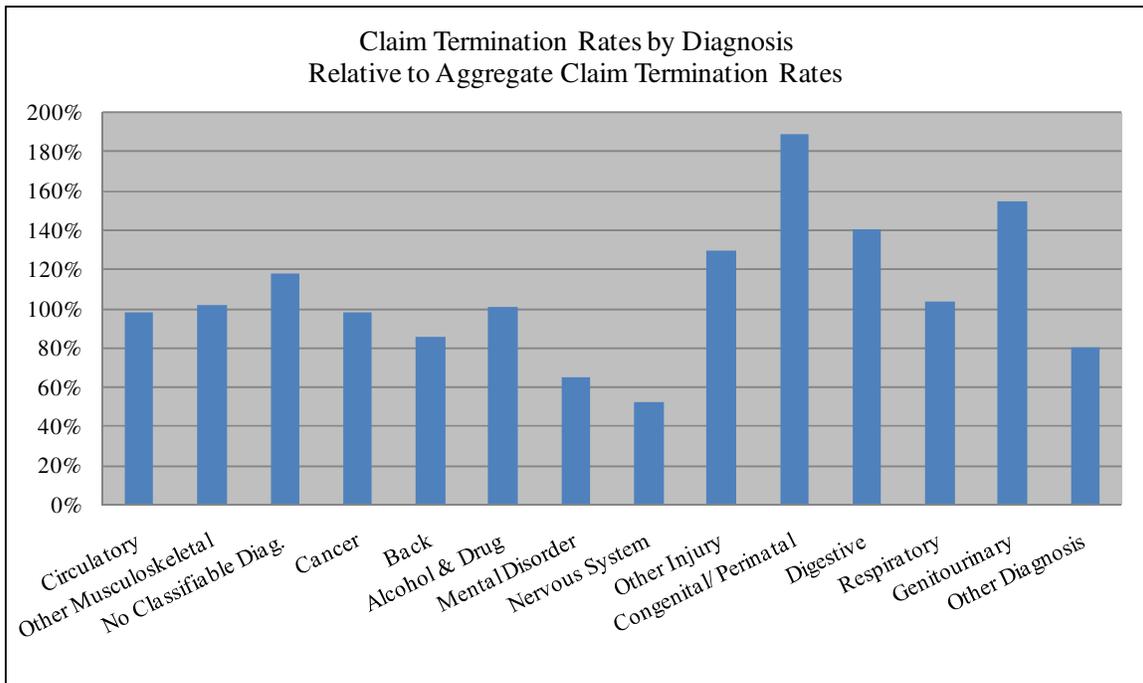
15. The analysis of claim data by diagnosis revealed that Circulatory and Musculoskeletal conditions were the leading disabling causes.

Chart 15



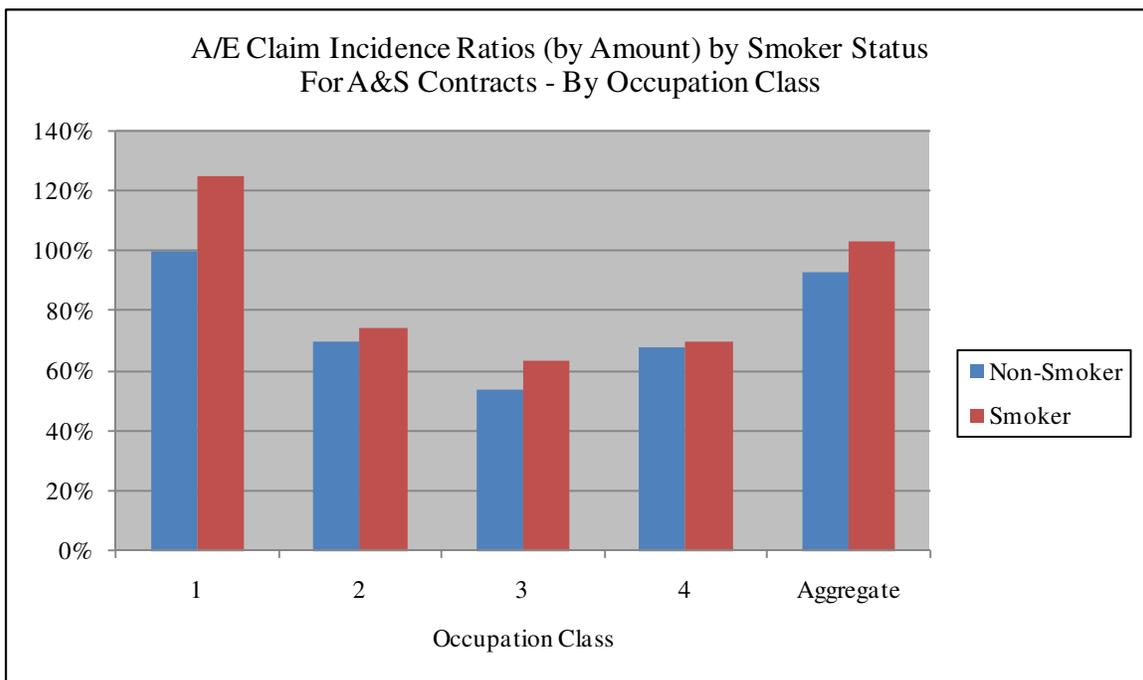
16. Even though we cannot perform a Claims Incidence A/E analysis by diagnosis since the expected is not defined by diagnosis, we can compare relative Claim Terminations by diagnosis using an A/E approach. It is interesting to note that Mental Disorders are recovering at a materially lower rate than the average claim population but Alcohol and Drug abuse are recovering at an average rate. Nervous System conditions are exhibiting the lowest claim termination rates while Congenital/Perinatal conditions are recovering at the fastest rate. Back conditions also tend to bring the average claim termination rates down.

Chart 16



17. A review of the claim incidence by smoking status highlights that smokers have higher claim incidence than non-smokers with the most noticeable difference occurring in Occupation Class 1.

Chart 17



Section III: Claim Incidence Results

This section explores claim incidence trends during the 1990-99 period relative to the parameters reflected in the 85 CIDA claim incidence rate tables, which are attained age, gender, occupation class and elimination period. Because of the significant impact of Medical occupation experience during this time period, several of the sections also contain splits by Medical and Non-medical occupations.

The data was first split into five contract types for the experience analysis:

1. Accident & Sickness (A&S) Disability Income

These contracts provide disability benefits to cover the loss of earned income when an insured is disabled due to an accident or sickness. The benefits are typically paid monthly.

2. Overhead Expense (OE) Disability

These contracts provide disability benefits to cover overhead business expenses incurred while the insured is disabled due to an accident or sickness. The benefits are paid monthly and cover vouchered overhead expenses subject to the maximum monthly benefit for each contract.

3. Disability Buy Out (DBO)

These contracts provide funds to facilitate the transfer of ownership of a business of a disabled insured to his or her partners. The benefits are paid in the form of a lump-sum at the end of the elimination period or a scheduled plan of monthly payments.

4. Key Person (KP)

These contracts pay benefits to a business to offset losses associated with having a key employee disabled. The benefits are paid monthly.

5. Accident Only (AO)

These contracts provide disability benefits to cover the loss of earned income when an insured is disabled due to an accident. The benefits are paid monthly.

Claim Incidence by Contract Type

Table III.a shows the overall A/E claim incidence ratios for the five contract types over the 1990-99 study period. Experience is measured by count and amount. In addition, total claims and exposure for the five contract types are provided. Exposure by count for

a policy is the number of years that the policy contributes during the specific study period. Exposure by amount is the exposure by count multiplied by the policy's amount. Amounts for AS, OE, KP, and AO contracts are in terms of the maximum monthly benefit or expense reimbursement, in the case of OE policies. Amount for DBO contracts is in terms of the total face amount typically paid as a lump-sum at the end of a long elimination period or spread out over a fixed period of time such as 60 months.

Table III.a Industry Actual-to-Expected Claim Incidence Ratios by Contract Type Study Period: 1/1/1990 – 12/31/1999						
Contract Type	Actual-to-Expected		Claims		Exposure	
	Count	Amount	Count	Amount	Count	Amount
AS	74%	91%	206,910	327,322,461	18,134,592	39,825,715,771
OE	58%	65%	14,379	71,096,672	1,090,330	5,867,772,662
DBO	119%	95%	545	22,166,587	297,961	18,579,776,129
KP	51%	52%	32	164,909	9,747	51,965,610
AO	27%	37%	39	43,295	4,371	4,233,427

Most of the experience resides with the A&S contracts, which incurred an average A/E ratio of 74.2% by count and 91.2% by amount. The higher A/E ratio by amount compared to the A/E ratio by count indicates generally higher incidence for policies with larger indemnities.

OE policies experienced lower average A/E ratios (57.5% by count and 64.6% by amount) than A&S policies. The A/E claim incidence ratios for OE contracts are generally lower than the corresponding ratios for A&S contracts across the range of occupation classes and elimination periods. This is attributable to the following reasons:

- OE policies cover a specific business need and generally experience less anti-selection than A&S contracts.
- OE policies have short benefit periods (12 months is typical), and experience shows that higher claim incidence is associated with policies with longer benefit periods.

The volume of DBO contracts in the study is quite small. In contrast to A&S and OE policies, the A/E ratio by amount for DBO contracts is lower than that the A/E ratio by count.

There are very few KP and AO policies, although they experienced low A/E ratios. Because of the lack of credible volumes of these types of contracts, there will be no additional analysis of KP and AO business in this report.

Table III.b provides the A/E ratios for A&S, OE and DBO policies by calendar year during the 1990-99 time period. Each calendar year represents the experience of full policy years that began in the indicated calendar year and end in the following year. For example, experience for year 1992 consists of all policy years that began in 1992. The year 1999 represents only the portion of policy years in 1999 and excludes any portion falling in 2000.

Table III.b A/E Claim Incidence Ratios by Calendar Year and Contract Type Study Period: 1/1/1990 – 12/31/1999						
Study Period	A&S Policies		OE Policies		DBO Policies	
	Count	Amount	Count	Amount	Count	Amount
1990	77%	92%	66%	72%	101%	63%
1991	77%	94%	66%	76%	102%	26%
1992	76%	93%	62%	73%	155%	123%
1993	79%	98%	62%	74%	124%	133%
1994	77%	98%	60%	70%	177%	167%
1995	76%	95%	50%	65%	135%	112%
1996	73%	90%	52%	57%	119%	132%
1997	70%	87%	51%	57%	124%	93%
1998	67%	81%	46%	54%	86%	52%
1999	63%	77%	45%	50%	45%	13%
1990-99	74%	91%	57%	65%	119%	95%

The A&S contracts experienced a moderate increase in the A/E ratios by amount in years 1993 and 1994 compared to the 1990-92 period. This reflects in part the increase in Medical claims reported by many companies around the 1993-94 period, although it is not as apparent in the A/E ratios by count, or in the A/E ratios for OE contracts. In general, incidence experience improved steadily after 1994. Later in this report it will be shown that this improvement came primarily from Non-medical occupations, although there appears to have been some improvement from Medical occupations in the late 1990's.

The annual A/E ratios for DBO contracts are more volatile due to their small volumes, large face amounts and long elimination periods. It appears that the A/E ratios for DBO contracts peaked in 1994. The very low A/E ratios in 1999 may not be fully developed because of the long elimination periods of DBO policies. In other words, there may be a significant number of DBO claims that were disabled in 1999 but had not been reported at the time the data for the study was collected.

Claim Incidence by Occupation Class

The 85 CIDA claim incidence rates vary by the following four occupation classes:

- Class 1: Professional, technical and managerial occupations that are generally office duties only.
- Class 2: Supervisory and other skilled clerical and skilled technical people.
- Class 3: Non-hazardous work with light manual workers.
- Class 4: Hazardous work with heavy manual labor or using heavy equipment.

Companies have generally developed expanded occupation classes, most notably splitting the 85 CIDA Class 1 into two or more additional classes. However, because of the lack of uniformity among companies in the construction of their occupation classes and the movement of certain occupations among the expanded occupation classes over time, the IDEC did not attempt to study any occupation classification (other than Medical and Non-medical) beyond the four used in the 85 CIDA tables. Each contributing company was asked to map their own occupation classes to the four 85 CIDA classes.

Table III.c shows the distribution of A&S, OE and DBO exposure in the study by occupation class and contract type. Clearly, Class 1 is the most prevalent occupation class.

<u>Table III.c</u> Distribution of Exposure in the Study By Occupation Class and Contract Type Study Period: 1/1/1990 – 12/31/1999			
Occupation Class	By Count		
	A&S	OE	DBO
Class 1	81%	90%	96%
Class 2	9%	7%	3%
Class 3	7%	3%	1%
Class 4	3%	1%	1%
Total	100%	100%	100%
Occupation Class	By Amount		
	A&S	OE	DBO
Class 1	92%	94%	99%
Class 2	5%	5%	1%
Class 3	3%	1%	0%
Class 4	1%	0%	0%
Total	100%	100%	100%

Table III.d provides the A/E claim incidence (by amount) for calendar years 1990 through 1999 for Class 1 and for Classes 2-4 combined, for A&S and OE contracts. DBO contracts were not included because policies in Classes 2-4 represent less than 1% of the business.

Table III.d A/E Claim Incidence Ratios (by Amount) For A&S and OE Contracts by Occupation Class Study Period: 1/1/1990 – 12/31/1999				
Study Period	A&S Contracts		OE Contracts	
	Class 1	Classes 2-4	Class 1	Classes 2-4
1990	104%	67%	74%	55%
1991	105%	67%	78%	56%
1992	105%	65%	76%	48%
1993	111%	64%	77%	57%
1994	111%	62%	73%	45%
1995	105%	63%	67%	44%
1996	100%	60%	60%	37%
1997	97%	57%	58%	45%
1998	90%	54%	57%	31%
1999	86%	51%	53%	35%
1990-99	102%	61%	67%	45%

The average A/E claim incidence ratio over the ten-year period for A&S policies in Class 1 was 102%. However, after 1994, claim incidence for this business steadily improved and fell below 85 CIDA incidence in 1997, 1998, and 1999.

The average A/E claim incidence ratio over the ten-year period for A&S policies in Classes 2-4 combined was 61%, which was considerably more favorable than 85 CIDA incidence. This business also exhibited improving experience after 1994.

The average A/E claim incidence ratios by occupation class for OE policies were approximately 66% of the corresponding A&S ratios for Class 1 and 73% for Classes 2-4 combined. The OE business experienced a similar pattern of improving experience after 1994 as seen in the A&S business.

Section VII of this report discusses differences in morbidity experience by occupation. However, because of the significance of the Medical occupations within the total exposure and the unfavorable morbidity trends during the 1990's, the analysis by occupation class in this section has been split between Medical and Non-medical occupations.

The Medical Occupations grouping includes the following occupations:

Physicians	Pharmacists
Surgeons	Psychiatrists
Dentists	Psychologists
Nurses	Veterinarians
Chiropractors	Other Medical
Podiatrists	

The Non-medical Occupations grouping includes the following occupations:

Executives	Actuaries
Managers	Insurance Sales
Lawyers	Other Sales
Accountants	Stockbrokers
Engineers	Teachers
Architects	All Other Occupations

Because some of the contributors were unable to split their experience by occupation, the All Other Occupations group in the Non-medical Occupations category includes some unknown portion of Medical occupations. However, indications suggest that the portion of unknown Medical occupations included in the All Other Occupations category should be quite small.

Table III.e shows the distribution of the Medical and Non-medical Occupations amount exposure within each occupation class, separately for A&S contacts and OE contracts.

<u>Table III.e</u> Distribution of Medical and Non-medical Occupations By Amount Exposure Within Each Occupation Class			
Occupation Class	A&S Contracts		
	Medical	Non-medical	Total
Class 1	41%	59%	100%
Class 2	29%	71%	100%
Class 3	4%	96%	100%
Class 4	1%	99%	100%
Total	39%	61%	100%
Occupation Class	OE Contracts		
	Medical	Non-medical	Total
Class 1	74%	26%	100%
Class 2	75%	25%	100%
Class 3	21%	79%	100%
Class 4	0%	100%	100%
Total	74%	26%	100%

The Medical Occupations grouping represents 41% of the A&S amount exposure in Class 1, 29% of the A&S amount exposure in Class 2, and very small percentages of the A&S amount exposure in Classes 3 and 4. The Medical Occupations grouping represents about 75% of the OE amount exposure by amount in Classes 1 and 2.

Table III.f shows the distribution of the amount exposure for the four classes within the Medical and Non-medical Occupational groupings.

<u>Table III.f</u>			
Distribution of the Occupation Classes by Amount Exposure Within Medical and Non-medical Occupational Groupings			
Occupation Class	A&S Contracts		
	Medical	Non-medical	Total
Class 1	96%	89%	92%
Class 2	4%	6%	5%
Class 3	0%	4%	3%
Class 4	0%	2%	1%
Total	100%	100%	100%
Occupation Class	OE Contracts		
	Medical	Non-medical	Total
Class 1	95%	91%	94%
Class 2	5%	4%	5%
Class 3	0%	3%	1%
Class 4	0%	2%	0%
Total	100%	100%	100%

As expected, Class 1 is the most prominent occupation class for both the Medical and Non-medical Occupational groupings.

Table III.g shows the average A/E Claim Incidence Ratios (by amount) for the 1990-99 period by occupation class and Medical and Non-medical Occupational groupings. Note that if a cell's results are based on less than 10 claims, then an asterisk is displayed to indicate that there was insufficient experience for measuring incidence.

<p style="text-align: center;"><u>Table III.g</u> A/E Claim Incidence Ratios (by Amount) By Occupation Classes and Medical and Non-medical Occupational Groupings Study Period: 1/1/1990 – 12/31/1999 (* Insufficient experience for measuring incidence)</p>				
Occupation Class	A&S Contracts			
	Medical	Non-medical	Total	Medical/ Non-Medical
Class 1	121%	87%	102%	139%
Class 2	81%	63%	68%	129%
Class 3	68%	53%	53%	129%
Class 4	86%	66%	66%	131%
Total	118%	77%	91%	152%
Occupation Class	OE Contracts			
	Medical	Non-medical	Total	Medical/ Non-Medical
Class 1	70%	58%	67%	121%
Class 2	39%	51%	42%	75%
Class 3	63%	45%	49%	140%
Class 4	*	62%	64%	*
Total	68%	57%	65%	119%

The average claim incidence in Table III.g for the Medical Occupations has been considerably higher than for the Non-medical Occupations for A&S contracts in all four of the occupation classes. For A&S contracts, the ratio of Medical claim incidence to Non-medical claim incidence is 125-140%. These differences are not quite as pronounced for the OE contracts.

Table III.h shows the A/E claim incidence calendar year trends (by amount) for A&S Contracts by the Medical and Non-medical Occupational grouping.

