

1996 LTD Experience Study Publication Text

Report of the Committee on Group Life and Health Insurance Group Long-Term Disability Insurance

Introduction

This report presents the results of the continuing study of termination experience relative to Group Long-Term Disability Insurance. The group LTD experience committee's mission is to gather, analyze, and publish group disability experience in order to meet the needs of insurance regulators in facilitating valuation and pricing approvals; to assist the insurance industry in monitoring trends in experience; and to assist participating companies in facilitating a detailed understanding of their business. The purpose of the study is to both publish an experience analysis and to create a usable experience table. The long term goal of these studies is to have the experience tables evolve into the new valuation table that would both make the valuation process more accurate as well as more representative of recent experience.

There are 10 participants in this LTD experience study:

CNA	Principal Financial Company
Fortis	Reliance Standard Life
Guardian	Standard of Oregon
Mutual of Omaha	Sun Life of Canada
Paul Revere	TIAA

The current Group Long-Term Disability Insurance experience was published in the 1984 Reports and represented data through 1982. It was intended that the current report fill the gap since 1982. Unfortunately, only three companies provided data back to 1982, and the data proved to be of poor quality. Since the earliest date for which the data appeared reasonable was 1986, the study commences as of 1/1/86.

This study produced the same termination reports provided in the 1984 Reports, however the reports are in a new format. New valuation derivative reports have been provided to analyze the impact on pricing and valuation of this experience. The newly provided data fields allowed for the creation of several additional reports useful in LTD valuation and pricing. These new reports include:

Recovery and Death Timing Report,
IBNR Report, and
Social Security Report.

The following is a complete listing of reports included in this study:

A/E LTD Claim Termination Reports

- LTD Experience by: Age at Disability
- LTD Experience by: Gender
- LTD Experience by: Elimination Period
- LTD Experience by: Cause of Disability

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- LTD Experience by: Duration
- LTD Experience by: Quarter
- LTD Experience by: Salary
- LTD Experience by: Participant

Ultimate Termination Report

Recovery And Death Timing Report

IBNR Reports

- Duration by Gender
- Duration by Cause of Disability
- Duration by Elimination Period
- Duration by Age at Disability
- Quarter by Duration

Social Security Report

- Duration by Age at Disability
- Duration by Gender
- Duration by Cause of Disability
- Duration by Age at Disability, Gender Male Only
- Duration by Age at Disability, Gender Female Only
- Quarter by Gender

At EP A/E Reserve Reports

- Elimination Period by Gender
- Age at Disability by Gender
- Age at Disability by Elimination Period
- Elimination Period by Cause of Disability
- Age at Disability by Cause of Disability

Open Claim A/E Reserve Reports

- Elimination Period by Gender
- Age at Disability by Gender
- Age at Disability by Elimination Period
- Elimination Period by Cause of Disability
- Age at Disability by Cause of Disability
- Duration by Age at Disability
- Duration by Elimination Period
- Duration by Elimination Period, Gender Male Only
- Duration by Elimination Period, Gender Female Only

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A/E LTD Claim Termination Reports

- LTD Experience by Duration
- Duration by Gender
- Duration by Age at Disability
- Duration by Elimination Period
- Duration by Cause of Disability
- Cause of Disability by Gender
- Elimination Period by Gender
- Age at Disability by Gender
- Age at Disability by Cause of Disability
- Elimination Period by Cause of Disability
- Age at Disability by Elimination Period
- Duration by Age at Disability, Gender Male Only
- Duration by Age at Disability, Gender Female Only
- Duration by Elimination Period, Gender Male Only
- Duration by Elimination Period, Gender Female Only

Expected Termination Rate Summaries

- Cause of Disability: Other
- Cause of Disability: Mental & Nervous
- Cause of Disability: Maternity
- Cause of Disability: AIDS

Expected IBNR Factors

Expected Social Security Approval Rates

Caution should be used when interpreting these study results. This is the first pass of this study and therefore it should be considered somewhere between a “pilot” study and a “full blown” study. The second pass of this study will add validity and will also enhance data definitions such as “termination”.