<p style="text-align: center;"><u>Table III.h</u> A/E Claim Incidence Ratios (by Amount) Trends For A&S Contracts By Medical and Non-Medical Occupational Groupings Study Period: 1/1/1990 – 12/31/1999</p>						
Study Period	Occupation Class 1			Occupation Classes 2-4		
	Medical	Non-Medical	Medical/ Non-Medical	Medical	Non-Medical	Medical/ Non-Medical
1990	111%	99%	112%	83%	65%	127%
1991	117%	97%	121%	80%	66%	122%
1992	120%	94%	127%	76%	63%	121%
1993	129%	98%	132%	83%	62%	135%
1994	129%	98%	132%	84%	59%	142%
1995	127%	89%	143%	87%	59%	147%
1996	123%	83%	148%	80%	57%	140%
1997	125%	76%	165%	78%	54%	144%
1998	114%	72%	159%	71%	51%	140%
1999	111%	68%	164%	69%	47%	147%
1990-99	121%	87%	139%	79%	59%	134%

For A&S contracts in Occupation Class 1, the Medical Occupation claim incidence trends in Table III.h show increases during the 1991-94 period and then slow improvements thereafter, returning in 1998-99 to approximately the same level of incidence in 1990. The Non-medical Occupations for A&S contracts in Occupation Class 1 display claim incidence that was relatively stable during the 1990-94 period followed by steady improvements thereafter. For A&S contracts in Occupation Class 1, the ratio of Non-medical to Medical claim incidence was 89% in 1990 and 61% in 1999. This difference is not the result of deterioration in the Medical Occupation incidence but rather steady improvements in the Non-medical Occupation incidence.

Similar trends are observed for A&S contracts in Occupation Classes 2-4, although the differences in recent years between Medical and Non-medical claim incidence is not as significant as in Occupation Class 1.

Table III.i shows the A/E claim incidence trends (by amount) for OE contracts by the Medical and Non-medical Occupational grouping.

<p style="text-align: center;"><u>Table III.i</u> A/E Claim Incidence Ratios (by Amount) Trends For OE Contracts By Medical and Non-Medical Occupational Groupings Study Period: 1/1/1990 – 12/31/1999</p>						
Study Period	Occupation Class 1			Occupation Classes 2-4		
	Medical	Non-Medical	Medical/ Non-Medical	Medical	Non-Medical	Medical/ Non-Medical
1990	74%	75%	99%	50%	59%	84%
1991	80%	71%	112%	50%	62%	82%
1992	76%	73%	105%	46%	49%	93%
1993	81%	63%	128%	51%	64%	80%
1994	75%	68%	110%	44%	45%	98%
1995	71%	55%	130%	35%	58%	60%
1996	64%	46%	139%	34%	41%	82%
1997	62%	47%	132%	39%	54%	73%
1998	61%	44%	138%	35%	25%	137%
1999	56%	42%	133%	28%	47%	61%
1990-99	70%	58%	121%	40%	51%	80%

The differences between Medical and Non-medical Occupation claim incidence for OE contracts are not as large as experienced by the A&S contracts. Both Occupational groupings in Occupation Class 1 showed improving claim incidence after 1994, although the improvements for the Non-medical Occupation incidence were greater than for the Medical Occupation incidence. Unlike A&S contracts and Occupation Class 1 for OE contracts, Medical Occupation claim incidence was actually lower than Non-medical Occupation claim incidence for OE contracts in Occupation Classes 2-4.

Claim Incidence by Elimination Period

Claim incidence experience by elimination period for A&S and OE contracts during the 1990's is discussed below. DBO contracts are not covered because most DBO elimination periods are 180 days or longer. Table III.j shows the distribution of the amount exposure by elimination period within each occupation class, separately for A&S and OE contracts.

Table III.j Distribution of A&S and OE Contracts by Elimination Period Within Occupation Class – By Amount Study Period: 1/1/1990 – 12/31/1999					
Elimination Period	A&S Contracts				
	Class 1	Class 2	Class 3	Class 4	Total
Under 30 Days	0%	2%	7%	6%	1%
30 Days	8%	18%	37%	32%	9%
60 Days	12%	17%	16%	20%	12%
90 Days	63%	51%	29%	33%	61%
180+ Days	18%	13%	10%	9%	17%
	100%	100%	100%	100%	100%
Elimination Period	OE Contracts				
	Class 1	Class 2	Class 3	Class 4	Total
Under 30 Days	1%	3%	4%	2%	1%
30 Days	61%	57%	56%	42%	61%
60 Days	22%	24%	21%	31%	22%
90 Days	17%	16%	19%	25%	17%
180+ Days	0%	0%	1%	0%	0%
	100%	100%	100%	100%	100%

Elimination periods of 90+ days policies represent 78% of the A&S exposure. Companies during the 1980's and 1990's generally discouraged the purchase of lower elimination periods in A&S policies in Classes 1 and 2. On the other hand, the elimination periods of less than 90 days represent 83% of the OE exposure, which characteristically have low elimination periods.

Table III.k shows the A/E claim incidence ratios (by amount) by elimination period within each occupation class, separately for A&S and OE contracts:

Table III.k A/E Claim Incidence Ratios (by Amount) for A&S and OE Contracts By Elimination Period and Occupation Class Study Period: 1/1/1990 – 12/31/1999 (* Insufficient experience for measuring incidence)					
Elimination Period	A&S Contracts				
	Class 1	Class 2	Class 3	Class 4	Total
Under 30 Days	124%	57%	53%	61%	75%
30 Days	91%	67%	55%	71%	73%
60 Days	71%	53%	39%	53%	64%
90 Days	125%	84%	56%	69%	118%
180+ Days	102%	88%	77%	82%	100%
All EPs	102%	67%	53%	66%	91%
Elimination Period	OE Contracts				
	Class 1	Class 2	Class 3	Class 4	Total
Under 30 Days	58%	49%	48%	38%	55%
30 Days	66%	42%	49%	70%	64%
60 Days	58%	34%	48%	50%	55%
90 Days	116%	53%	46%	77%	109%
180+ Days	*				
All EPs	67%	42%	48%	63%	65%

The A/E claim incidence ratios for A&S contracts in Class 1 are higher than 100% except for the 30-day and 60-day elimination periods. The 60-day A/E ratio (71%) appears relatively low compared to the other elimination periods because the 85 CIDA 60-day incidence rates are artificially high. The 85 CIDA table distinguishes incidence among 0, 7, 14, 30 and 90-day elimination periods but not the 60-day elimination period, since very few policies issued in the 1970's had 60-day elimination periods. Thus, for the purpose of this study, expected 60-day claim incidence rates were developed by multiplying the 85 CIDA 30-day incidence rates by claim continuance factors from the 30-day continuance table that represented the probabilities of remaining on claim from the 30th day to the 60th day of disablement. This approach generally overstates the 60-day incidence rates. People receiving disability benefits will remain disabled longer than disabled people who are in the elimination period but not receiving benefits. This can be observed by comparing 90-day incidence rates from the 85 CIDA table to 90-day incidence rates calculated from 30-day incidence rates and claim continuance factors from 30-days to 90-days.

A similar situation exists for elimination periods of 180 days or longer for which the 85 CIDA claim incidence rates were based on the 90-day elimination period experience. The lack of "true" expected incidence rates for 60 day and 180+ day elimination periods

should be kept in mind when reviewing all of the A/E ratios by elimination period in this report.

In contrast to the experience of A&S contracts in Class 1, the A/E claim incidence ratios for A&S contracts in Classes 2-4 are significantly below 100% in all elimination periods. These results suggest that claim incidence rates between Class 1 and the other classes are much closer than reflected in the 85 CIDA table.

Table III.1 shows the average A/E claim incidence ratios by elimination periods for A&S and OE contracts, split between the Medical and Non-medical Occupational groupings.

Table III.1 A/E Claim Incidence Ratios (By Amount) For A&S and OE Contracts Split Between Medical and Non-medical Occupational Groupings Study Period: 1/1/1990 – 12/31/1999 (* Insufficient experience for measuring incidence)				
A&S Contracts				
Elimination Period	Occupation Class 1		Occupation Classes 2-4	
	Medical	Non- medical	Medical	Non- medical
Under 30 Days	66%	132%	58%	56%
30 Days	95%	88%	78%	61%
60 Days	82%	62%	58%	60%
90 Days	158%	98%	100%	90%
180+ Days	158%	81%	103%	80%
All EPs	121%	87%	79%	59%
OE Contracts				
Elimination Period	Occupation Class 1		Occupation Classes 2-4	
	Medical	Non- medical	Medical	Non- medical
Under 30 Days	57%	63%	51%	46%
30 Days	69%	56%	39%	54%
60 Days	61%	51%	35%	43%
90 Days	132%	85%	63%	47%
180+ Days	*	*	*	*
All EPs	70%	58%	40%	51%

Except for elimination periods less than 30 days and Occupation Classes 2-4 with OE contracts, the Medical Occupation claim incidence for OE contracts by elimination period is generally higher than the Non-medical Occupation claim incidence.

Claim Incidence by Gender

The 85 CIDA tables have different claim incidence rates by gender (i.e., the tables are sex distinct). The discussion below shows how experience by gender during the 1990's varied relative to the 85 CIDA table.

Table III.m shows the percentage of female A&S exposure within the various elimination period and occupation class groupings.

Table III.m Percent of Female Exposure by Count and Amount For A&S Contracts by Elimination Period and Occupation Class					
Elimination Period	By Count				
	Class 1	Class 2	Class 3	Class 4	Total
Under 30 Days	25%	16%	5%	2%	14%
30 Days	22%	32%	13%	8%	21%
60 Days	22%	39%	19%	8%	23%
90 Days	20%	39%	18%	8%	21%
180+ Days	17%	35%	13%	9%	18%
All EPs	20%	35%	14%	7%	20%
Elimination Period	By Amount				
	Class 1	Class 2	Class 3	Class 4	Total
Under 30 Days	31%	16%	6%	3%	19%
30 Days	19%	32%	13%	7%	19%
60 Days	18%	34%	16%	6%	19%
90 Days	15%	32%	15%	5%	16%
180+ Days	13%	29%	12%	7%	14%
All EPs	16%	32%	13%	6%	16%

Overall, females represent 20% by count and 16% by amount of all A&S exposure in the study. Within each occupation class, females are a higher representation in Class 2 (35% and 32%) than in the other occupation classes.

Table III.n compares the A/E claim incidence ratios (by amount) for A&S contracts by gender separated into elimination period and occupation class groupings. A comparable table for OE contracts is not provided because of the small volume of exposure.

Table III.n A/E Claim Incidence Ratios (by Amount) for A&S Contracts By Elimination Period, Occupation Class and Gender Study Period: 1/1/1990 – 12/31/1999					
Elimination Period	Male Contracts				
	Class 1	Class 2	Class 3	Class 4	Total
Under 30 Days	115%	56%	52%	61%	70%
30 Days	89%	65%	53%	71%	78%
60 Days	76%	53%	38%	52%	70%
90 Days	130%	81%	55%	68%	122%
180+ Days	106%	89%	75%	79%	104%
All EP's	105%	66%	51%	65%	93%
Elimination Period	Female Contracts				
	Class 1	Class 2	Class 3	Class 4	Total
Under 30 Days	139%	58%	60%	60%	111%
30 Days	94%	71%	66%	68%	86%
60 Days	61%	52%	44%	57%	59%
90 Days	109%	87%	65%	92%	105%
180+ Days	83%	85%	91%	115%	83%
All EP's	92%	70%	62%	69%	86%

In general, female incidence experience reflects similar relationships to the 85 CIDA as the male experience does. This suggests that relative differences by gender observed in the more recent experience is still consistent with the experience included in the development of the 85 CIDA table. The relatively small volumes of female business may contribute to the variances among the various elimination period and occupation class groupings. Female business does show higher incidence relative to the 85 CIDA at the shorter eliminations periods and lower incidence at the longer eliminations periods. This may likely be attributed to the existence of pregnancy coverage in more recent contracts compared to the business included in the 85 CIDA table.

Table III.o provides the average A/E claim incidence ratios for A&S contracts by gender split between Medical and Non-medical Occupations, occupation class and elimination periods.

Table III.o A/E Claim Incidence Ratios (By Amount) For A&S Contracts by Gender Split Between Medical and Non-medical Occupational Groupings Study Period: 1/1/1990 – 12/31/1999				
Males				
Elimination Period	Occupation Class 1		Occupation Classes 2-4	
	Medical	Non-medical	Medical	Non-medical
Under 30 Days	66%	125%	59%	55%
30 Days	91%	88%	60%	61%
60 Days	85%	67%	53%	47%
90 Days	166%	100%	89%	67%
180+ Days	172%	83%	74%	82%
All EPs	126%	90%	69%	59%
Females				
Elimination Period	Occupation Class 1		Occupation Classes 2-4	
	Medical	Non-medical	Medical	Non-medical
Under 30 Days	60%	141%	54%	60%
30 Days	106%	87%	86%	64%
60 Days	73%	53%	61%	45%
90 Days	134%	90%	109%	66%
180+ Days	101%	74%	122%	71%
All EPs	108%	82%	86%	60%

In general, male and female incidence exhibit similar relationships to the 85 CIDA when separated by occupation class, Medical and Non-medical occupational groupings and elimination period.

Claim Incidence by Attained Age

Tables III.p and III.q show the A/E claim incidence ratios (by amount) for A&S contracts by attained age groups for males and females, respectively, within the various elimination period and occupation class groups.

Table III.p A/E Claim Incidence Ratios (by Amount) for A&S Contracts Male - By Attained Age Study Period: 1/1/1990 – 12/31/1999					
Elimination Period – Under 30 Days					
Attained Age	Class 1	Class 2	Class 3	Class 4	Total
Under 30	234%	70%	45%	46%	97%
30 – 39	206%	63%	42%	60%	87%
40 – 49	131%	51%	48%	58%	71%
50 – 59	86%	55%	57%	64%	65%
60 - 64	78%	60%	60%	61%	64%
Elimination Period – 30 Days					
Attained Age	Class 1	Class 2	Class 3	Class 4	Total
Under 30	115%	64%	49%	71%	66%
30 – 39	122%	68%	50%	69%	84%
40 – 49	92%	66%	51%	70%	79%
50 – 59	80%	62%	60%	78%	75%
60 - 64	81%	62%	58%	60%	75%
Elimination Period – 60 Days					
Attained Age	Class 1	Class 2	Class 3	Class 4	Total
Under 30	78%	99%	36%	57%	68%
30 – 39	82%	56%	34%	50%	70%
40 – 49	77%	46%	35%	54%	70%
50 – 59	73%	52%	44%	51%	69%
60 – 64	69%	62%	59%	55%	68%
Elimination Period – 90 Days					
Attained Age	Class 1	Class 2	Class 3	Class 4	Total
Under 30	96%	79%	48%	61%	84%
30 – 39	160%	102%	53%	68%	141%
40 – 49	143%	80%	55%	67%	134%
50 – 59	118%	72%	58%	68%	114%
60 – 64	103%	58%	49%	82%	100%
Elimination Period – 180+ Days					
Attained Age	Class 1	Class 2	Class 3	Class 4	Total
Under 30	71%	57%	54%	60%	65%
30 – 39	143%	92%	70%	81%	127%
40 – 49	119%	97%	73%	73%	115%
50 – 59	100%	86%	83%	88%	99%
60 – 64	86%	78%	83%	95%	86%

Table III.q A/E Claim Incidence Ratios (by Amount) for A&S Contracts Female - By Attained Age Study Period: 1/1/1990 – 12/31/1999 (* Insufficient experience for measuring incidence)					
Attained Age	Elimination Period – Under 30 Days				
	Class 1	Class 2	Class 3	Class 4	Total
Under 30	194%	120%	74%	52%	170%
30 – 39	163%	69%	72%	34%	140%
40 – 49	125%	53%	50%	65%	100%
50 – 59	104%	49%	66%	70%	81%
60 - 64	89%	60%	50%	58%	68%
Attained Age	Elimination Period – 30 Days				
	Class 1	Class 2	Class 3	Class 4	Total
Under 30	194%	120%	74%	52%	170%
30 – 39	163%	69%	72%	34%	140%
40 – 49	125%	53%	50%	65%	100%
50 – 59	104%	49%	66%	70%	81%
60 - 64	89%	60%	50%	58%	68%
Attained Age	Elimination Period – 60 Days				
	Class 1	Class 2	Class 3	Class 4	Total
Under 30	97%	70%	79%	122%	88%
30 – 39	73%	59%	48%	65%	70%
40 – 49	49%	43%	39%	39%	47%
50 – 59	60%	53%	38%	55%	58%
60 – 64	70%	67%	58%	70%	69%
Attained Age	Elimination Period – 90 Days				
	Class 1	Class 2	Class 3	Class 4	Total
Under 30	136%	116%	78%	102%	128%
30 – 39	144%	107%	73%	98%	137%
40 – 49	90%	70%	55%	80%	87%
50 – 59	93%	74%	66%	100%	90%
60 – 64	109%	92%	78%	104%	106%
Attained Age	Elimination Period – 180+ Days				
	Class 1	Class 2	Class 3	Class 4	Total
Under 30	61%	114%	*	*	69%
30 – 39	91%	93%	91%	89%	91%
40 – 49	69%	71%	88%	118%	70%
50 – 59	102%	88%	104%	163%	100%
60 – 64	99%	116%	*	*	101%

For males in Class 1, the A/E claim incidence ratios by attained age are generally decreasing by age for ages 30 and higher, indicating a possible flattening of the incidence curves. For males in Classes 3 and 4, the A/E claim incidence ratios by attained age are increasing moderately with age, indicating a possible steepening of the incidence curves. The pattern of A/E claim incidence ratios by attained age for males in Class 2 generally follows the shape of Class 1 for elimination periods of 90 days or longer.

For females in Classes 1 and 2, the A/E claim incidence ratios are quite high for ages under 40 and then drop sharply for ages 40-49. This suggests that disabilities related to pregnancy (even after identified normal pregnancy claims have been removed) are much higher than what was reflected in the 85 CIDA female incidence rates. There appears to be no prevailing pattern of A/E claim incidence ratios for females ages 40 and higher.

Section IV: Claim Termination Results

This section explores claim termination trends during the 1990-99 period relative to the parameters reflected in the 85 CIDA claim termination rate tables, which are attained age at disablement, gender, occupation class and elimination period. Because of the significant impact of Medical occupation experience during this time period, several of the sections also contain splits by Medical and Non-medical occupations.

Claim Termination Experience by Contract Type

Table IV.a shows the total claim terminations over the full study period by duration of disablement in terms of count and amount represented in the A/E claim termination ratios in Table IV.b. The A&S claims are separated between long-term benefit periods (i.e., To Age 65 and longer) and short-term benefit periods. As a rule, if the results in subsequent tables would be based on fewer than 10 claim terminations, an asterisk is displayed indicating that there was not sufficient experience for measuring terminations.

Table IV.a Actual Claim Terminations Study Period: 1/1/1990 – 12/31/1999						
Duration of Disablement	A&S Claims Short-term Benefit Periods		A&S Claims Long-term Benefit Periods		OE Claims	
	By Count	By Amount	By Count	By Amount	By Count	By Amount
Quarter 1	36,515	23,712,935	11,760	17,355,590	2,776	11,086,274
Quarter 2	22,955	19,838,952	19,236	42,104,852	3,624	17,723,368
Quarter 3	8,985	9,518,637	12,933	29,907,096	2,238	11,645,611
Quarter 4	3,812	4,441,643	6,607	16,136,812	762	4,285,458
Quarter 5	2,393	2,762,735	4,311	10,635,775	319	1,884,078
Quarter 6	1,350	1,658,592	3,031	7,908,628	159	1,055,396
Quarter 7	991	1,304,057	2,196	5,474,385	118	826,108
Quarter 8	645	933,004	1,761	4,279,897	29	247,807
Year 3	1,383	1,690,885	3,989	10,138,932	8	11,700
Year 4 – 5	985	1,371,186	3,391	8,656,674	5	8,800
Years 6 - 10	120	93,664	3,082	6,176,155	1	1,250
Years 11+			1,202	1,326,648		

Table IV.b provides the A/E claim termination ratios (as percentages of the 85 CIDA claim termination rates) by duration of disablement for A&S and OE claims. The OE contracts generally have benefit periods that do not exceed 24 months.

Table IV.b A/E Claim Termination Ratios by Duration of Disablement Study Period: 1/1/1990 – 12/31/1999						
Duration of Disablement	A&S Claims Short-term Benefit Periods		A&S Claims Long-term Benefit Periods		OE Claims	
	By Count	By Amount	By Count	By Amount	By Count	By Amount
Quarter 1	56%	51%	34%	27%	29%	22%
Quarter 2	77%	65%	42%	36%	56%	47%
Quarter 3	84%	77%	55%	48%	94%	79%
Quarter 4	94%	93%	68%	62%	87%	75%
Quarter 5	104%	100%	69%	63%	83%	74%
Quarter 6	108%	110%	83%	80%	130%	130%
Quarter 7	141%	156%	106%	98%	273%	282%
Quarter 8	134%	167%	124%	113%	118%	156%
Year 3	191%	178%	111%	107%		
Year 4 – 5	176%	183%	95%	96%		
Years 6 - 10	224%	139%	105%	98%		
Years 11+			111%	90%		

Table IV.b shows that A/E claim termination ratios are less than 100% during the first year of disablement but are increasing with duration during the first year. During the second year of disablement, the A/E claim termination ratios rise above 100%. This pattern is generally consistent with the adjustments to the 85 CIDA termination rates that produce the CIDA claim termination rates, at least during the first two years of disablement. Lower A/E claim termination ratios by amount compared to those by count suggest that claims with larger amounts have lower termination rates on average.

A/E claim termination ratios by amount in year 3 for the A&S claims with long-term benefit periods are over 100% but settle in the 90-100% range thereafter. On the other hand, for the same durations, the A/E claim termination ratios by amount for A&S claims with short-term benefit periods are well above 100%. Claims with short-term benefit periods, including OE claims, have higher A/E claim termination ratios throughout the durations of disablement than claims with long-term benefit periods, possibly reflecting a greater reluctance of claimants with more generous benefits to terminate their claims. These results illustrate the possibility of differentiating claim termination patterns by the length of benefit periods. This is emphasized again later in this report when the claim termination experience for long-term benefit periods is further split between claims with a To Age 65-70 benefit period and those with a lifetime benefit period.

Table IV.c shows the A/E claim termination ratios (by amount) for four calendar periods of claims incurred: Pre-1990, 1990-92, 1993-95 and 1996 & Later. Each calendar period represents the years in which claims were incurred, i.e., the beginning of the elimination period.

Table IV.c A/E Claim Termination Ratios (by Amount) By Calendar Period of Incurral Study Period: 1/1/1990 – 12/31/1999 (* Insufficient experience for measuring terminations)				
Duration of Disablement	A&S Claims with Short-term Benefit Periods			
	Pre-1990	1990-92	1993-95	1996 & Later
Year 1	74%	59%	60%	64%
Year 2	122%	120%	119%	113%
Year 3	161%	210%	177%	131%
Year 4 – 5	169%	196%	176%	216%
Years 6 - 10	207%	144%		
Duration of Disablement	A&S Claims with Long-term Benefit Periods			
	Pre-1990	1990-92	1993-95	1996 & Later
Year 1	48%	43%	38%	37%
Year 2	88%	84%	72%	78%
Year 3	113%	107%	101%	113%
Year 4 – 5	95%	96%	93%	121%
Years 6 - 10	86%	99%	136%	
Years 11+	90%			
Duration of Disablement	OE Claims			
	Pre-1990	1990-92	1993-95	1996 & Later
Year 1	60%	45%	42%	36%
Year 2	131%	114%	88%	112%

There does not appear to be a consistent trend in claim termination experience by incurral year for the short-term benefit periods. However, terminations for claims incurred in years 1993-95 for the long-term benefit periods are significantly lower in the first two years of disablement than those experienced in the earlier periods of incurral. This may be attributable in part to a higher proportion of Medical claims which were incurred in the 1993-95 period, as discussed in Section III. Claim terminations for incurral years 1996-99 showed some slight improvements over the 1993-95 period after the first year of disablement.

Ultimate Claim Termination Experience by Attained Age (Duration Years 11+)

Claim termination rates in the 85 CIDA table for the first 10 years of disablement are based on age at disablement and duration of claim. After 10 years of disablement (i.e., the ultimate period), claim termination rates in the 85 CIDA table are based on attained age during the claim year regardless of the age at disablement.

Table IV.d shows the A/E claim termination ratios after ten years of disablement, by attained age during the claim.

Table IV.d A/E Claim Termination Ratios Duration of Disablement – 11 Years and Later Study Period: 1/1/1990 – 12/31/1999 (* Insufficient experience for measuring terminations)			
Attained Age	By Count		
	Male	Female	Combined
30-34	*	*	*
35-39	389%	521%	420%
40-44	194%	136%	183%
45-49	184%	150%	180%
50-54	124%	142%	125%
55-59	100%	138%	103%
60-64	69%	105%	71%
65-69	88%	*	87%
70-74	62%	*	61%
75+	*	*	*
Attained Age	By Amount		
	Male	Female	Total
30-34	*	*	*
35-39	357%	554%	398%
40-44	115%	251%	139%
45-49	145%	119%	142%
50-54	100%	179%	106%
55-59	79%	117%	81%
60-64	59%	73%	60%
65-69	39%	*	41%
70-74	51%	*	50%
75+	*	*	*

Table IV.d shows a decreasing slope in the pattern of the ultimate claim termination rates relative to 85 CIDA. In general, it appears that the ultimate A/E claim termination rates are converging to 40-60% of 85 CIDA by amount for attained ages over 60, both sexes combined. Table IV.e shows that the number of claim terminations that are reflected in Table IV.d is quite small, particularly for attained ages 65 and higher. Thus, the volume may be too light to draw firm conclusions, particularly at attained ages over 65.

Table IV.e Claim Terminations Duration of Disablement – 11 Years and Later Study Period: 1/1/1990 – 12/31/1999			
Attained Age	By Count		
	Male	Female	Combined
30-34	4	0	4
35-39	27	11	38
40-44	76	12	88
45-49	194	25	219
50-54	240	29	269
55-59	265	25	290
60-64	245	25	270
65-69	60	6	66
70-74	29	0	29
75+	6	0	6

Claim Termination Experience by Elimination Period

The 85 CIDA claim termination rates differentiate by elimination period only in the first 6 months of disablement. Table IV.f compares the A/E claim termination ratios by elimination period. Short-term benefit periods include those that are shorter than To Age 65-70. Long-term benefit periods include To Age 65-70 and Lifetime.

Table IV.f A/E Claim Termination Ratios (by Amount) By Elimination Period (Days) Study Period: 1/1/1990 – 12/31/1999 (* Insufficient experience for measuring terminations)					
Duration of Disablement	A&S Claims with Short-term Benefit Periods				
	Under 30	30	60	90	180+
Quarter 1	60%	50%	20%		
Quarter 2	105%	74%	48%	39%	
Quarter 3	109%	90%	70%	65%	33%
Quarter 4	107%	97%	93%	90%	73%
Quarter 5	151%	95%	103%	100%	89%
Quarter 6	135%	113%	123%	105%	85%
Quarter 7	156%	172%	145%	131%	210%
Quarter 8	113%	130%	181%	216%	137%
Year 3	204%	225%	156%	156%	141%
Year 4 – 5	190%	190%	182%	177%	180%
Years 6 – 10	513%	208%		60%	212%

Duration of Disablement	A&S Claims with Long-term Benefit Periods				
	Under 30	30	60	90	180+
Quarter 1	35%	31%	17%		
Quarter 2	67%	50%	36%	29%	
Quarter 3	82%	64%	51%	46%	23%
Quarter 4	107%	79%	62%	57%	51%
Quarter 5	113%	75%	64%	60%	52%
Quarter 6	126%	88%	85%	76%	73%
Quarter 7	149%	102%	108%	95%	91%
Quarter 8	137%	108%	120%	114%	103%
Year 3	120%	110%	105%	108%	97%
Year 4 – 5	156%	97%	93%	97%	89%
Years 6 - 10	187%	112%	102%	89%	89%
Years 11+	215%	97%	74%	78%	87%

Duration of Disablement	OE Contracts (* Insufficient experience for measuring terminations)			
	Under 30	30	60	90
Quarter 1	28%	23%	14%	
Quarter 2	81%	49%	35%	35%
Quarter 3	125%	80%	84%	56%
Quarter 4	110%	78%	66%	67%
Quarter 5	148%	74%	63%	85%
Quarter 6	*	139%	144%	63%
Quarter 7	*	275%	345%	*
Quarter 8	*	59%	*	*

Table IV.f shows that significant differences in termination experience among elimination periods occur beyond the first 6 months of disablement. The A/E claim termination ratios generally decrease as the elimination period becomes longer for at least the first year for short-term benefit periods and the first year and a half of disablement for long-term benefit periods. This indicates a somewhat worsening termination experience relative to the 85 CIDA table as the elimination period lengthens.

Claim Termination Experience by Occupation Class

The 85 CIDA table differentiates termination rates by occupation class through the first three months of disablement. Table IV.g shows the A/E claim termination ratios (by amount) for the A&S contracts by elimination period (under 90 days and 90 days & higher) within Occupation Class 1 and Occupation Classes 2-4 combined.

Table IV.g A/E Claim Termination Ratios (by Amount) for A&S Claims By Elimination Period and Occupation Class Study Period: 1/1/1990 – 12/31/1999				
With Short-term Benefit Periods				
Duration of Disablement	Elimination Periods Under 90 Days		Elimination Periods 90 Days and Higher	
	Class 1	Class 2-4	Class 1	Class 2-4
Year 1	61%	65%	48%	62%
Year 2	123%	116%	119%	110%
Year 3	187%	188%	145%	170%
Year 4 – 5	198%	174%	175%	185%
Years 6 - 10	183%	238%	112%	90%
With Long-term Benefit Periods				
Duration of Disablement	Elimination Periods Under 90 Days		Elimination Periods 90 Days and Higher	
	Class 1	Class 2-4	Class 1	Class 2-4
Year 1	39%	50%	37%	48%
Year 2	85%	87%	74%	79%
Year 3	107%	119%	105%	127%
Year 4 – 5	94%	115%	96%	93%
Years 6 - 10	106%	138%	87%	123%
Years 11+	84%	188%	80%	77%

For claims with long-term benefit periods, the A/E claim termination ratios for Class 1 are generally lower in most durations of disablement than they are in Classes 2-4. This relationship is not as consistent for claims with short-term benefit periods.

Table IV.h splits the A/E claim termination ratios for Class 1 in Table IV.g between Medical and Non-medical Occupation groupings. The occupations comprising the Medical and Non-medical occupations are described in Section III.

<p style="text-align: center;">Table IV.h A/E Claim Termination Ratios (by Amount) for A&S Claims By Elimination Period - Occupation Class 1 Only Split Between Medical and Non-medical Occupational Groupings Study Period: 1/1/1990 – 12/31/1999 (* Insufficient experience for measuring terminations)</p>				
With Short-term Benefit Periods				
Duration of Disablement	Elimination Periods Under 90 Days		Elimination Periods 90 Days and Higher	
	Medical	Non-medical	Medical	Non-medical
Year 1	51%	64%	45%	50%
Year 2	100%	132%	114%	122%
Year 3	178%	190%	95%	174%
Year 4 – 5	186%	202%	147%	191%
Years 6 - 10	*	151%	*	142%
With Long-term Benefit Periods				
Duration of Disablement	Elimination Periods Under 90 Days		Elimination Periods 90 Days and Higher	
	Medical	Non-medical	Medical	Non-medical
Year 1	41%	47%	36%	40%
Year 2	75%	103%	68%	88%
Year 3	94%	132%	90%	127%
Year 4 – 5	81%	121%	85%	116%
Years 6 - 10	88%	127%	68%	108%
Years 11+	67%	102%	65%	94%

The Medical Occupations in Occupation Class 1 generally have significantly lower A/E claim termination ratios than the Non-medical Occupations.

Table IV.i splits the A/E claim termination ratios for Classes 2-4 in Table IV.g between Medical and Non-medical Occupation groupings.

<p align="center"><u>Table IV.i</u> A/E Claim Termination Ratios (by Amount) for A&S Claims By Elimination Period - Occupation Classes 2-4 Combined Split Between Medical and Non-medical Occupational Groupings Study Period: 1/1/1990 – 12/31/1999 (* Insufficient experience for measuring terminations)</p>				
With Short-term Benefit Periods				
Duration of Disablement	Elimination Periods Under 90 Days		Elimination Periods 90 Days and Higher	
	Medical	Non-medical	Medical	Non-medical
Year 1	69%	64%	65%	61%
Year 2	94%	117%	89%	113%
Year 3	117%	222%	126%	175%
Year 4 – 5	88%	180%	162%	187%
Years 6 - 10	*	275%	*	93%
With Long-term Benefit Periods				
Duration of Disablement	Elimination Periods Under 90 Days		Elimination Periods 90 Days and Higher	
	Medical	Non-medical	Medical	Non-medical
Year 1	47%	50%	50%	46%
Year 2	75%	91%	67%	86%
Year 3	94%	126%	114%	133%
Year 4 – 5	108%	116%	74%	101%
Years 6 - 10	108%	142%	66%	132%
Years 11+	*	192%	*	83%

As with Class 1, the Medical Occupations in Occupation Classes 2-4 generally have significantly lower A/E claim termination ratios than the Non-medical Occupations.

Claim Termination Experience By Gender

Tables IV.j (short-term benefit periods) and IV.k (long-term benefit periods) compare the A/E claim termination ratios for A&S claims by gender within occupation class and elimination period groupings.

<p style="text-align: center;">Table IV.j A/E Claim Termination Ratios (by Amount) A&S Claims with Short-term Benefit Periods – By Gender Study Period: 1/1/1990 – 12/31/1999 (* Insufficient experience for measuring terminations)</p>				
Duration of Disablement	Occupation Class 1			
	Elimination Periods Under 90 Days		Elimination Periods 90 Days & Longer	
	Male	Female	Male	Female
Year 1	57%	68%	48%	46%
Year 2	129%	110%	123%	105%
Year 3	199%	157%	136%	176%
Year 4 – 5	197%	199%	171%	193%
Years 6 - 10	161%	77%	120%	*
Duration of Disablement	Occupation Class 2-4			
	Elimination Periods Under 90 Days		Elimination Periods 90 Days & Longer	
	Male	Female	Male	Female
Year 1	63%	68%	62%	61%
Year 2	120%	100%	111%	110%
Year 3	223%	181%	172%	163%
Year 4 – 5	174%	174%	170%	270%
Years 6 - 10	279%	*	102%	*

There are no consistent differences in A/E claim termination ratios by gender for A&S contracts with short-term benefit periods.

Table IV.k
A/E Claim Termination Ratios (by Amount)
A&S Claims with Long-term Benefit Periods – By Gender
Study Period: 1/1/1990 – 12/31/1999
(* Insufficient experience for measuring terminations)

Duration of Disablement	Occupation Class 1			
	Elimination Periods Under 90 Days		Elimination Periods 90 Days & Longer	
	Male	Female	Male	Female
Year 1	36%	47%	34%	48%
Year 2	82%	91%	74%	77%
Year 3	103%	123%	100%	133%
Year 4 – 5	88%	122%	93%	118%
Years 6 - 10	95%	191%	81%	149%
Years 11+	77%	166%	78%	111%
Duration of Disablement	Occupation Class 2-4			
	Elimination Periods Under 90 Days		Elimination Periods 90 Days & Longer	
	Male	Female	Male	Female
Year 1	49%	51%	43%	55%
Year 2	89%	83%	75%	87%
Year 3	129%	93%	124%	136%
Year 4 – 5	117%	108%	89%	109%
Years 6 - 10	135%	156%	125%	110%
Years 11+	186%	222%	80%	*

For A&S claims with long-term benefit periods, the female A/E claim termination ratios for Occupation Class 1 are consistently higher than the corresponding male ratios. This relationship is most obvious in duration 3 and later where the female ratios are significantly over 100%. A similar relationship exists for the first 5 durations in Occupation Classes 2-4 for elimination periods of 90 days and longer, but not for the shorter elimination periods.

Claim Termination Experience By Age at Disablement

Table IV.1 compares the A/E claim termination ratios for male claims with Short-term Benefit Periods by age at disablement.

<p align="center"><u>Table IV.1</u> A/E Claim Termination Ratios (by Amount) A&S Claims with Short-term Benefit Periods – Males by Age at Disablement Study Period: 1/1/1990 – 12/31/1999 (* Insufficient experience for measuring terminations)</p>				
Occupation Class 1				
Duration of Disablement	Elimination Periods Under 90 Days			
	Under 40	40 – 49	50 - 59	60 – 64
Year 1	59%	56%	54%	56%
Year 2	91%	127%	126%	170%
Year 3	213%	146%	229%	212%
Year 4 – 5	187%	212%	187%	142%
Years 6 - 10	*	*	120%	*
Duration of Disablement	Elimination Periods 90 Days & Over			
	Under 40	40 – 49	50 - 59	60 – 64
Year 1	50%	40%	45%	64%
Year 2	126%	135%	103%	141%
Year 3	154%	103%	159%	91%
Year 4 – 5	86%	203%	172%	107%
Years 6 - 10	*	*	*	*
Occupation Class 2-4				
Duration of Disablement	Elimination Periods Under 90 Days			
	Under 40	40 – 49	50 - 59	60 – 64
Year 1	64%	64%	62%	60%
Year 2	107%	121%	137%	114%
Year 3	208%	261%	207%	135%
Year 4 – 5	157%	180%	169%	159%
Years 6 - 10	233%	393%	98%	*
Duration of Disablement	Elimination Periods 90 Days & Over			
	Under 40	40 – 49	50 - 59	60 – 64
Year 1	62%	61%	64%	66%
Year 2	90%	114%	148%	100%
Year 3	139%	205%	185%	129%
Year 4 – 5	138%	166%	224%	88%
Years 6 - 10	*	*	*	*

Table IV.m compares the A/E claim termination ratios for female claims with Short-term Benefit Periods by age at disablement.