The results by company are similar. The by termination results differ by $\pm 5\%$, and the by annuity results differ by less than 5%.

Using the same interest for both valuations, the overall findings suggest that the CGDT basic is 16% conservative in the aggregate for all durations, and 23% conservative if the normal valuation interest of 5.5% is used for the CGDT, with the expected held at 7.0%. Aggregate terminations were 177% of the CGDT and 159% of the CGDT Basic.

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	A/E Termination Rates			A/E Reserve Factors		
	G Basic	CGDT	Table 95a	G Basic 7%	CGDT 7%	Table 95a 7%
Overall	159.3	177.0	101.1	86.0	83.7	97.8
Duration						
1 - 24 Months	158.6	176.1	99.5	-	-	-
25 - 60 Months	171.0	190.0	109.7	-	-	-
61 and Greater Months	144.9	160.9	106.0	-	-	-
Gender						
Male	135.3	150.3	100.1	86.3	83.9	98.3
Female	178.2	197.9	101.8	85.6	83.4	97.2
Elimination Period						
30 Day	306.9	341.0	99.1	76.7	74.1	93.7
60 Day	159.7	177.4	98.2	83.5	80.9	96.5
90 Day	130.8	145.3	102.2	85.1	82.5	97.6
180 Day	135.7	150.8	104.9	86.8	84.6	97.7
Cause of Disability						
Other	143.1	158.9	100.3	87.6	85.3	97.3
M & N	87.2	96.9	104.4	92.5	90.4	97.3
Maternity	426.6	474.0	109.1	34.8	32.0	92.2
AIDS	121.0	134.5	70.9	48.1	45.9	125.5

Note that AIDS experience seems to have improved significantly since Table 95a was created.

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Statistics

Total records submitted for the study were 320,122. Of these 236,742 were actually used in the study. The other 83,380 claims were omitted for the following reasons:

Wrong Plan (ASO, STD)	23,190
Wrong Coverage (Pension Supp	1,111
Denied Claims	29,959
Pending Claims	3,003
Claims outside of Study Period	26,117

Total claims open at the start of the study period (1/1/86) were 45,760. Of the 71,226 total open claims at the end of the study, 57,488 claims opened during the study period, and 13,738 claims opened prior to the study period. Of the 165,135 total closed claims, 133,113 claims opened during the study period, and 32,022 claims opened prior to the study period. In addition, total closed claims can also be broken down by termination reason: total recoveries (105,702), total deaths (27,939), total claims reaching maximum duration (28,594), and total voluntary terminations (2,900).

Study Process

The study process began with solicitation of data from the companies. Companies submitted all LTD claims' data (including self insured) as a dump, un-audited and un-formatted, in any PC format. They were requested to provide data as far back as possible with code or field definitions. The experience study had the ability to handle 70 data fields. Between 20 and 45 fields were populated depending on the participant. Next the data was converted to standard format and audited for errors. The audit routines were able to identify 64 different audit errors. The initial audits produced an error rate of about 20%. Working with the participants, these errors were reconciled by:

- clarification, correction, or further definition of field data,
- reconciliation of incorrect date order assumptions,
- ignoring certain policies or claims,
- creating a program algorithm to work around the errors,
- resubmission of supplemental data, or
- by creating an override file to fix errors in data fields.

Terminations due to death were cross-checked where possible with Social Security Death records. Participants were asked to sign-off on data formatting for use in the study.

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Study Parameters

Participants submitted data that ranged from 12/1/80 to 12/1/96. Individual company experience was analyzed by quarter in order to determine a valid study period for each company's data. Most companies had a systems change that resulted in invalid data for certain time periods. Ultimately, the study period was set from 1/1/86 to 12/1/96, with most company's data being valid from the early 90's to mid '95. Therefore, the homogeneous data is concentrated in the mid '90s, specifically for years 1993 and 1994. Companies submitted data for several plan designs including ASO, Credit Disability, and STD. However, only traditional LTD business was included in the study.