<p align="center"><u>Table IV.m</u> A/E Claim Termination Ratios (by Amount) A&S Claims with Short-term Benefit Periods – Females by Age at Disablement Study Period: 1/1/1990 – 12/31/1999 (* Insufficient experience for measuring terminations)</p>				
Occupation Class 1				
Duration of Disablement	Elimination Periods Under 90 Days			
	Under 40	40 – 49	50 - 59	60 – 64
Year 1	72%	66%	63%	62%
Year 2	115%	82%	155%	161%
Year 3	112%	178%	201%	102%
Year 4 – 5	130%	220%	221%	*
Years 6 - 10	*	*	*	*
Duration of Disablement	Elimination Periods 90 Days & Over			
	Under 40	40 – 49	50 - 59	60 – 64
Year 1	63%	37%	40%	50%
Year 2	105%	86%	123%	157%
Year 3	114%	137%	263%	*
Year 4 – 5	112%	218%	181%	*
Years 6 - 10	*	*	*	*
Occupation Class 2-4				
Duration of Disablement	Elimination Periods Under 90 Days			
	Under 40	40 – 49	50 - 59	60 – 64
Year 1	72%	66%	65%	67%
Year 2	76%	112%	125%	101%
Year 3	133%	248%	132%	193%
Year 4 – 5	178%	185%	152%	*
Years 6 - 10	*	*	*	*
Duration of Disablement	Elimination Periods 90 Days & Over			
	Under 40	40 – 49	50 - 59	60 – 64
Year 1	70%	54%	56%	57%
Year 2	107%	91%	151%	74%
Year 3	133%	117%	294%	*
Year 4 – 5	199%	334%	*	*
Years 6 - 10	*	*	*	*

Table IV.n compares the A/E claim termination ratios for male claims with Long-term Benefit Periods by age at disablement.

Table IV.n				
A/E Claim Termination Ratios (by Amount)				
A&S Claims with Long-term Benefit Periods – Males By Age at Disablement				
Study Period: 1/1/1990 – 12/31/1999				
(* Insufficient experience for measuring terminations)				
Occupation Class 1				
Duration of Disablement	Elimination Periods Under 90 Days			
	Under 40	40 - 49	50 - 59	60 – 64
Year 1	37%	34%	36%	43%
Year 2	69%	80%	96%	96%
Year 3	90%	106%	104%	115%
Year 4 – 5	99%	83%	91%	94%
Years 6 - 10	124%	109%	97%	61%
Years 11+	109%	122%	74%	55%
Duration of Disablement	Elimination Periods 90 Days & Over			
	Under 40	40 - 49	50 - 59	60 – 64
Year 1	41%	35%	31%	35%
Year 2	67%	72%	77%	83%
Year 3	82%	105%	100%	106%
Year 4 – 5	81%	98%	98%	80%
Years 6 - 10	118%	113%	73%	63%
Years 11+	*	99%	90%	*
Occupation Class 2-4				
Duration of Disablement	Elimination Periods Under 90 Days			
	Under 40	40 - 49	50 - 59	60 – 64
Year 1	45%	48%	54%	54%
Year 2	82%	79%	116%	119%
Year 3	111%	119%	161%	204%
Year 4 – 5	112%	125%	117%	104%
Years 6 - 10	179%	181%	110%	*
Years 11+	487%	352%	170%	*
Duration of Disablement	Elimination Periods 90 Days & Over			
	Under 40	40 - 49	50 - 59	60 – 64
Year 1	44%	41%	46%	45%
Year 2	68%	73%	85%	84%
Year 3	108%	137%	136%	*
Year 4 – 5	117%	75%	66%	*
Years 6 - 10	215%	124%	127%	*
Years 11+	*	128%	*	*

Table IV.o compares the A/E claim termination ratios for female claims with Long-term Benefit Periods by age at disablement.

Table IV.o				
A/E Claim Termination Ratios (by Amount)				
A&S Claims with Long-term Benefit Periods – Females By Age at Disablement				
Study Period: 1/1/1990 – 12/31/1999				
(* Insufficient experience for measuring terminations)				
Occupation Class 1				
Duration of Disablement	Elimination Periods Under 90 Days			
	Under 40	40 – 49	50 – 59	60 – 64
Year 1	57%	40%	38%	38%
Year 2	77%	88%	140%	136%
Year 3	110%	122%	148%	*
Year 4 – 5	106%	141%	109%	*
Years 6 - 10	202%	109%	173%	*
Years 11+	69%	230%	*	*
Duration of Disablement	Elimination Periods 90 Days & Over			
	Under 40	40 - 49	50 – 59	60 – 64
Year 1	68%	35%	37%	37%
Year 2	72%	78%	82%	95%
Year 3	103%	142%	158%	*
Year 4 – 5	111%	116%	135%	95%
Years 6 - 10	202%	178%	114%	*
Years 11+	*	56%	*	*
Occupation Class 2-4				
Duration of Disablement	Elimination Periods Under 90 Days			
	Under 40	40 - 49	50 – 59	60 – 64
Year 1	53%	48%	51%	
Year 2	79%	88%	86%	*
Year 3	66%	117%	116%	*
Year 4 – 5	70%	121%	134%	*
Years 6 - 10	121%	159%	108%	*
Years 11+	*	233%	*	*
Duration of Disablement	Elimination Periods 90 Days & Over			
	Under 40	40 - 49	50 – 59	60 – 64
Year 1	63%	49%	44%	43%
Year 2	84%	87%	101%	*
Year 3	102%	158%	150%	*
Year 4 – 5	60%	120%	125%	*
Years 6 - 10	169%	*	*	*
Years 11+	*	*	*	*

Section V: Incidence Experience by Policy Year and Issue Year

This section examines claim incidence experience by issue year and policy year. Mortality rates for individually underwritten life insurance have a select period of 20 years. The 85 CIDA claim incidence rates are aggregate rates, i.e., they do not assume a select period of any length. This study examines the existence of a select period for claim incidence. However, to study claim incidence patterns by policy year, it is important to consider cohorts of issue years, since industry underwriting and marketing practices have changed over time.

In this section, policy years are separated into years 1, 2, 3, 4, 5, 6-10, 11+. Issue years are separated into 4 periods: Pre-1990, 1990-92, 1993-95, and 1996-99.

By Contract Type

Table V.a shows the A/E claim incidence ratios by combinations of policy year and issue year for A&S contracts. Table V.b shows comparable A/E claim incidence ratios for OE contracts.

Table V.a A/E Claim Incidence Ratios by Issue Year and Policy Year A&S Contracts Study Period: 1/1/1990 – 12/31/1999					
Policy Year	Issue Year (By Count)				
	Pre-1990	1990-92	1993-95	1996-99	Total
1		74%	85%	65%	75%
2	87%	84%	91%	77%	85%
3	94%	94%	97%	82%	94%
4	93%	89%	91%	82%	91%
5	91%	89%	83%		89%
6-10	84%	77%	82%		82%
11+	64%				64%
Total	71%	83%	89%	73%	74%
Policy Year	Issue Year (By Amount)				
	Pre-1990	1990-92	1993-95	1996-99	Total
1		77%	83%	61%	75%
2	94%	88%	90%	72%	87%
3	106%	107%	107%	76%	104%
4	110%	103%	101%	88%	105%
5	109%	104%	91%		104%
6-10	102%	94%	94%		100%
11+	78%				78%
Total	91%	95%	94%	69%	91%

Table V.b A/E Claim Incidence Ratios by Issue Year and Policy Year OE Contracts Study Period: 1/1/1990 – 12/31/1999					
Policy Year	Issue Year (By Count)				
	Pre-1990	1990-92	1993-95	1996-99	Total
1		54%	42%	31%	46%
2	72%	60%	49%	49%	56%
3	72%	64%	51%	42%	61%
4	77%	59%	43%	49%	62%
5	76%	54%	42%		62%
6-10	67%	47%	42%		61%
11+	55%				55%
Total	61%	54%	45%	37%	58%
Policy Year	Issue Year (By Amount)				
	Pre-1990	1990-92	1993-95	1996-99	Total
1		63%	51%	27%	52%
2	69%	69%	55%	41%	61%
3	68%	80%	57%	51%	68%
4	87%	64%	49%	57%	68%
5	83%	59%	47%		66%
6-10	76%	56%	50%		69%
11+	61%				61%
Total	70%	63%	52%	38%	65%

For A&S contracts, A/E claim incidence ratios increase during the first three years and then generally decrease thereafter. These results suggest that a long select period, which is observed in individual life mortality, most likely does not exist for individual disability insurance. One of the key distinctions between individual life and individual disability income experience is that the latter typically reflects a significant anti-selection effect. The impact of anti-selection can be observed in the jump in the A/E claim incidence ratios after the 2-year contestable period observed in Table V.a followed by a general downward trend. As a result of this anti-selection effect, it becomes difficult to measure the selective effect of individual underwriting on claim incidence. Section X explores claim incidence experience under various types of underwriting.

A similar pattern of A/E claim incidence ratios can be observed for OE contracts within the first three issue year groups, although when these issue year groups are combined, the A/E ratios after policy year 2 appear to remain relatively flat.

The above tables also show that incidence experience has improved even within specific policy years. Contracts issued in 1996-99 have claim incidence ratios that are 70-80% of those issued in the previous periods, which reflects the general tightening of new contracts and underwriting in this most recent issue year period as a reaction to the poor financial results experienced earlier in the 1990's.

Table V.c displays the A/E claim incidence ratios (by amount) for A&S contracts by the same combinations of policy year and issue year, additionally split by occupation class.

<u>Table V.c</u> A/E Claim Incidence Ratios (by Amount) by Issue Year and Policy Year A&S Contracts – By Occupation Class Study Period: 1/1/1990 – 12/31/1999					
Policy Year	Occupation Class 1				
	Pre-1990	1990-92	1993-95	1996-99	Total
1		82%	90%	62%	80%
2	107%	96%	98%	77%	95%
3	117%	119%	119%	81%	115%
4	124%	115%	111%	100%	117%
5	123%	114%	98%		114%
6-10	113%	104%	102%		110%
11+	88%				88%
Total	102%	104%	103%	72%	102%
Policy Year	Occupation Class 2-4				
	Pre-1990	1990-92	1993-95	1996-99	Total
1		66%	67%	59%	65%
2	65%	67%	67%	62%	66%
3	78%	71%	61%	65%	71%
4	72%	65%	69%	57%	69%
5	69%	69%	65%		68%
6-10	64%	55%	64%		62%
11+	55%				55%
Total	60%	63%	67%	61%	61%

The pattern of A/E claim incidence ratios (by amount) increasing during the first three policy years and then slowly declining is more evident in Occupation Class 1, but less so in the other occupation classes.

Table V.d. compares the A/E claim incidence ratios (by amount) for the Medical Occupations and Non-medical Occupations by Issue Year and Policy Year.

Table V.d A/E Claim Incidence Ratios (by Amount) by Issue Year and Policy Year A&S Contracts – Medical vs. Non-medical Occupations Study Period: 1/1/1990 – 12/31/1999					
	Medical – Occupation Class 1				
Policy Year	Pre-1990	1990-92	1993-95	1996-99	Total
1		87%	96%	77%	89%
2	108%	107%	111%	88%	106%
3	123%	137%	142%	96%	135%
4-5	144%	138%	132%	136%	135%
6-10	132%	135%	135%		133%
11+	106%				106%
Total	120%	126%	124%	88%	121%
	Non-medical Occupation Class 1				
Policy Year	Pre-1990	1990-92	1993-95	1996-99	Total
1		79%	86%	57%	75%
2	106%	88%	90%	73%	86%
3	113%	106%	105%	75%	101%
4-5	108%	97%	86%	86%	92%
6-10	97%	78%	77%		91%
11+	75%				75%
Total	89%	87%	89%	67%	87%
	Medical - Occupation Classes 2-4				
Policy Year	Pre-1990	1990-92	1993-95	1996-99	Total
1		75%	89%	67%	78%
2	84%	92%	92%	70%	87%
3	104%	86%	95%	73%	91%
4-5	86%	92%	95%	82%	92%
6-10	78%	76%	93%		79%
11+	56%				56%
Total	71%	83%	93%	69%	79%
	Non-medical Occupation Classes 2-4				
Policy Year	Pre-1990	1990-92	1993-95	1996-99	Total
1		64%	61%	57%	61%
2	62%	62%	60%	60%	61%
3	75%	67%	59%	63%	67%
4-5	69%	61%	57%	51%	64%
6-10	63%	50%	53%		60%
11+	54%				54%
Total	59%	59%	59%	59%	59%

Similar patterns of A/E ratios by policy year emerge for the various groupings in Table V.d, although the overall levels of ratios are clearly different. Each of the four groupings, except Non-medical occupations in Occupation Classes 2-4, show markedly improved claim experience for business issued in 1996 and later.

Section VI: Impact of Benefit Provisions on Incidence and Termination Experience

This section discusses the impact of various product provisions on claim incidence and terminations. Specifically, it examines the impact on claim incidence and termination experience from lifetime benefit periods, cost-of-living adjustment benefits, and social insurance supplement benefits.

Lifetime Benefit Period

Table VI.a shows A/E claim incidence ratios by benefit period within the four occupation classes and five elimination period groups. The long-term benefit periods, which were combined in the earlier sections of this report, have been separated into To Age 65-70 and Lifetime benefit period groupings.

Table VI.a A/E Claim Incidence Ratios (by Amount) For A&S Contracts by Benefit Period Study Period: 1/1/1990 to 12/31/1999				
Elimination Period	Occupation Class 1			
	Short-term	To Age 65-70	Lifetime	Lifetime/ To Age 65-70
Under 30	131%	67%	87%	130%
30	86%	91%	103%	113%
60	57%	72%	90%	125%
90	99%	122%	176%	144%
180+	92%	101%	137%	136%
Total	91%	101%	135%	134%
Elimination Period	Occupation Class 2-4			
	Short-term	To Age 65-70	Lifetime	Lifetime/ To Age 65-70
Under 30	57%	34%	75%	221%
30	62%	62%	90%	145%
60	47%	50%	58%	116%
90	67%	78%	132%	169%
180+	83%	82%	164%	200%
Total	58%	64%	93%	145%

The increases in A/E claim incidence ratios between To Age 65-70 benefit periods and the Lifetime benefit period demonstrate the material impact that lifetime benefit periods may have on the decision to file a disability claim. For Occupation Class 1, the claim incidence for policies with lifetime benefits is 34% greater than for policies with To Age 65-70 benefit periods in aggregate, but for the 90-day elimination period, the policies

with lifetime benefit period exhibit claims incidence rate that are about 45% greater than policies with To Age 65-70 benefit periods.

Table VI.b splits the results in Table VI.a for Occupation Class 1 between Medical and Non-medical occupations.

<p style="text-align: center;"><u>Table VI.b</u> A/E Claim Incidence Ratios (by Amount) For A&S Contracts by Benefit Period – Occ Class 1 Split Between Medical and Non-medical Occupational Groupings Study Period: 1/1/1990 to 12/31/1999</p>				
Elimination Period	Medical Occupations			
	Short-term	To Age 65-70	Lifetime	Lifetime/ To Age 65-70
Under 30	66%	66%	60%	91%
30	83%	95%	112%	117%
60	62%	82%	98%	118%
90	124%	155%	203%	131%
180+	119%	156%	237%	152%
Total	91%	121%	155%	128%
Elimination Period	Non-medical Occupations			
	Short-term	To Age 65-70	Lifetime	Lifetime/ To Age 65-70
Under 30	136%	67%	91%	135%
30	88%	87%	93%	108%
60	55%	63%	79%	125%
90	88%	95%	143%	151%
180+	84%	80%	88%	110%
Total	90%	84%	112%	133%

Table VI.b shows that the higher claim incidence for policies with lifetime benefits occurs in both Medical (28% higher) and Non-medical occupations (33% higher). The Non-medical occupations show smaller differences in claim incidence ratios between short-term and To Age 65-70 benefit periods, except at the Under 30 Day elimination periods, where there is higher claim incidence for the short-term benefit periods.

Table IV.c in Section IV compares A/E claim termination ratios for A&S contracts between short-term benefit periods and long-term benefit periods. Table VI.c below shows A/E claim termination rates with long-term A&S claims split between To Age 65-70 and Lifetime benefit periods.

<p style="text-align: center;"><u>Table VI.c</u> A/E Claim Termination Ratios (by Amount) A&S by Benefit Period, Occupation Class 1 Only Study Period 1/1/1990 to 12/31/1999</p>				
Duration of Disablement	Short-term	To Age 65-70	Lifetime	Lifetime/ To Age 65-70
Quarter 1	50%	27%	24%	89%
Quarter 2	59%	35%	34%	97%
Quarter 3	72%	49%	45%	92%
Quarter 4	88%	62%	58%	94%
Quarter 5	99%	68%	52%	76%
Quarter 6	116%	82%	76%	93%
Quarter 7	160%	100%	92%	92%
Quarter 8	185%	120%	101%	84%
Year 3	165%	110%	98%	89%
Year 4 – 5	186%	101%	84%	83%
Years 6 - 10	127%	98%	91%	93%
Years 11+		83%	80%	96%

The lower A/E claim termination ratios associated with lifetime benefits are clearly evident for all durations of disablement in Occupation Class 1, particularly after the first year of disablement.

Cost-of-living Adjustment (COLA) Benefits

COLA benefit riders annually increase the base benefit during a period of disablement. The increases are based on a fixed rate or the U.S. inflation rate (CPI-U) subject to maximum amounts. This study looks at the differences in claim incidence and claim termination rates between policies and claims with and without COLA riders.

The IDEC was not able to collect data on the annual percentage increases among the various COLA benefit riders or on type of COLA increase (fixed or based on the Consumer Price Index). Thus, the experience of all types of COLA benefit riders was combined for the purpose of this study.

Table VI.d compares the A/E claim incidence ratios (by amount) for A&S contracts with long-term benefit periods between those that have COLA riders and those that don't. COLA riders are generally not available on policies with short-term benefit periods.

<u>Table VI.d</u> A/E Claim Incidence Ratios (by Amount) A&S Contracts with Long-term Benefit Periods With and Without COLA Benefits Study Period 1/1/1990 to 12/31/1999 (* Insufficient experience for measuring incidence)				
Elimination Period (Days)	Occupation Class 1			
	To Age 65-70		Lifetime Benefits	
	Without COLA	With COLA	Without COLA	With COLA
Under 30	66%	45%	87%	*
30	90%	94%	98%	111%
60	68%	77%	88%	92%
90	119%	128%	168%	185%
180+	101%	101%	128%	148%
Total	97%	107%	127%	146%
Elimination Period (Days)	Occupation Class 2-4			
	To Age 65-70		Lifetime Benefits	
	Without COLA	With COLA	Without COLA	With COLA
Under 30	33%	48%	75%	*
30	62%	62%	95%	54%
60	50%	43%	61%	53%
90	79%	77%	116%	174%
180+	89%	64%	138%	224%
Total	64%	63%	93%	98%

In Occupation Class 1, the presence of COLA appears to have a significant impact on incidence rates, especially with lifetime benefits.

Table VI.e shows that the presence of COLA benefits lowers the claim termination rates in all durations for Occupation Class 1.

<p style="text-align: center;"><u>Table VI.e</u> A/E Claim Termination Ratios (by Amount) A&S Claims with Long-term Benefit Periods – Occupation Class 1 Study Period 1/1/1990 to 12/31/1999</p>				
Duration of Disablement	To Age 65-70 Benefit Periods		Lifetime Benefit Periods	
	Without COLA	With COLA	Without COLA	With COLA
Quarter 1	30%	24%	26%	22%
Quarter 2	39%	31%	38%	31%
Quarter 3	54%	45%	49%	40%
Quarter 4	67%	62%	64%	51%
Quarter 5	73%	61%	57%	47%
Quarter 6	88%	71%	75%	75%
Quarter 7	109%	88%	99%	86%
Quarter 8	135%	98%	109%	91%
Year 3	123%	95%	106%	87%
Year 4 – 5	110%	98%	86%	82%
Years 6 - 10	116%	83%	101%	84%

The presence of both COLA and lifetime benefits in claims produces a severe dampening effect on claim terminations in all durations, except for claim duration in years 6-10 where the benefit period doesn't appear to materially affect the claim terminations when COLA is present.

Social Insurance Supplement Benefits

Social Insurance Supplement (SIS) riders are optional benefits offered by most IDI carriers. These riders allow the contracts to integrate with Social Security, Worker's Compensation and other social insurance disability benefits. In general, base IDI contracts do not integrate with social insurance disability benefits.

IDI carriers will typically offer higher issue and participation limits (i.e., the maximum benefits that can be purchased relative to an applicant's earned income) when an SIS rider is purchased. However, many carriers have allowed their professional and executive occupation classes to purchase the higher level of benefits without requiring the addition of an SIS rider.

A common SIS rider will pay the rider's monthly benefit if the claimant does not qualify for social insurance disability benefits and pay a portion, or no benefit, if the claimant does qualify for social insurance disability benefits. Other SIS riders simply offset the rider benefit dollar-for-dollar with any social insurance disability benefits received.

Table VI.f compares claim incidence rates with and without SIS riders. It shows the A/E claim incidence ratios for policies with SIS riders divided by the A/E claim incidence ratios for policies without SIS riders.

Table VI.f Comparison of A/E Claim Incidence Ratios (by Amount) – A&S Contracts With SIS Riders/Without SIS Riders Study Period:1/1/1990 – 12/31/1999						
Attained Age	Long-term Benefit Periods					
	Occupation Class 1			Occupation Classes 2-4		
	Elimination Period Under 90 Days	Elimination Period 90+ Days	All Elimination Periods	Elimination Period Under 90 Days	Elimination Period 90+ Days	All Elimination Periods
<30	95%	84%	90%	100%	83%	93%
30-39	70%	90%	74%	102%	83%	99%
40-49	91%	95%	89%	102%	83%	97%
50-59	91%	85%	84%	96%	89%	97%
60-64	99%	85%	88%	95%	89%	93%
Attained Age	Short-term Benefit Periods					
	Occupation Class 1			Occupation Classes 2-4		
	Elimination Period Under 90 Days	Elimination Period 90+ Days	All Elimination Periods	Elimination Period Under 90 Days	Elimination Period 90+ Days	All Elimination Periods
<30	92%	59%	83%	123%	106%	122%
30-39	90%	86%	90%	106%	92%	107%
40-49	92%	83%	91%	107%	90%	107%
50-59	100%	96%	102%	97%	91%	98%
60-64	116%	149%	131%	82%	99%	92%

For the most part in Occupation Class 1, the A/E incidence ratios for policies with SIS riders are consistently lower than those for policies without SIS riders. Since insureds in Occupation Class 1 were not generally required by IDI carriers to purchase SIS riders to obtain the higher amounts of monthly benefit, those who chose the SIS riders may have been less likely to anti-select against the companies.

In Occupation Classes 2-4, there are more occurrences where the A/E incidence ratios for policies with SIS riders are higher than those for policies without SIS riders. These cases are more evident at attained ages under 50 and the short-term benefit periods.

Section VII: Incidence and Termination Experience by Occupation

Most contributors were able to assign specific occupation codes to their policies and claims. Although there is no consistent coding system for occupations, the IDEC manually reviewed the occupational codes of the contributors and assigned them into the following occupations:

Medical Occupations

Chiropractors
Dentists
Nurses
Physicians & Surgeons
Podiatrists
Psychologists & Psychiatrists
Pharmacists
Veterinarians
Other Medical Occupations

Non-medical Occupations

Accountants & Actuaries
Engineers & Architects
Executives & Managers
Insurance Sales
Lawyers
Other Sales
Stockbrokers & Commodity Traders
Teachers
Other Occupations

The “Other Occupation” category consists mainly of occupations not included in the specific occupation groups. Since some contributors were not able to identify their policies and claims by occupation or at least not in this level of detail, the “Other Occupations” also includes policies that would have otherwise fallen in the specified occupations.

Incidence Experience by Occupation

Table VII.a shows the percent of the A&S and OE exposure in terms of count and amount represented by the occupational groups. The average amount for each occupation is also provided. Physicians and Surgeons comprise the largest segment in both A&S and OE policies, followed by executives and managers.

Table VII.a Percent of Total Exposure and Average Amount per Policy By Occupation						
Occupational	A&S Policies			OE Policies		
	Policies	Amount	Average Amount/Policy	Policies	Amount	Average Amount/Policy
Physicians & Surgeons	17%	29%	3,681	33%	46%	7,424
Executives & Managers	12%	14%	2,663	3%	3%	6,044
Lawyers	7%	8%	2,562	9%	8%	4,892
Other Sales	4%	4%	1,980	1%	1%	3,856
Dentists	4%	4%	2,506	18%	17%	5,198
Accountants & Actuaries	3%	2%	1,832	2%	2%	4,441
Insurance Sales	3%	2%	1,735	4%	2%	2,593
Engineers & Architects	2%	2%	1,942	1%	1%	5,080
Other Medical Occupations	2%	2%	1,906	4%	4%	5,068
Psychologists, etc.	1%	1%	2,550	2%	1%	2,997
Nurses	2%	1%	1,473	0%	0%	3,615
Stockbrokers & Commodity Traders	1%	1%	3,934	0%	0%	5,496
Pharmacists	1%	1%	1,885	1%	1%	5,052
Chiropractors	1%	1%	2,676	3%	2%	4,595
Teachers	1%	1%	1,117	0%	0%	2,639
Veterinarians	1%	1%	2,061	2%	2%	5,545
Podiatrists	0%	0%	2,687	2%	1%	4,871
Other	41%	27%	1,462	16%	9%	3,140
Total	100%	100%	2,196	100%	100%	5,382

The average A/E claim incidence ratios (by amount) by occupation for A&S and OE policies are provided in Table VII.b.

<p style="text-align: center;">Table VII.b A/E Claim Incidence Ratios (by Amount) By Occupation Study Period: 1/1/90 to 12/31/99 (* Insufficient experience for measuring incidence)</p>		
Occupation	A&S Policies	OE Policies
Physicians & Surgeons	121%	68%
Executives & Managers	76%	65%
Lawyers	81%	51%
Other Sales	93%	61%
Dentists	111%	61%
Accountants & Actuaries	70%	53%
Insurance Sales	118%	78%
Engineers & Architects	60%	42%
Other Medical Occupations	92%	62%
Psychologists, etc.	88%	54%
Nurses	112%	*
Stockbrokers & Commodity Traders	150%	69%
Pharmacists	91%	37%
Chiropractors	229%	136%
Teachers	62%	*
Veterinarians	99%	51%
Podiatrists	166%	92%
Other	74%	55%
Total	91%	65%

It is interesting to note that three of the occupation groups presenting the highest A/E Claims Incidence Ratios (Stockbrokers & Commodity Traders, Chiropractors and Podiatrists) are also exhibiting some of the highest average amount/policy.

To appropriately compare the claim incidence and termination experience of each occupational grouping, it is necessary to take into account the 85 CIDA occupational class assignments since each class has distinct expected incidence rates. Companies are not uniform in their classification of occupations into the 85 CIDA occupation classes. Companies often refine occupational definitions based on income, educational attainment or the existence of manual duties and, as a result, assign certain occupations to more than one class. Also, companies have occasionally moved occupations to higher or lower classes depending upon their claim experience.

Table VII.c shows how the various occupational groups are distributed among the 85 CIDA occupation classes within the study.

<p style="text-align: center;"><u>Table VII.c</u> Distribution of Exposure (by Amount) Among the 85 CIDA Occupation Classes Within Occupational Groups A&S and OE Policies Combined</p>					
Occupational Group	Occ Class 1	Occ Class 2	Occ Class 3	Occ Class 4	Total
Physicians & Surgeons	99%	1%	0%	0%	100%
Executives & Managers	97%	2%	1%	0%	100%
Lawyers	100%	0%	0%	0%	100%
Other Sales	91%	6%	2%	0%	100%
Dentists	91%	10%	0%	0%	100%
Accountants & Actuaries	99%	1%	0%	0%	100%
Insurance Sales	97%	3%	1%	0%	100%
Engineers & Architects	98%	2%	1%	0%	100%
Other Medical Occupations	85%	13%	1%	0%	100%
Psychologists, etc.	96%	3%	0%	0%	100%
Nurses	65%	31%	3%	0%	100%
Stockbrokers & Commodity Traders	94%	6%	0%	0%	100%
Pharmacists	96%	3%	1%	0%	100%
Chiropractors	72%	23%	5%	0%	100%
Teachers	88%	11%	2%	0%	100%
Veterinarians	97%	3%	1%	0%	100%
Podiatrists	97%	3%	0%	0%	100%
Other	78%	10%	8%	4%	100%
Total	92%	5%	2%	1%	100%

The selected occupations are primarily Occupation Class 1 risks, although most have some representation in the other three 85 CIDA occupation classes.

Table VII.d shows the distribution of the exposure by occupational grouping within each 85 CIDA occupational class.

<p style="text-align: center;"><u>Table VII.d</u> Distribution of Exposure (By Amount) Among the Occupational Groups Within 85 CIDA Occupation Class A&S and OE Policies Combined</p>				
Occupational Group	Occ Class 1	Occ Class 2	Occ Class 3	Occ Class 4
Physicians & Surgeons	34%	5%	0%	0%
Executives & Managers	14%	5%	3%	2%
Lawyers	9%	0%	0%	0%
Other Sales	4%	5%	3%	2%
Dentists	6%	11%	0%	0%
Accountants & Actuaries	2%	1%	0%	0%
Insurance Sales	2%	1%	1%	0%
Engineers & Architects	2%	1%	0%	0%
Other Medical Occupations	2%	5%	1%	0%
Psychologists, etc.	1%	1%	0%	0%
Nurses	1%	7%	1%	0%
Stockbrokers & Commodity Traders	1%	1%	0%	0%
Pharmacists	1%	0%	0%	0%
Chiropractors	1%	4%	2%	0%
Teachers	1%	1%	0%	0%
Veterinarians	1%	0%	0%	0%
Podiatrists	1%	0%	0%	0%
Other	21%	51%	88%	95%
Total	100%	100%	100%	100%

The “Other” group represents a growing percent of each 85 CIDA occupation class, 21% of Class 1 increasing to 95% of Class 4.

Table VII.e shows the average A/E claim incidence ratios by specific occupations (split between Medical and Non-medical) for Occupation Class 1.

Table VII.e A/E Claim Incidence Ratios (by Amount) – By Occupation A&S Contracts – Occupation Class 1 Study Period 1/1/1990 to 12/31/1999			
	Medical Occupations		
	Under 90 Days	90+ Days	Total
Physicians & Surgeons	84%	155%	122%
Dentists	94%	186%	121%
Psychologists, etc.	64%	124%	91%
Nurses	117%	157%	130%
Pharmacists	75%	128%	95%
Chiropractors	208%	583%	289%
Veterinarians	85%	142%	105%
Podiatrists	112%	334%	169%
Other Medical Occupations	80%	141%	99%
Total Medical Occupations	88%	158%	121%
	Non-medical Occupations		
	Under 90 Days	90+ Days	Total
Executives & Managers	73%	79%	77%
Lawyers	63%	95%	81%
Other Sales	98%	110%	104%
Accountants	63%	79%	71%
Engineers	58%	64%	61%
Insurance Sales	102%	154%	124%
Stockbrokers	102%	180%	151%
Teachers	60%	66%	63%
Other Occupations	84%	101%	90%
Total Non-medical Occupations	80%	95%	87%
Total All Occupations	84%	121%	102%

Table VII.f shows the average A/E claim incidence ratios by specific occupations (split between Medical and Non-medical) for Occupation Classes 2-4 combined.

Table VII.f A/E Claim Incidence Ratios (by Amount) – By Occupation A&S Contracts – Occupation Class 2-4 Combined Study Period 1/1/1990 to 12/31/1999			
	Medical Occupations		
	Under 90 Days	90+ Days	Total
Physicians & Surgeons	56%	76%	66%
Dentists	39%	59%	47%
Psychologists, etc.	46%	52%	48%
Nurses	84%	115%	93%
Pharmacists	50%	50%	50%
Chiropractors	98%	218%	136%
Veterinarians	44%	108%	55%
Podiatrists	77%	65%	71%
Other Medical Occupations	63%	107%	76%
Total Medical Occupations	68%	100%	79%
	Non-medical Occupations		
	Under 90 Days	90+ Days	Total
Executives & Managers	56%	68%	61%
Lawyers	52%	55%	52%
Other Sales	61%	64%	62%
Accountants	59%	54%	58%
Engineers	51%	49%	50%
Insurance Sales	71%	115%	79%
Stockbrokers	95%	166%	139%
Teachers	60%	51%	57%
Other Occupations	57%	68%	58%
Total Non-medical Occupations	57%	69%	59%
Total All Occupations	58%	75%	61%

Termination Experience by Occupation

Table VII.g compares the A/E claim termination ratios (by amount) for A&S contracts by specific occupations within Occupation Class 1. The comparison is limited to claims with long-term benefit periods (i.e., To Age 65 or longer).

Table VII.g A/E Claim Termination Ratios (by Amount) by Occupation A&S Contracts – Occupation Class 1 – Long-term Benefit Periods Study Period 1/1/1990 to 12/31/1999 (* Insufficient experience for measuring terminations)						
	Duration of Disablement					
	Year 1	Year 2	Year 3	Years 4-5	Years 6-10	Years 11+
Physicians & Surgeons	36%	68%	91%	80%	72%	62%
Podiatrists	25%	47%	54%	39%	65%	*
Dentists	41%	66%	84%	75%	63%	54%
Chiropractors	22%	56%	60%	57%	86%	*
Nurses	57%	82%	137%	91%	161%	*
Pharmacists	55%	94%	162%	88%	132%	*
Psychologists	35%	83%	106%	154%	167%	166%
Veterinarians	55%	91%	110%	28%	48%	*
Other Medical Occupations	42%	59%	83%	65%	84%	63%
Total Medical Occupations	38%	68%	90%	82%	76%	66%
Lawyers	38%	90%	132%	116%	131%	96%
Executives & Managers	38%	93%	137%	113%	120%	81%
Engineers & Architects	41%	124%	165%	83%	116%	*
Accountants & Actuaries	42%	117%	134%	140%	77%	*
Insurance Sales	38%	109%	126%	131%	113%	81%
Stockbrokers & Commodity Traders	26%	65%	63%	97%	114%	*
Other Sales	43%	90%	128%	100%	113%	126%
Teachers	56%	106%	182%	110%	179%	*
Others	39%	83%	116%	109%	112%	107%
Total Non-medical Occupations	39%	89%	124%	111%	115%	98%
All Occupations	38%	78%	106%	95%	95%	82%

Among the Medical occupations, certain occupations such as nurses, pharmacists and psychologists have noticeably better claim termination experience than the other specific Medical occupations. Among the Non-medical occupations, stockbrokers and commodity traders have noticeably worse claim termination experience than the other specific Non-medical occupations.

Section VIII: Geographic Differences in Incidence and Termination Experience

This section looks at differences in claim incidence and termination experience among key states (California, Florida and All Others) and geographic regions in the U.S. The analysis by geographic differences has been limited to A&S contracts only.

Claim Incidence Experience by Key States

Table VIII.a shows the relative exposure by amount among California, Florida and All Other states and their respective A/E claim incidence ratios (by amount) over the 1990-99 study period.

Table VIII.a 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%	119%	138%
Florida	6%	109%	127%
All Other	83%	86%	100%
Total	100%	91%	106%

The A/E claim incidence ratios for California and Florida are 25-40% higher than All Other states, which is consistent with the results that have been described by many companies over the years.

Table VIII.b breaks the A/E claim incidence ratios by Key State into occupation class and elimination period subgroups.

<u>Table VIII.b</u> A/E Claim Incidence Ratios (by Amount) - By Key State By Occupation Class and Elimination Period Study Period: 1/1/1990 – 12/31/1999			
Elimination Period (Days)	Occupation Class 1		
	California	Florida	All Other
<30	151%	100%	123%
30	113%	86%	86%
60	97%	88%	65%
90	161%	166%	116%
180+	133%	150%	96%
Total	128%	122%	96%
Elimination Period (Days)	Occupation Class 2-4		
	California	Florida	All Other
<30	71%	49%	55%
30	85%	49%	61%
60	69%	42%	46%
90	117%	68%	69%
180+	125%	67%	82%
Total	86%	51%	59%

Table VIII.b shows that the California A/E claim incidence ratios are consistently worse than the All Other states by elimination period and occupation class. In comparison, the Florida A/E claim incidence ratios are only worse than All Other states in Occupation Class 1 with elimination periods greater than 30 days.

Table VIII.c compares the A/E Claim incidence ratios by key state within issue year groups.

<u>Table VIII.c</u> A/E Claim Incidence Ratios (by Amount) A&S Contracts - By Key State By Occupation Class and Issue Year Study Period: 1/1/1990 – 12/31/1999			
Issue Year	Occupation Class 1		
	California	Florida	All Other
Prior to 1990	123%	122%	97%
1990 - 92	138%	121%	98%
1993 - 95	140%	138%	96%
1996 & later	90%	80%	70%
Total	128%	122%	96%
Issue Year	Occupation Class 2-4		
	California	Florida	All Other
Prior to 1990	77%	50%	58%
1990 - 92	101%	61%	60%
1993 - 95	140%	44%	63%
1996 & later	110%	43%	59%
Total	86%	51%	59%

The relative differences between the A/E claim incidence ratios for California and Florida and those for All Other states in Occupation Class 1 appear to have narrowed considerably for business issued in 1996 and later. This may be due in large part to the tighter underwriting implemented in those states. The relative differences between the A/E claim incidence ratios for California and those for All Other states for Occupation Classes 2-4 do not appear to have narrowed. In comparison, the Florida A/E claim incidence ratios for Occupation Classes 2-4 are for the most part lower than those for All Other states.