Only claims with valid payments were used in the study. Denied claims were not used in this study. There was limited clean-up or exclusion of buy-out / settlement claims and advance pay & close claims. More often than not, these claims were left unaltered and remain an issue that must be reconciled in the next pass of the study.

Problem Areas

As mentioned above, buy outs, settlement claims, compromised claims, advance pay and close, and offset wipeout claims will need to be further defined in the next pass of the study. Terminations for disabilities aged 60+ creates irregularities in the tables and will require a special study of recoveries at the older ages. Deaths versus recoveries were not always clear in company data. Further clarification of termination reason will make the next pass of the study more valid. The most common problem area was bad data. Incomplete, inconsistent, and mis-coded data needs to be reconciled in order to create valid reports.

Assumptions

The termination rates are based on experience from January 1, 1986 to December 1, 1996. Plan types used include insured business with regular benefits (no ASO business, survivor benefits, or pension supplements). All claims with payments were used. Exposure is expressed in lives (versus amount). The select period chosen was 84 months for recoveries(ultimate recoveries are those with durations over 84 months); and 60 months for deaths(ultimate deaths are those with durations over 60 months). The data suggests that after these durations the ultimate table rates are differ little from the select rates. However due to the amount of data at the longer durations and the low rates, the exact transition point was difficult to detect.

Table 95 & Table 95a

As an integral part of the analysis and creation of this study, an experience table was constructed not only for valuation, but also as an expectation tool for auditing the validity of the submitted data. Table 95 was created from the "cleanest" of the originally submitted data (Summer 1995) and comprised about 30% of the complete set of submitted data. Table 95 deaths come from an even smaller cut of this data. Table 95 has the decrements for the following:

four disability causes,
ages 20-75, continuous,

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monthly durations 1 to 84, continuous,
gender,
elimination periods 30-360, continuous,
ultimate ages by gender 20 to 100, by integer age,
and has a provision for increased terminations at the own occ / any occ transition.

Table 95 and Table 95a are based on the same data, however Table 95a blends maternity and AIDS (causes of disability) into the “other” disability category after 6 months and 36 months respectively, and finally blends all disability category rates into the ultimate. Table 95 is slightly more accurate than Table 95a, but has discontinuities where there was no AIDS or maternity exposure. There is less than a 1% difference between the tables.

Table 95a is used as the expectation table in this report.

Definitions

A/E LTD Claim Termination Report

The claim termination categories include the following types of claims:

Recoveries

- return to work; same occupation and any occupation
- change in definition of disability
- compromised claims
- advance pay & close
- claims closed due to the claimant neglecting to follow proper claim procedure

Deaths

- claims coded as deaths
- matches to Social Security Death records

Terminations

- the sum of Recoveries and Deaths
- The termination rates represent the underlying termination rate for people disabled under an LTD contract’s definition of disability. This study considers those claims that no longer fit the contractual definition of disability to be terminations due to recovery. The intent of the study is to measure the underlying terminations of claim’s data, as opposed to measuring termination rates as a function of ancillary provisions of the LTD contract. A goal of the study is to keep the table as pure as possible and use the reserve algorithm to deal with peculiarities of LTD business.

Benefit Maximums

- maximum benefit duration reached

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- mental & nervous disabilities having reached contract limit
- pension cessation claimants (for reserving, these claims should be thought of in terms of offsets).

Voluntary Terminations

- settlements
- wipe-outs, where offsets equal the gross benefit

Total Terminations

- the sum of Recoveries, Deaths, Benefit Maximums, and Voluntary Terminations

Some claim termination reasons were changed due to errors. Two common errors occurred. First, claims closed due to maximum duration reached where the age was far short of 65 were changed to recoveries. Second, claims closed due to recovery with exact age 65 at termination were changed to maximum duration reached (Benefit Maximum).