Claim Termination Experience by Key State

Table VIII.d compares the average A/E claim termination ratios by key state.

<u>Table VIII.d</u> A/E Claim Termination Ratios (by Amount) By Key State Study Period: 1/1/1990 – 12/31/1999			
Year of Disablement	Occupation Class 1		
	California	Florida	All Other
Year 1	37%	28%	44%
Year 2	88%	89%	85%
Year 3	109%	124%	129%
Year 4-5	112%	75%	104%
Year 6+	107%	67%	94%
Year of Disablement	Occupation Class 2-4		
	California	Florida	All Other
Year 1	47%	46%	61%
Year 2	108%	64%	101%
Year 3	168%	132%	148%
Year 4-5	135%	131%	127%
Year 6+	75%	125%	154%

In the first year of disablement, termination rates for both California and Florida are significantly lower than termination rates for All Other states. After the first year, California claim termination rates are more in line with the termination rates for All Other states (except for years 6+ for Occupation Classes 2-4), even exceeding them in years 4 and later for Occupation Class 1. On the other hand, the Florida termination rates are generally lower in all durations than the termination rates for California and All Other states.

Claim Incidence Experience by Geographic Region – “All Other” states

The prior tables analyzed the claim incidence and terminations by key states, singling out CA and FL while combining all the other states. For the purpose of this incidence study, we have split the other states into the following 6 regions:

Geographic Regions – “All Other” states

<u>Midwest</u>	<u>Mountain</u>	<u>Northeast</u>	<u>Southeast</u>	<u>Southwest</u>	<u>West</u>
AR	CO	CT	AL	AZ	AK
IA	ID	DC	GA	NM	HI
IL	MT	DE	KY	OK	OR
IN	NV	MA	LA	TX	WA
KS	UT	MD	MS		
MI	WY	ME	NC		
MN		NH	SC		
MO		NJ	TN		
ND		NY	VA		
NE		PA	WV		
OH		RI			
SD		VT			
WI					

Table VIII.e compares the A/E claim incidence rates by geographic region for “All Other” states.

<p align="center"><u>Table VIII.e</u> A/E Claim Incidence Ratios (by Amount) By Geographic Region – “All Other” states Study Period: 1/1/1990 – 12/31/1999</p>						
Issue Year	Occupation Class 1					
	Midwest	Mountain	Northeast	Southeast	Southwest	West
Prior to 1990	85%	91%	95%	87%	98%	77%
1990 - 92	78%	96%	91%	78%	117%	75%
1993 - 95	69%	80%	92%	80%	85%	81%
1996 & later	57%	64%	74%	50%	44%	72%
Total	80%	90%	93%	82%	100%	77%
Issue Year	Occupation Classes 2-4					
	Midwest	Mountain	Northeast	Southeast	Southwest	West
Prior to 1990	50%	57%	68%	56%	56%	50%
1990 - 92	46%	51%	75%	52%	63%	51%
1993 - 95	43%	63%	76%	56%	58%	51%
1996 & later	39%	53%	73%	39%	69%	41%
Total	48%	56%	70%	54%	58%	50%

The range of A/E claim incidence ratios by the regions defined above do not vary as much as the ratios do in the key state comparison. Generally, the Midwest and West regions have the lowest overall claim incidence, and the Northeast and Southwest have the highest overall claim incidence.

Section IX: Incidence and Termination Experience by Market

Many contributors were able to separate their experience into three distinct markets:

1. Individual Market – Policies are sold to individuals with no employer or association/affinity sponsorship.
2. Employer Sponsored Market – Policies are sold to individuals through some form of employer sponsorship. The premiums for this business can be paid by employers, employees or shared between employers and employees.
3. Association Market – Policies are sold to individuals through sponsorship by professional associations or affinity groups.

This section examines the difference in claim incidence and termination experience in these three markets. The scope of the discussion is limited to A&S contracts.

Distribution of Exposure by Market and Occupation Class

Table IX.a shows the distribution of exposures (by amount) among the markets within the occupation classes. Note that some study contributors were unable to separate their experience by market and thus 12% of the total exposure has been assigned to the Unknown Market category.

Table IX.a Distribution of Exposure (by Amount) by Market and Occupation Class A&S Contracts Only Study Period: 1/1/1990 – 12/31/1999					
Occupation Class	Individual	Employer Sponsored	Association	Unknown	Total
Class 1	53%	28%	8%	11%	100%
Class 2	52%	13%	3%	32%	100%
Class 3	64%	8%	1%	27%	100%
Class 4	59%	10%	0%	31%	100%
Total	53%	27%	8%	12%	100%

Table IX.b shows the distribution of exposures (by amount) among the occupation classes among the Individual, Employer Sponsored and Association Markets, excluding the unknowns.

Table IX.b Distribution of Exposure (by Amount) by Market and Occupation Class Unknown Market Excluded - A&S Contracts Only Study Period: 1/1/1990 – 12/31/1999				
Occupation Class	Individual	Employer Sponsored	Association	Total
Class 1	59%	32%	9%	100%
Class 2	77%	19%	4%	100%
Class 3	87%	11%	2%	100%
Class 4	85%	14%	1%	100%
Total	61%	31%	8%	100%

Table IX.b shows that among the contributors that could identify the markets, 61% of the contributors is in the Individual Market, 31% is in the Employer Sponsored Market, and 8% is in the Association Market. In Occupation Classes 2-4, the percentage of the contributors in the Individual Market is much higher.

Table IX.c shows the distribution of exposures (by amount) among the occupation classes within the markets.

Table IX.c Distribution of Exposure (by Amount) - By Occupation Class Within Market A&S Contracts Only Study Period: 1/1/1990 – 12/31/1999					
Occupation Class	Individual	Employer Sponsored	Association	Unknown	Total
Class 1	92%	93%	94%	91%	92%
Class 2	3%	4%	4%	5%	5%
Class 3	4%	2%	2%	2%	3%
Class 4	1%	1%	1%	1%	1%
Total	100%	100%	100%	100%	100%

Claim Incidence Experience by Market

Table IX.d provides the A/E claim incidence ratios by market and occupation class.

Table IX.d A/E Claim Incidence Ratios (by Amount) by Market and Occupation Class A&S Contracts Only Study Period: 1/1/1990 – 12/31/1999					
Occupation Class	Individual	Employer Sponsored	Association	Unknown	Total
Class 1	104%	86%	141%	96%	102%
Class 2	66%	44%	92%	73%	68%
Class 3	47%	41%	101%	64%	53%
Class 4	61%	45%	78%	75%	66%
Total	91%	82%	137%	85%	91%

From Table IX.d, the Employer Sponsored Market has consistently the lowest A/E claim incidence ratios, while the Association Market has consistently the highest ratios. The Employer Sponsored overall A/E claim incidence ratio is 90% of the Individual overall ratio, the Association ratio is 151% of the Individual overall ratio.

The remaining incidence analysis by market concentrates on Occupation Class 1. Table IX.e shows the average A/E claim incidence ratios by market and elimination period, split between Non-medical and Medical occupations.

Table IX.e A/E Claim Incidence Ratios (by Amount) by Market and Elimination Period A&S Contracts Only – Occupation Class 1 Non-medical vs. Medical Occupations Study Period: 1/1/1990 – 12/31/1999					
Elimination Period	Individual	Employer Sponsored	Association	Unknown	Total
	Non-medical Occupations				
EP<90	78%	50%	157%	74%	80%
EP>=90	108%	63%	104%	122%	95%
All EP	92%	59%	145%	90%	87%
	Medical Occupations				
EP<90	89%	84%	91%	88%	88%
EP>=90	169%	137%	172%	168%	158%
All EP	123%	120%	138%	106%	121%
	All Occupations				
EP<90	83%	66%	128%	79%	84%
EP>=90	131%	95%	157%	136%	121%
All EP	104%	86%	141%	96%	102%

The favorable claim incidence experience in the Employer Sponsored Market compared to the Individual Market is evident in Table IX.e. For all elimination periods combined, the A/E claim incidence ratio for Non-medical occupations in the Employer Sponsored Market is 64% of the corresponding ratio in the Individual Market; whereas for the Medical occupations, the A/E claim incidence ratio in the Employer Sponsored Market is 98% of the corresponding ratio in the Individual Market. Looking just at the elimination periods of 90 days or longer, the A/E claim incidence ratio for the Non-medical occupations in the Employer Sponsored Market is 58% of the corresponding ratio in the Individual Market; whereas for the Medical occupations, the A/E claim incidence ratio in the Employer Sponsored Market is 81% of the ratio in the Individual Market.

The claim incidence experience in the Association Market is overall significantly worse than the claim incidence experience in the Individual Market. The differences between Medical and Non-medical experience in the Association Market is much narrower than the respective differences in the Individual market.

Table IX.f compares the annual trends in the A/E claim incidence ratios between the Individual Market and the Employer Sponsored Market from 1990 to 1999. The comparison is split between elimination periods under 90 days and elimination periods of 90 days and over, and between Medical and Non-medical occupations.

Table IX.f
A/E Claim Incidence Ratio Trends (by Amount) by Market and Elimination Period
A&S Contracts Only – Occupation Class 1
Non-medical vs. Medical Occupations
Study Period: 1/1/1990 – 12/31/1999

Year	Elimination Periods Under 90 Days					
	Medical Occupations			Non-medical Occupations		
	Individual	Employer Sponsored	Employer Sponsored/ Individual	Individual	Employer Sponsored	Employer Sponsored/ Individual
1990	101%	64%	63%	96%	61%	64%
1991	98%	74%	76%	97%	51%	53%
1992	97%	82%	85%	92%	56%	61%
1993	100%	100%	100%	88%	50%	57%
1994	91%	98%	108%	83%	51%	61%
1995	89%	93%	104%	73%	52%	71%
1996	83%	82%	99%	73%	47%	64%
1997	79%	83%	105%	59%	43%	73%
1998	77%	83%	108%	53%	38%	72%
1999	72%	76%	106%	49%	39%	80%
Overall	89%	84%	94%	78%	50%	64%
Year	Elimination Periods 90 Days & Over					
	Medical Occupations			Non-medical Occupations		
	Individual	Employer Sponsored	Employer Sponsored/ Individual	Individual	Employer Sponsored	Employer Sponsored/ Individual
1990	144%	119%	83%	134%	75%	56%
1991	179%	115%	64%	134%	69%	51%
1992	159%	131%	82%	118%	68%	58%
1993	175%	154%	88%	117%	74%	63%
1994	187%	150%	80%	123%	68%	55%
1995	173%	149%	86%	113%	61%	54%
1996	178%	141%	79%	99%	61%	62%
1997	170%	148%	87%	92%	61%	66%
1998	157%	123%	78%	86%	56%	65%
1999	150%	123%	82%	84%	49%	58%
Overall	169%	137%	81%	108%	63%	58%

For the Non-medical occupations, Table IX.f shows a slight narrowing in the differences in the A/E claim incidence ratios during the more recent years between Employer Sponsored and Individual Markets. This trend is more the result of improving incidence experience in the Individual Market rather than worsening experience in the Employer Sponsored Market.

For the Medical occupations with the lower elimination periods (under 90 days), the relationship between A/E incidence ratios for the Employer Sponsored Market and the Individual Market has reversed itself, with the Employer Sponsored Market generally having higher A/E claim incidence ratios after 1993. For Medical occupations with the higher elimination periods, the A/E claim incidence ratios between the Individual Market and the Employer Sponsored Market have bounced around the average 81% from year to year with no obvious trend.

Table IX.g looks at the impact of a lifetime benefit period on the average A/E claim incidence ratios for the various markets split between Medical occupations and Non-medical occupations.

Table IX.g A/E Claim Incidence Ratio Trends (by Amount) by Market and Elimination Period A&S Contracts Only – Occupation Class 1 – To Age 65-70 Benefit Periods Only Non-medical vs. Medical Occupations Study Period: 1/1/1990 – 12/31/1999						
Market	Elimination Periods Under 90 Days					
	Medical Occupations			Non-medical Occupations		
	To Age 65-70	Lifetime	Lifetime/To Age 65-70	To Age 65-70	Lifetime	Lifetime/To Age 65-70
Individual	86%	113%	131%	79%	89%	113%
ER Sponsored	85%	107%	126%	52%	56%	108%
Association	92%	96%	104%	78%	52%	67%
Unknown	97%	77%	79%	75%	96%	128%
Total	88%	105%	119%	74%	87%	118%
Market	Elimination Periods 90 Days & Over					
	Medical Occupations			Non-medical Occupations		
	To Age 65-70	Lifetime	Lifetime/To Age 65-70	To Age 65-70	Lifetime	Lifetime/To Age 65-70
Individual	162%	226%	140%	106%	143%	135%
ER Sponsored	138%	168%	122%	62%	89%	144%
Association	168%	220%	131%	105%	127%	121%
Unknown	170%	172%	101%	115%	198%	172%
Total	155%	205%	132%	92%	136%	148%

Table IX.g shows that the higher incidence associated with lifetime benefit periods observed in Section VI exists in almost all market and occupational groupings.

Claim Termination Experience by Market

Table IX.h compares the A/E claim termination ratios by market. The results for Occupation Class 1 are split between Medical and Non-medical occupations.

<p style="text-align: center;"><u>Table IX.h</u> A/E Claim Termination Ratios (by Amount) <u>A&S Contracts Only – By Market</u> Study Period: 1/1/1990 – 12/31/1999 (* Insufficient experience for measuring terminations)</p>						
Duration of Disablement	Occupation Class 1 - Medical Occupations					Ratio Employer Sponsored/ Individual
	Individual	Employer Sponsored	Association	Unknown	Total	
Year 1	42%	35%	33%	43%	39%	83%
Year 2	73%	69%	66%	80%	72%	95%
Year 3	101%	74%	100%	79%	92%	73%
Year 4	88%	77%	69%	75%	81%	88%
Year 5	91%	89%	78%	70%	87%	98%
Years 6 - 10	88%	66%	56%	49%	75%	75%
Years 11+	69%	36%	193%	49%	64%	52%
Duration of Disablement	Occupation Class 1 - Non-medical Occupations					Ratio Employer Sponsored/ Individual
	Individual	Employer Sponsored	Association	Unknown	Total	
Year 1	43%	42%	75%	38%	45%	98%
Year 2	96%	86%	99%	102%	95%	90%
Year 3	138%	106%	195%	117%	131%	77%
Year 4	113%	119%	148%	128%	117%	105%
Year 5	131%	86%	123%	128%	123%	66%
Years 6 - 10	118%	110%	149%	105%	115%	93%
Years 11+	100%	77%	318%	88%	95%	77%
Duration of Disablement	Occupation Classes 2-4					Ratio Employer Sponsored/ Individual
	Individual	Employer Sponsored	Association	Unknown	Total	
Year 1	58%	65%	91%	62%	60%	112%
Year 2	115%	55%	144%	93%	105%	48%
Year 3	192%	168%	26%	127%	163%	88%
Year 4	157%	139%	121%	119%	140%	89%
Year 5	154%	167%	127%	105%	134%	108%
Years 6 - 10	184%	84%	127%	92%	138%	46%
Years 11+	202%	60%	127%	97%	154%	30%

For Medical occupations in Occupation Class 1, claim termination experience in the Employer Sponsored Market is generally lower than in the Individual Market in all years of disablement. This observation can be seen in general in the Non-medical occupations,

except the claim termination experience for the Association Market is somewhat below that of the Employer Sponsored Market in the first two years of disablement.

Two possible reasons why the claim termination experience for Occupation Class 1 is lower in the Employer Sponsored Market are:

- a. The significantly lower claim incidence in the Employer Sponsored Market (see Table IX.e) suggests that the typical claims in this market may be more severe or long-term. Higher claim incidence often is associated with more short-term claims.
- b. Claimants in the Employer Sponsored Market may be more likely have additional disability benefits from other sources (e.g., group LTD coverage).

Relative differences in claim termination rates by market on Occupation Classes 2-4 are not as consistent as in Occupation Class 1. During the first two years of disablement, claim termination experience for Occupation Classes 2-4 in the Employer Sponsored Market is somewhat better than in the Individual Market, but reverses in disablement years 3+.

Section X: Claim Incidence Experience by Underwriting Type

This section analyzes differences in claim incidence experience related to different types of underwriting. The specific types of underwriting that are reviewed are as follows:

- Traditional underwriting – this involves regular medical underwriting with no guaranteed issue rules applied.
- Guaranteed standard issue (GSI) underwriting– this involves issuing policies to employer sponsored cases on a standard basis to all applications under a specified monthly amount limit. Given the time period of the study, we expect that a large percentage of the GSI underwriting involves 100% participation of all eligible employees within each case. However, there is probably some portion of voluntary GSI included. Unfortunately, most contributors were unable to distinguish between the two types of GSI underwriting in their data.
- Guaranteed to issue (GTI) underwriting – this involves traditional underwriting of policies in employer sponsored cases, with a guarantee that policies will be issued to eligible employees, albeit possibly rated or with waived impairments.
- Guaranteed insurability (GI) underwriting – this involves issuing coverage as a result of electing options within guaranteed insurability riders.

Claim Incidence Experience for Traditional Underwriting

Table X.a compares A/E claim incidence ratios (by amount) for business issued via traditional underwriting among the various markets.

<p style="text-align: center;">Table X.a A/E Claim Incidence Ratios (by Amount) – A&S Contracts only Traditional Underwriting by Market Study Period: 1/1/1990 – 12/31/1999</p>					
Policy Year	Individual	Employer Sponsored	Association	Unknown	Total
1	65%	49%	123%	101%	72%
2	78%	61%	162%	97%	86%
3	100%	67%	161%	108%	101%
4-5	102%	82%	156%	101%	103%
6-10	96%	86%	139%	89%	96%
11+	72%	79%	106%	75%	74%
All Years	85%	76%	141%	87%	88%

For all policy years combined, the A/E claim incidence ratio for the Employer Sponsored and Association Markets are 89% and 166%, respectively of the ratio for the Individual Market. In years 11+, the A/E claim incidence ratio for the Employer Sponsored Market exceeds the ratio for the Individual Market.

The A/E claim incidence ratios for the Individual and Employer Sponsored Markets exhibit materially different patterns by policy year. The A/E claim incidence ratios for the Individual Market increase in the first five years (with a notably large jump in year 3) and then gradually decrease with the ultimate ratio in years 11+ coming back to the level seen in the first two years. The A/E claim incidence ratios for the Employer Sponsored Market exhibits a much flatter patten, increasing steadily through the first 5 years, then remaining relatively stable

Table X.b further splits the comparison by occupation groupings and occupation class.

<p align="center"><u>Table X.b</u> A/E Claim Incidence Ratios (by Amount) – A&S Contracts only Traditional Underwriting by Market and Occupational Groups Study Period: 1/1/1990 – 12/31/1999</p>					
Policy Year	Individual	Employer Sponsored	Association	Unknown	Total
	Medical Occupations – Occupation Class 1				
1	75%	72%	107%	119%	83%
2	103%	88%	95%	106%	98%
3	140%	101%	130%	120%	127%
4-5	103%	127%	111%	130%	138%
6-10	132%	123%	147%	114%	129%
11+	143%	109%	148%	99%	103%
All Years	120%	113%	133%	111%	119%
	Non-medical Occupations – Occupation Class 1				
1	69%	44%	146%	93%	77%
2	89%	51%	212%	121%	100%
3	108%	53%	195%	143%	109%
4-5	108%	58%	175%	112%	104%
6-10	94%	64%	138%	99%	92%
11+	75%	59%	109%	88%	75%
All Years	88%	58%	159%	102%	89%
	Medical Occupations – Occupation Class 2-4				
1	74%	37%	46%	116%	73%
2	74%	58%	82%	102%	78%
3	92%	56%	74%	96%	86%
4-5	81%	66%	62%	95%	82%
6-10	73%	37%	55%	89%	77%
11+	52%	44%	70%	57%	56%
All Years	76%	50%	63%	84%	76%
	Non-medical Occupations – Occupation Class 2-4				
1	53%	33%	94%	93%	59%
2	49%	43%	135%	81%	60%
3	57%	42%	126%	93%	67%
4-5	54%	40%	119%	84%	64%
6-10	50%	37%	98%	73%	59%
11+	44%	41%	68%	63%	51%
All Years	49%	39%	107%	72%	58%

For the Individual Market in Occupation Class 1, for both Medical and Non-medical occupations, the A/E claim incidence ratios for traditional underwriting show a jump in policy year 3. The jump is considerably less apparent for Non-medical Occupations for the Individual Market in Occupation Classes 2-4. There is no evidence of such jump in A/E claim incidence ratios for Non-medical Occupations in the Employer Sponsored Market indication while the increase in the A/E claim incidence ratios for policy year 3-5 incidence for Medical Occupations in the Employer Sponsored Market is less pronounced, indicating less anti-selection arising in the Employer Sponsored Market than the Individual Market in Occupation Class 1. Traditional underwriting in the Association Market exhibits its own pattern of claim incidence by policy year. Generally, the jump in incidence occurs in policy year 2. Except for Medical – Occupation Class 1, there appears to be a general improvement in the claim incidence after year 2.

Table X.c shows the claim incidence experience of traditionally underwritten business in the Individual Market (Occupation Class 1 only) by year of issue.

<p style="text-align: center;"><u>Table X.c</u> A/E Claim Incidence Ratios (by Amount) – A&S Contracts only Traditional Underwriting – Individual Market - Occupation Class 1 Only By Issue Year Study Period: 1/1/1990 – 12/31/1999</p>					
Policy Year	Pre-1990	1990-92	1993-95	1996-99	Total
Medical Occupations					
1		77%	52%	55%	75%
2	100%	106%	117%	68%	103%
3	134%	143%	149%	117%	140%
4-5	142%	139%	140%	202%	143%
6-10	131%	134%	149%		132%
11+	103%				103%
All Years	119%	126%	131%	82%	120%
Non-medical Occupations					
1		82%	76%	48%	69%
2	124%	97%	77%	60%	89%
3	131%	108%	104%	60%	108%
4-5	131%	100%	72%	76%	108%
6-10	102%	72%	85%		94%
11+	75%				75%
All Years	92%	87%	81%	55%	88%
All Occupations					
1		80%	79%	49%	71%
2	115%	100%	92%	62%	94%
3	132%	122%	120%	74%	120%
4-5	85%	116%	102%	107%	122%
6-10	135%	98%	108%		110%
11+	115%				85%
All Years	102%	103%	100%	62%	101%

Claim incidence of policies issued to Medical Occupations through Traditional underwriting in the Individual Market was very similar for business issued pre-1990 and 1990-92. Starting in 1993-95, there is a trend towards improving incidence for business issued through 1996-99. Note that the 202% ratio for Medical Occupations issued in 1996-99 in policy years 4-5 represents the results of business issued only in one calendar year (1996) and may not be indicative of how the results on this generation of Medical business will ultimately emerge.

Claim incidence of policies issued to Non-medical Occupations through Traditional underwriting in the Individual Market showed improvements among each successive issue year grouping.

Table X.d shows the claim incidence experience of traditionally underwritten business in the Employer Sponsored Market (Occupation Class 1 only) by year of issue.

<p align="center"><u>Table X.d</u> A/E Claim Incidence Ratios (by Amount) – A&S Contracts only Traditional Underwriting – Employer Sponsored Market – Occupation Class 1 Only By Issue Year Study Period: 1/1/1990 – 12/31/1999</p>					
Policy Year	Pre-1990	1990-92	1993-95	1996-99	Total
	Medical Occupations				
1		61%	84%	82%	72%
2	84%	81%	92%	107%	88%
3	86%	117%	107%	58%	101%
4-5	138%	125%	110%	136%	127%
6-10	125%	120%	126%		123%
11+	109%				109%
All Years	118%	109%	103%	89%	113%
	Non-medical Occupations				
1		45%	58%	33%	44%
2	59%	52%	53%	44%	51%
3	59%	50%	62%	36%	53%
4-5	65%	59%	49%	47%	59%
6-10	69%	58%	44%		64%
11+	58%				58%
All Years	63%	54%	53%	38%	58%
	All Occupations				
1		51%	68%	44%	54%
2	68%	64%	69%	60%	65%
3	69%	78%	82%	42%	72%
4-5	95%	89%	76%	74%	88%
6-10	95%	87%	82%		92%
11+	81%				81%
All Years	88%	78%	75%	51%	82%

Aggregate claim incidence of policies issued to both Medical and Non-medical Occupations through Traditional underwriting in the Individual Market showed general improvements among each successive issue year grouping.

Table X.e shows the claim incidence experience of traditionally underwritten business in the Association Market (Occupation Class 1 only) by year of issue.

<p style="text-align: center;">Table X.e A/E Claim Incidence Ratios (by Amount) – A&S Contracts only Traditional Underwriting – Association Market – Occupation Class 1 Only By Issue Year Study Period: 1/1/1990 – 12/31/1999</p>					
Policy Year	Pre-1990	1990-92	1993-95	1996-99	Total
	Medical Occupations				
1		118%	91%	97%	107%
2	72%	82%	130%	99%	95%
3	150%	118%	141%	84%	130%
4-5	161%	148%	128%	89%	148%
6-10	145%	153%	128%		147%
11+	111%				111%
All Years	136%	136%	124%	94%	133%
	Non-medical Occupations				
1		129%	168%	127%	146%
2	202%	195%	228%	208%	212%
3	153%	183%	221%	207%	195%
4-5	152%	174%	193%	188%	175%
6-10	134%	139%	157%		138%
11+	109%				109%
All Years	131%	159%	196%	169%	159%
	All Occupations				
1		124%	152%	121%	135%
2	137%	144%	203%	183%	171%
3	152%	152%	197%	175%	169%
4-5	157%	161%	170%	167%	163%
6-10	140%	147%	147%		143%
11+	110%				110%
All Years	133%	147%	175%	153%	147%

Claim incidence of policies issued to Medical Occupations through Traditional underwriting in the Association Market showed a trend of improvement among the successive issue year groupings. However, for Non-medical Occupations in the Association Market, the trend is reversed, with an apparent deterioration in claim incidence observed in the more business issued since 1993.

Claim Incidence Experience for GSI and GTI Underwriting

Table X.f compares the A/E claim incidence ratios from traditionally underwritten business in the Individual and Employer Sponsored Markets to those from business in the Employer Sponsored Market issued under GSI and GTI underwriting. Results are split between the Medical and Non-medical Occupations.

Table X.f A/E Claim Incidence Ratios (by Amount) – A&S Contracts only Comparison of Traditional, GSI and GTI Underwriting By Market Study Period: 1/1/1990 – 12/31/1999				
Medical Occupations				
Policy Year	Individual Mkt Traditional UW	Employer Sponsored Market		
		Traditional	GSI	GTI
1	75%	66%	63%	87%
2	97%	84%	93%	132%
3	132%	97%	90%	139%
4-5	135%	122%	102%	136%
6-10	128%	121%	111%	127%
11+	101%	109%	103%	98%
All Years	117%	109%	92%	125%
Non-medical Occupations				
Policy Year	Individual Mkt Traditional UW	Employer Sponsored Market		
		Traditional	GSI	GTI
1	61%	41%	58%	50%
2	71%	49%	63%	69%
3	86%	51%	64%	70%
4-5	87%	55%	53%	72%
6-10	78%	60%	43%	63%
11+	62%	56%	41%	71%
All Years	72%	54%	56%	65%
All Occupations				
Policy Year	Individual Mkt Traditional UW	Employer Sponsored Market		
		Traditional	GSI	GTI
1	65%	49%	59%	61%
2	78%	61%	75%	89%
3	100%	67%	75%	95%
4-5	102%	82%	75%	99%
6-10	96%	86%	77%	92%
11+	72%	79%	77%	82%
All Years	85%	76%	71%	88%

Claim incidence for both Medical and Non-medical Occupations in the Employer Sponsored Market issued under GSI underwriting is lower than claim incidence for such policies issued under GTI underwriting. The GSI incidence is generally comparable to the incidence of traditionally underwritten business in the Employer Sponsored Market.

Policies issued in the Employer Sponsored Market under GSI underwriting exhibit lower claim incidence than the ones issued in the Individual Market with Traditional Underwriting indicating the less anti-selective nature of Employer Sponsored programs. For all policy years combined, the A/E incidence ratios for GSI employer-sponsored business (92% for Medical and 56% for Non-medical) are 78-79% of the A/E incidence ratios for traditional underwriting (117% for Medical and 92% for Non-medical) in the Individual Market. This result suggests that GSI underwriting generally had about the same impact on reducing anti-selection for both Medical and Non-medical occupations.

Table X.g compares the A/E claim incidence ratios in the Employer Sponsored Market under GSI underwriting for Occupation Class 1 only, by year of issue.

<p style="text-align: center;"><u>Table X.g</u> A/E Claim Incidence Ratios (by Amount) – A&S Contracts only GSI Underwriting – Employer Sponsored Market – Occupation Class 1 Only By Issue Year Study Period: 1/1/1990 – 12/31/1999</p>					
Policy Year	Pre-1990	1990-92	1993-95	1996-99	Total
Medical Occupations					
1		42%	64%	64%	66%
2	75%	118%	116%	68%	99%
3	66%	53%	136%	67%	95%
4-5	103%	107%	116%	78%	105%
6-10	79%	131%	127%		111%
11+	87%				103%
All Years	89%	105%	109%	67%	96%
Non-medical Occupations					
1		66%	64%	54%	57%
2	75%	46%	55%	67%	61%
3	65%	60%	78%	54%	65%
4-5	23%	31%	69%	104%	55%
6-10	42%	43%	46%		43%
11+	39%				39%
All Years	42%	46%	66%	59%	56%
All Occupations					
1		70%	64%	56%	60%
2	75%	80%	84%	67%	75%
3	66%	57%	105%	58%	78%
4-5	55%	64%	91%	95%	78%
6-10	68%	57%	96%		79%
11+	80%				80%
All Years	69%	73%	87%	61%	73%

For Medical occupations, the A/E claim incidence ratios in the Employer Sponsored Market under GSI underwriting worsened somewhat for business issued between 1990 and 1995, but improved significantly for business issued in the 1996 – 99 period to be more consistent with the incidence experienced by the Pre-1990 issued business. For Non-medical occupations, the A/E claim incidence ratios in the Employer Sponsored Market under GSI underwriting worsened for business issued between 1993 and 1995, but improved only moderately for business issued in the 1996 – 99 period.

Claim Incidence Experience of Guaranteed Insurability Options

Table X.h shows the A/E claim incidence ratios for business issued as the result of elections of options under guaranteed insurability riders.

<p style="text-align: center;">Table X.h A/E Claim Incidence Ratios (by Amount) - A&S Contracts Only Guaranteed Insurability Elections Study Period: 1/1/1990 – 12/31/1999</p>			
Policy Year	Medical Occupations	Non-medical Occupations	All Occupations
1	251%	179%	214%
2	211%	146%	178%
3	216%	130%	174%
4-5	176%	129%	154%
6-10	152%	101%	126%
11+	139%	85%	96%

The patterns of A/E claim incidence ratios for both Medical and Non-medical Occupations in Table X.h represent classic examples of anti-selection, wearing off over ten years.

Section XI: Incidence and Termination By Diagnosis

Most contributors were able to provide specific diagnosis (ICD-9) codes for the cause of claims. The IDEC grouped the various diagnosis codes in the following categories:

Diagnosis Groupings	ICD9 Codes
Alcohol & Drug	291, 292, 303, 304
Back	722, 723, 724, 847
Cancer	140 - 239, V10
Carpal Tunnel Syndrome	354
Chronic Fatigue Syndrome	312
Circulatory	390 - 459
Complications of Pregnancy	630 - 676 (excluding 650), V23 - V29, V34 - V37
Congenital/Perinatal	740 - 779
Digestive	520 - 579
Disease of Blood	280 - 289
Disease of Skin	680 - 709
Endocrine, Nutritional & Metabolic	240 - 278
Genitourinary	580 - 629, V56
Immunodeficiency	042, 279, V08
Mental Disorder	290, 293 - 319 (excluding 303, 304, 312), V11, V40
Nervous System	321 - 389 (excluding 354)
No Classifiable Diagnosis	780 - 799, V12 - V21, V41 - V47, V50, V55, V57 - V83
Other Infectious Diseases	001 - 139 (excluding 042), 320
Other Injury	850 - 959
Other Musculoskeletal	710 - 739 (excluding 722 - 724), 800 - 848 (excluding 847), V48, V49, V52 - V54
Other Unspecified Effect External Causes	990 - 999
Respiratory	460 - 519
Toxicity	980 - 989

The Incidence portion of this section will focus on claims distribution by diagnosis as “expected” is not defined by diagnosis.

Claims Incidence by Diagnosis

Table XI.a shows the distribution of claim incidence by type of contract (A&S and OE) in terms of amount and count.

<p align="center"><u>Table XI.a</u> Distribution of Claim Incidence by Amount and Count By Contract Type Study Period: 1/1/1990 to 12/31/1999</p>						
Diagnosis Group	By Claim Amount			By Claim Count		
	A & S	OE	Total	A & S	OE	Total
Circulatory	19%	25%	20%	17%	22%	17%
Other Musculoskeletal	17%	19%	17%	17%	12%	18%
Cancer	10%	9%	10%	8%	9%	8%
Back	8%	8%	8%	7%	7%	7%
No Classifiable Diagnosis	7%	3%	7%	13%	3%	12%
Nervous System	7%	6%	7%	7%	7%	7%
Mental Disorder	7%	5%	6%	5%	4%	5%
Alcohol & Drug	6%	6%	6%	3%	5%	4%
Other Injury	3%	4%	3%	4%	4%	4%
Congenital/Perinatal	3%	3%	3%	2%	3%	3%
Other Infectious Disease	3%	3%	3%	4%	5%	4%
Other Diagnosis Groups	10%	10%	10%	13%	12%	13%
Total	100%	100%	100%	100%	100%	100%

Table XI.b shows the distribution of claim incidence by gender in terms of amount and count

<p align="center"><u>Table XI.b</u> Distribution of Claim Incidence by Amount and Count By Gender Study Period: 1/1/1990 to 12/31/1999</p>					
Diagnosis Group	Females		Diagnosis Group	Males	
	Claim Amount	Claim Count		Claim Amount	Claim Count
Circulatory	14%	12%	Circulatory	22%	19%
Other Musculoskeletal	14%	14%	Other Musculoskeletal	19%	19%
Congenital/Perinatal	13%	9%	Cancer	10%	8%
No Classifiable Diagnosis	11%	18%	Back	9%	8%
Cancer	9%	8%	Nervous System	7%	7%
Alcohol & Drug	7%	4%	Mental Disorder	6%	5%
Back	6%	6%	Alcohol & Drug	6%	3%
Mental Disorder	6%	5%	No Classifiable Diagnosis	5%	10%
Nervous System	5%	5%	Other Injury	4%	4%
Genitourinary	3%	4%	Other Infectious Disease	3%	4%
Other Injury	3%	3%	Digestive	3%	4%
Other Infectious Disease	2%	3%	Genitourinary	2%	2%
Other Diagnosis Groups	8%	9%	Other Diagnosis Groups	5%	7%
Total	100%	100%	Total	100%	100%

Circulatory and Musculoskeletal issues were the leading cause of disability for both males and females, accounting for roughly 40% of male and 27% of female claims by amount.

Table XI.c shows the distribution of claim incidence by attained age in terms of amount.

<p style="text-align: center;">Table XI.c Distribution of Claim Incidence by Amount By Attained Age Study Period: 1/1/1990 to 12/31/1999</p>					
Diagnosis Group	Attained Age				Total
	Under 30	30-40	40-50	50+	
Circulatory	10%	13%	20%	26%	20%
Other Musculoskeletal	15%	16%	17%	18%	17%
Cancer	4%	7%	10%	12%	10%
Back	8%	9%	9%	6%	8%
No Classifiable Diagnosis	18%	9%	6%	5%	7%
Nervous System	6%	6%	7%	7%	7%
Mental Disorder	5%	7%	8%	5%	6%
Alcohol & Drug	5%	8%	7%	4%	6%
Other Injury	5%	4%	4%	3%	3%
Congenital/Perinatal	13%	11%	1%	0%	3%
Other Infectious Disease	1%	2%	3%	4%	3%
Digestive	2%	2%	2%	3%	3%
Genitourinary	2%	2%	2%	2%	2%
Other Diagnosis Groups	7%	7%	6%	5%	6%
Total	100%	100%	100%	100%	100%

Table XI.d shows the distribution of claims by Medical and Non-medical occupations in terms of amount and count.

<p style="text-align: center;"><u>Table XI.d</u> Distribution of Claim Incidence by Amount and Count Medical vs. Non-Medical Occupations Study Period: 1/1/1990 to 12/31/1999</p>				
Diagnosis Group	By claim amount		By claim count	
	Medical	Non-Medical	Medical	Non-Medical
Circulatory	22%	18%	20%	17%
Other Musculoskeletal	18%	16%	17%	17%
Cancer	9%	11%	10%	8%
Back	8%	8%	8%	7%
Alcohol & Drug	8%	4%	6%	3%
No Classifiable Diagnosis	3%	10%	7%	12%
Nervous System	7%	6%	6%	7%
Mental Disorder	5%	7%	6%	5%
Other Injury	3%	3%	3%	4%
Congenital/Perinatal	4%	2%	3%	2%
Other Infectious Disease	3%	3%	3%	4%
Digestive	2%	3%	2%	3%
Other Diagnosis Groups	7%	8%	7%	9%
Total	100%	100%	100%	100%

Claims classified as Alcohol and Drug related made up a higher percentage of claims for the Medical occupations than for the Non-medical occupations.

Claims Termination by Diagnosis

In this section, the various tables will be broken down in two subsets for ease of reading. The first table will display the A/E claim terminations by amount while the second table will provide the expected claim termination (calculated as the CIDA termination rate multiplied by the exposure) to provide the reader with a relative metric for distribution and credibility.