Exposure is reported in person months with partial month exposure based on 30 day month rules. Count is a claim count, not amount. The Rate is Count divided by Exposure times 1000; or measured in per 1000 per month. The expected table for “Val” (Valuation) is CGDT at 5.50% (page 4 of report) with two changes. The duration 1, 2, and 3 values of zero were replaced with the duration 4 value and the Table 95a recovery and death split was used as a guideline to split the CGDT for recoveries and deaths. The “Exper” (Experience) table is Table 95a at 7.00% (page 4 of report).

The Age at Disability is the difference between the disability date and the date of birth plus $\frac{1}{2}$. Age group 20-24 includes ages under 20, and age group 80-84 includes ages greater than 84. Maternity claims have ICD-9 codes 630.00 through 679.99, AIDS claims have ICD-9 codes 42.00 through 44.99, and Mental & Nervous claims have ICD-9 codes 290.00 through 319.99. Elimination Period 30 days includes 25 through 35 days, 60 days include 55 through 65 days, 90 days includes 85 through 95 days, 120 days includes 115 through 125 days, 150 days include 140 through 160 days, 180 days includes 170 through 190 days, 270 days includes 260 through 280 days, and 360 days includes 340 through 380 days.

The 15 year duration includes claims with durations greater than 15 years.

Ultimate Termination Report

Through inspection of the data, the Ultimate periods for recoveries at 84 months, and deaths at 60 months, were selected. “Ages” means attained age.

Recovery & Death Timing Report

The recovery and death timing report measures the fraction of the month that the claim terminated. A value of 55.6 means that the claim terminated 55.6% into the month. This report is useful in monitoring the terminations as either a random event (mid month or 50%) or at the end of a monthly payment (100%). This report is also useful in auditing claims.

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IBNR Report

IBNR stands for Incurred But Not Reported. The difference between the reported date and the disability date determine the IBNR lag as listed on the report for both claim count and benefit amount. Forty-eight months is used as a reasonable completion period, given that most LTD contracts may deny claims that are submitted 15 months after the end of the elimination period. The expected IBNR factors vary by duration and elimination period and were calculated from this experience report.

Social Security Report

These percentages represent a count of claimants with an eventual social security award (open at the specified duration) divided by all claimants open at the specified duration. The expectation table varies by duration, gender, and age at disability and was calculated from this report.

At EP A/E Reserve Report

This report shows the annuity resulting from the termination rates starting at the end of each claimant's elimination period. Therefore, this table details pricing annuities. All claims are valued at the end of their elimination period using the valuation table (CGDT), experience table (Table 95a), and the actual pattern, as shown in the data, for \$1 of monthly benefit (i.e. number of future monthly payments given claim termination and interest discount). Actual to Expected ratios above 100 indicate that the actual experience, from claim inception, runs out worse than the expected experience. This is an indication that reserves may be deficient. Factor comparisons are calculated by gender for elimination periods, ages at disability, and causes of disability. Note the results are highly sensitive to any variation in the first several durations.

Open Claim A/E Reserve Report

This report shows the annuity resulting from the termination rates starting at the end of each claimant's last payment. Therefore this table details valuation annuities. All open claims are valued at their current duration using the valuation table (CGDT), experience table (Table 95a), and the actual pattern, as shown in the data, for \$1 of monthly benefit. Actual to Expected ratios above 100 indicate that the open claims may run out deficient. In addition to gender, elimination period, age at disability, and cause of disability, reports by duration of disability are shown.

A/E LTD Claim Termination Report (multiple variables)

Tables using two variables are built for Exposure, Actual Recovery Rates, Valuation A/E Recovery Rates, Experience A/E Recovery Rates, Actual Death Rates, Valuation A/E Death Rates, Experience A/E Death Rates, Actual Termination Rates, Valuation A/E Termination Rates, and Experience A/E Termination Rates. The two variables are chosen from the following: from reporting, from duration of disability, age at disability, gender, elimination period, and cause of disability.

One report uses duration of disability by age at disability for each gender.