Table XI.e.1 displays the A/E claim terminations by claim duration and diagnosis groupings in terms of monthly indemnity amounts. Table XI e.2 presents the expected claim termination for each diagnosis group.

Table XI.e.1								
A/E Claim Terminations (by Amount) by Diagnosis Group								
By Claim Duration								
Study Period: 1/1/1990 to 12/31/1999								
Diagnosis Group	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6-10	Years 11+	Total
Circulatory	44%	85%	153%	92%	97%	81%	67%	51%
Other Musculoskeletal	47%	86%	94%	66%	87%	80%	98%	52%
No Classifiable Diag.	58%	86%	96%	80%	70%	64%	78%	60%
Cancer	35%	122%	194%	147%	173%	150%	125%	50%
Back	37%	71%	114%	92%	82%	102%	110%	44%
Alcohol & Drug	42%	102%	142%	136%	94%	138%	122%	52%
Mental Disorder	20%	66%	88%	114%	127%	129%	99%	33%
Nervous System	20%	43%	74%	44%	61%	59%	77%	27%
Other Injury	54%	162%	232%	97%	66%	65%	86%	67%
Congenital/ Perinatal	94%	210%	254%	354%	73%	437%	0%	97%
Digestive	65%	131%	172%	171%	133%	87%	149%	72%
Respiratory	45%	87%	164%	174%	166%	142%	42%	53%
Genitourinary	76%	90%	156%	175%	109%	174%	99%	79%
Other Diagnosis	25%	79%	117%	248%	139%	113%	70%	41%
Total	44%	88%	127%	105%	102%	97%	90%	51%

Table XI.e.2
 Expected Claims Termination (by Amount) by Diagnosis Group
 By Claim Duration
 Study Period: 1/1/1990 to 12/31/1999

Diagnosis Group	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6-10	Years 11+	Total
Circulatory	104,970,189	9,908,160	2,306,278	1,366,437	875,952	1,534,931	355,005	121,316,952
Other Musculoskeletal	73,686,510	6,781,894	1,557,017	916,665	579,290	1,048,536	277,926	84,847,839
No Classifiable Diag.	66,459,354	4,381,530	937,136	558,452	352,491	585,504	129,659	73,404,125
Cancer	46,174,627	5,365,131	1,156,335	651,885	405,030	640,468	112,319	54,505,796
Back	40,189,627	4,721,470	1,097,721	618,330	373,832	558,600	126,350	47,685,930
Alcohol & Drug	34,142,633	3,576,014	785,570	429,443	263,970	414,300	54,069	39,666,000
Mental Disorder	29,117,232	4,810,497	1,237,883	677,075	401,984	672,204	163,434	37,080,310
Nervous System	19,225,156	3,117,913	773,587	447,653	264,916	446,984	120,741	24,396,950
Other Injury	12,535,868	1,174,828	255,808	124,470	76,321	135,845	47,639	14,350,779
Congenital/ Perinatal	13,251,013	283,317	22,583	9,075	4,698	5,938	293	13,576,916
Digestive	8,883,065	725,505	126,804	66,752	39,264	69,817	18,056	9,929,263
Respiratory	6,155,043	609,803	117,653	62,501	36,598	56,763	13,027	7,051,388
Genitourinary	4,608,992	315,079	48,390	27,207	16,129	27,631	8,413	5,051,841
Other Diagnosis	15,585,715	2,595,501	616,218	320,628	174,284	257,779	45,520	19,595,644
Total	474,985,023	48,366,642	11,038,985	6,276,573	3,864,757	6,455,299	1,472,453	552,459,733

Of the conditions listed above, it is interesting to note that Mental Disorders are recovering at a materially lower rate than the average claim population but Alcohol and Drug abuse, which are often grouped with Mental Disorders due to their ICD-9 codes and other conditions similarities, are recovering at an average rate. Nervous System conditions are exhibiting the lowest claim termination rates while Congenital/Perinatal conditions are recovering at the fastest rate. Back conditions also tend to bring the average claim termination rates down. Cancer claims have a lower than average termination rate in the first claim duration but higher than average in the other durations.

As seen in the previous sections of this report, Claims Termination rates vary by gender, issue state and occupation class. However, except for a few exceptions, the diagnosis group does not accentuate the differences previously observed as can be seen in Table XI.f through Table XI.h.

<u>Table XI.f.1</u>			
A/E Claim Terminations (by amount) by Diagnosis			
By Gender			
Study Period: 1/1/1990 to 12/31/1999			
Diagnosis Group	Female	Male	Total
Circulatory	53%	50%	51%
Other Musculoskeletal	48%	53%	52%
No Classifiable Diagnosis	67%	58%	60%
Cancer	48%	51%	50%
Back	45%	44%	44%
Alcohol & Drug	65%	47%	52%
Mental Disorder	32%	34%	33%
Nervous System	26%	27%	27%
Other Injury	57%	69%	67%
Congenital/ Perinatal	97%	71%	97%
Digestive	57%	76%	72%
Respiratory	55%	53%	53%
Genitourinary	90%	68%	79%
Other Diagnosis	33%	44%	41%
Total	57%	50%	51%

<u>Table XI.f.2</u>			
Expected Claims Termination (by amount) by Diagnosis Group			
By Gender			
Study Period: 1/1/1990 to 12/31/1999			
Diagnosis Group	Female	Male	Total
Circulatory	23,244,646	98,072,306	121,316,952
Other Musculoskeletal	14,498,285	70,349,554	84,847,839
No Classifiable Diagnosis	20,424,503	52,979,622	73,404,125
Cancer	13,398,090	41,107,705	54,505,796
Back	8,332,539	39,353,391	47,685,930
Alcohol & Drug	11,485,911	28,180,089	39,666,000
Mental Disorder	8,469,826	28,610,484	37,080,310
Nervous System	4,605,473	19,791,477	24,396,950
Other Injury	2,554,749	11,796,030	14,350,779
Congenital/ Perinatal	13,405,019	171,897	13,576,916
Digestive	1,968,884	7,960,379	9,929,263
Respiratory	1,909,889	5,141,499	7,051,388
Genitourinary	2,670,894	2,380,947	5,051,841
Other Diagnosis	4,547,901	15,047,744	19,595,644
Total	131,516,608	420,943,125	552,459,733

In the above table, we should note that females seem to have significantly higher claims termination rates (compared to males) for Alcohol and Drugs conditions but have about the same rates for Mental Disorders. Males, on the other hand, seem to have a better relative recovery rate than females in disabilities from digestive conditions and from injuries.

Table XI.g displays results by diagnosis and issue state group.

<u>Table XI.g.1</u> A/E Claim Terminations (by Amount) by Diagnosis Group By Issue State Study Period: 1/1/1990 to 12/31/1999				
Diagnosis Group	California	Florida	Other	Total
Circulatory	46%	34%	55%	51%
Other Musculoskeletal	50%	34%	55%	52%
No Classifiable Diagnosis	53%	50%	63%	60%
Cancer	41%	44%	54%	50%
Back	37%	35%	47%	44%
Alcohol & Drug	49%	45%	54%	52%
Mental Disorder	37%	29%	33%	33%
Nervous System	27%	30%	26%	27%
Other Injury	48%	87%	68%	67%
Congenital/ Perinatal	90%	100%	99%	97%
Digestive	55%	61%	76%	72%
Respiratory	61%	35%	52%	53%
Genitourinary	76%	69%	80%	79%
Other Diagnosis	36%	54%	41%	41%
Total	46%	40%	54%	51%

<u>Table XI g.2</u> Expected Claims Termination (by amount) by Diagnosis Group By Issue State Study Period: 1/1/1990 to 12/31/1999				
Diagnosis Group	California	Florida	Other	Total
Circulatory	28,183,526	12,545,460	80,587,966	121,316,952
Other Musculoskeletal	13,701,483	8,180,250	62,966,106	84,847,839
No Classifiable Diagnosis	11,563,042	3,968,152	57,872,931	73,404,125
Cancer	11,250,415	4,350,759	38,904,622	54,505,796
Back	8,211,675	4,566,395	34,907,860	47,685,930
Alcohol & Drug	8,710,975	5,078,682	25,876,343	39,666,000
Mental Disorder	8,568,521	2,865,634	25,646,155	37,080,310
Nervous System	3,891,107	2,194,450	18,311,393	24,396,950
Other Injury	1,926,284	1,104,225	11,320,270	14,350,779
Congenital/ Perinatal	2,605,211	549,580	10,422,125	13,576,916
Digestive	1,573,847	505,861	7,849,555	9,929,263
Respiratory	1,524,703	452,957	5,073,728	7,051,388
Genitourinary	734,396	238,203	4,079,241	5,051,841
Other Diagnosis	4,161,461	1,733,039	13,701,145	19,595,644
Total	106,606,645	48,333,646	397,519,442	552,459,733

Table XI.h shows actual vs. expected termination experience by diagnosis group and occupation class.

<u>Table XI.h.1</u>					
Claims Termination A/E (by Amount) by Diagnosis Group					
By Occupation Class					
Study Period: 1/1/1990 to 12/31/1999					
Diagnosis Group	Class 1	Class 2	Class 3	Class 4	Total
Circulatory	49%	54%	59%	66%	51%
Other Musculoskeletal	50%	58%	67%	68%	52%
No Classifiable Diagnosis	56%	59%	71%	74%	60%
Cancer	50%	59%	56%	59%	50%
Back	42%	51%	53%	54%	44%
Alcohol & Drug	52%	62%	53%	57%	52%
Mental Disorder	33%	41%	43%	49%	33%
Nervous System	25%	39%	46%	54%	27%
Other Injury	41%	41%	50%	59%	41%
Congenital/ Perinatal	64%	70%	80%	78%	67%
Digestive	96%	109%	94%	75%	97%
Respiratory	67%	89%	103%	133%	72%
Genitourinary	53%	50%	54%	54%	53%
Other Diagnosis	74%	119%	101%	104%	79%
Total	49%	59%	65%	69%	51%

<u>Table XI.h.2</u>					
Expected Claims Termination (by Amount) by Diagnosis Group					
By Occupation Class					
Study Period: 1/1/1990 to 12/31/1999					
Diagnosis Group	Class 1	Class 2	Class 3	Class 4	Total
Circulatory	105,236,260	5,946,346	4,340,647	5,793,699	121,316,952
Other Musculoskeletal	71,933,736	5,617,392	5,401,171	1,895,540	84,847,839
No Classifiable Diagnosis	45,722,783	11,354,064	9,865,119	6,462,160	73,404,125
Cancer	50,732,011	1,928,821	1,322,308	522,655	54,505,796
Back	39,315,802	3,945,149	3,196,057	1,228,922	47,685,930
Alcohol & Drug	36,981,862	1,437,622	744,732	501,784	39,666,000
Mental Disorder	35,346,327	1,350,041	290,741	93,201	37,080,310
Nervous System	22,407,567	1,222,458	544,386	222,538	24,396,950
Other Injury	11,359,358	1,192,225	1,226,513	572,683	14,350,779
Congenital/ Perinatal	12,255,863	1,096,586	162,339	62,128	13,576,916
Digestive	8,378,686	740,366	644,159	166,052	9,929,263
Respiratory	6,065,418	519,933	302,596	163,440	7,051,388
Genitourinary	4,336,531	466,075	180,780	68,456	5,051,841
Other Diagnosis	17,677,765	1,283,408	482,224	152,247	19,595,644
Total	467,749,970	38,100,487	28,703,770	17,905,506	552,459,733

Section XII: Claim Incidence Experience by Smoker Status

This section discusses the impact of smoker status on claim incidence. Many contributors were able to split experience into smoker and non-smoker categories. Experience is summarized combining smoker status with a number of other key variables. Specifically, this section examines the impact on smoker/non-smoker claim incidence experience from contract type, occupation class, Medical occupation, gender, and elimination period.

Claim Incidence Experience by Smoker Status

Table XII.a shows the relative exposure by amount split between smoker and non-smoker status and their respective A/E claim incidence ratios (by amount) over the 1990-99 study period.

Table XII.a Exposure Percent and A/E Claim Incidence Ratios (by Amount) Smoker Status and Contract Type Study Period: 1/1/1990 – 12/31/1999		
Smoker Status	A&S Contracts	
	% of Exposure	A/E
Non-Smoker	84%	93%
Smoker	6%	103%
Unknown	10%	80%
Total	100%	91%
Smoker Status	OE Contracts	
	% of Exposure	A/E
Non-Smoker	86%	64%
Smoker	4%	88%
Unknown	10%	63%
Total	100%	65%

At the aggregate level, claim incidence experience for A&S contracts is fairly comparable for the non-smoker and smoker segments, while OE contracts exhibit lower A/E ratios and wider variance within the segments. The vast majority of experience resides in the non-smoker segment.

Table XII.b shows the average A/E claim incidence ratios by occupation class for A&S contracts.

<p align="center"><u>Table XII.b</u> A/E Claim Incidence Ratios (by Amount) by Smoker Status For A&S Contracts By Occupation Class Study Period: 1/1/1990 – 12/31/1999</p>			
Occupation Class	Non-Smoker	Smoker	Smoker/Non-Smoker
1	100%	125%	125%
2	70%	74%	106%
3	54%	63%	117%
4	68%	70%	103%
Total	93%	103%	111%

The results indicate a clear distinction in incidence experience for the Occupation Class 1 versus the remaining 3 occupation classes, which fall into a much narrower range. As a result, the remaining tables group Occupation Classes 2-4 into a single grouping.

Table XII.c shows the relative exposure and average A/E claim incidence ratios by amount for Occupation Class 1 and Occupation Classes 2-4.

<p align="center"><u>Table XII.c</u> Exposure Percent and A/E Claim Incidence Ratios (by Amount) For A&S Contracts by Smoker Status and Occupation Class Grouping Study Period: 1/1/1990 – 12/31/1999</p>		
Smoker Status	Occupation Class 1	
	% of Exposure	A/E
Non-Smoker	86%	100%
Smoker	6%	125%
Unknown	8%	101%
Total	100%	102%
Smoker Status	Occupation Class 2-4	
	% of Exposure	A/E
Non-Smoker	68%	64%
Smoker	11%	69%
Unknown	21%	55%
Total	100%	61%

The impact of the smoker classification is approximately 25% higher incidence in the Occupation Class 1 category, although exposure is heavily weighted to non-smokers. In contrast the amount of increased incidence due to the smoker status is much less pronounced in the Occupation Classes 2-4 category.

Table XII.d shows the average A/E claim incidence ratios by gender and occupation class for A&S contracts.

<p align="center"><u>Table XII.d</u> A/E Claim Incidence Ratios (by Amount) by Smoker Status For A&S Contracts By Occupation Class and Gender Study Period: 1/1/1990 – 12/31/1999</p>			
	Occupation Class 1		
Gender	Non-Smoker	Smoker	Smoker/Non-Smoker
Male	104%	139%	134%
Female	90%	97%	108%
Total	100%	125%	125%
	Occupation Class 2-4		
Gender	Non-Smoker	Smoker	Smoker/Non-Smoker
Male	61%	70%	115%
Female	70%	66%	94%
Total	64%	69%	108%

These results illustrate that the differences in incidence experience are fairly narrow for all gender / occupation class combinations with the exception of Occupation Class 1 smokers, where male smoker experience is considerably higher than female smoker experience.

Table XII.e shows the average A/E claim incidence ratios by elimination period for A&S contracts.

<p align="center"><u>Table XII.e</u> A/E Claim Incidence Ratios (by Amount) by Smoker Status For A&S Contracts By Elimination Period Study Period: 1/1/1990 – 12/31/1999</p>			
Elimination Period	Non-Smoker	Smoker	Smoker/Non-Smoker
<30	63%	60%	95%
30	83%	83%	100%
60	67%	75%	112%
90	117%	145%	124%
180+	96%	131%	136%
Total	93%	103%	103%

The pattern of higher incidence experience at elimination periods 90 days or greater appears relatively consistent when segmenting the data by smoker status. An interesting phenomenon occurs in the 30 days and under elimination periods where smoker experience is at or below the corresponding non-smoker experience.

Table XII.f shows the average A/E claim incidence ratios split by Medical and Non-medical occupational groupings and occupation class for A&S contracts.

<p align="center"><u>Table XII.f</u> A/E Claim Incidence Ratios (by Amount) by Smoker Status For A&S Contracts By Occupation Class and Medical and Non-medical Occupations Study Period: 1/1/1990 – 12/31/1999</p>			
	Occupation Class 1		
	Non-Smoker	Smoker	Smoker/Non-Smoker
Medical	123%	160%	130%
Non-medical	82%	114%	139%
Total	100%	125%	125%
Occupational Grouping	Occupation Class 2-4		
	Non-Smoker	Smoker	Smoker/Non-Smoker
Medical	82%	93%	113%
Non-medical	61%	67%	110%
Total	64%	69%	108%

While validating the earlier results that Smoker / Non-smoker differences are most pronounced in the Occupation Class 1 category, the above results indicate that the effect is even more apparent in the Medical/Smoker grouping. Mitigating this result is the relatively low amount of Medical/Smoker business written. The Medical/Non-smoker category represents approximately 93% of all Occupation Class 1, Medical exposure.

Table XII.g shows the average A/E claim incidence ratios by attained age and occupation class for A&S contracts.

<p style="text-align: center;"><u>Table XII.g</u> A/E Claim Incidence Ratios (by Amount) by Smoker Status For A&S Contracts By Occupation Class and Attained Age Study Period: 1/1/1990 – 12/31/1999</p>			
Attained Age	Occupation Class 1		
	Non-Smoker	Smoker	Smoker/Non-Smoker
<30	108%	163%	151%
30-39	120%	151%	126%
40-49	98%	124%	127%
50-59	95%	117%	123%
60-64	88%	111%	126%
Total	100%	125%	125%
Attained Age	Occupation Class 2-4		
	Non-Smoker	Smoker	Smoker/Non-Smoker
<30	74%	73%	99%
30-39	70%	65%	93%
40-49	59%	69%	117%
50-59	63%	71%	113%
60-64	63%	71%	113%
Total	64%	69%	108%

For occupation class 1, the ratios of smoker to non-smoker claim incidence is relative level for attained ages 30 and over (123% to 127%). The higher ratio of smoker to non-smoker claim incidence for occupation class 1, ages under 30, may reflect volumes. For occupation classes 2-4, the higher ratios of smoker to non-smoker claim incidence begins at age 40. For ages under 40 in occupation classes 2-4, smokers appear to have somewhat lower incidence than non-smokers. This may be due in part to the relatively high level of claims resulting from accidents at these younger ages which are not affected by smoking habits.

The data was not available to assess the impact of smoker status on claim terminations. Such impact will be analyzed in the report covering the 2000 – 2006 period.

Appendix A:

Contributing Companies

Berkshire Life Insurance Company

Illinois Mutual

Massachusetts Casualty

Massachusetts Mutual

Monarch Life Insurance Company

Northwestern Mutual

Paul Revere Life Insurance Company

Principal Financial Group

Provident Life & Accident

Trustmark Life Insurance Company

Union Central Life Insurance Company

Unum Life Insurance Company