



Actuarial Club of Hartford and Springfield

Group Long Term Disability – Experience Trends and Valuation Standards

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May 2013

Agenda

- New Long Term Disability (LTD) Valuation Standard
 - Background
 - 2008 LTD Experience Study
 - 2012 LTD Experience Table
 - Proposed 2012 Valuation Standards
 - Status
 - Valuation basis
 - Credibility formulas
 - 2012 Group LTD (Valuation) Table
 - Company Experience Table
 - Next steps
- Recent trends in Group LTD Experience
 - Open discussion

2008 Experience Study

2008 GLTD Experience Study Data

- Study period January 1997 – December 31, 2006
- 21 participants, 72% of 2007 market share
- 12 of top 15 carriers
- Over 1 million LTD claims exposed
- From fairly homogeneous products (all fully insured)
- 680,000 terminations (120,000 deaths and 560,000 recoveries)

2008 GLTD Study – Exposure Adjustments

- Top two participants formed 50% of exposure
- Top five participants formed 75% of exposure
 - Dampened exposure to provide reasonable representation
 - Top five participants: exposure of each was weighted 12% of total
 - Remaining participants; unadjusted, resulted in 40% of total exposure
 - Consequently
 - Weight-adjusted data equals about 62% of non-weighted data
 - Total weighted number of terminations shown in reports is around 400,000
 - No accuracy lost in weighting process

2012 Experience Table

2008 GLTD Study – Comparisons to Prior Studies

Term Count, LTD CGDT87 40,000	2008 Study 680,000
Claim count, LTD Table95a 25,000	2008 Study 1,200,000

2008 GLTD Study - Long Duration Experience Data

Prior studies	Long duration is problematic due to scarcity of data
87CGDT	Based on 85 CIDA Table
85 CIDA Table	Based on: <ul style="list-style-type: none"> - SOA Ordinary Life Disability Waiver Study (1969-1974) - Two studies of Social Security data (1973-76, 1975-1978) - Mutual of Omaha study (1970-1977)

Current study	All long-duration expectations are based entirely on data from this study	
Durations (years)	Recoveries	Deaths
11+	2,091	5,530
21+	198	1,250

2012 Experience Table Development Decisions

- The 2008 experience study had 17 times the volume of data as that underlying the 1987 GLTD
 - Indicated that data could be credible at much deeper levels of detail
- The 2008 experience study captured a range of variables not used in the prior tables
- More sophisticated analysis techniques were now practical
 - Multivariate analysis
 - Multiple linear regression
- New tools allow users to access data at the level of detail or complexity that is most appropriate to their needs
 - Pivot tables

Fundamentals of 2012 Experience Table

- Measures all approved LTD claims (with at least one payment)
- Provides separate death and recovery decrements
- Recognizes and quantifies additional parameters influencing terminations (over prior studies)
- Reproduces weighted claim experience over entire period (no margin)
- Does not attempt to address trends over the 1997 – 2006 period
- Does not address settlements or Social Security offset expectations

Considerations for LTD Experience Table Structure

- A new experience table should provide the basis for:
 - A new valuation table
 - Calculating reserves for experience rating
 - Developing claim costs for manual rating
- Need to select optimal level of granularity
 - Manual rating
 - Most granular data
 - Experience rating (reserving at case-level)
 - Still high granularity
 - Valuation experience table (reserving at book of business level)
 - Potentially less granularity needed
 - Practicality or efficiency may be higher priority

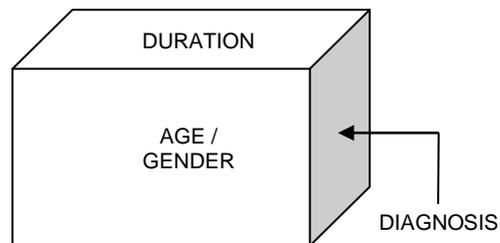
Experience Table and Approach Selected

- Produce experience table at the most granular level and let Valuation Table Committee modify as appropriate
- Use a predictive modeling approach; i.e., let the data determine the important drivers, rather than defaulting to a historical framework
 - What is the most predictive set of parameters?
 - What are the optimal structures for parameters?
 - Single dimension vs. multi-dimensional basis?
 - Will collapsing multi-dimensional parameters beyond certain durations improve efficiency without losing accuracy?

Experience Table – Key Structural Elements

- Table format
 - Base table of rates with adjustment factors
- Separate death and recovery rates
- Rates are based on full experience period (1997-2006)
- Rates are count-weighted, but both deaths and recoveries rates are functions of benefit amount
- Diagnosis dependence; Thirteen diagnosis groups are presented in data
 - Table developed using six groupings for death and eight for recovery
 - A “No diagnosis” version is provided separately
- Elimination period (“EP”) effects are identified by duration since end of EP
- Own Occupation Transition Period; i.e., following the change in definition transition from Own Occupation to Any Occupation
- Many adjustment factors are calibrated to aggregate to 1.0, so that rates will be generally accurate if some data elements are not available

2012 LTD Experience Table - Deaths



X



X

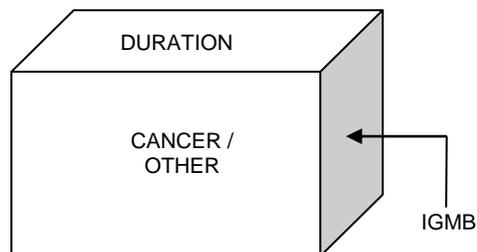


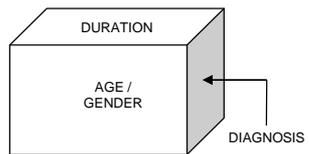
TABLE 1D: Base Death Rates by Age / Gender, Duration and Diagnosis

TABLE 2D: Adjustment Factors by EP and Duration Since EP

TABLE 3D: Adjustment factors by IGMB, Duration and Cancer / Other

2012 Experience Table Recoveries

2008 LTD Experience Table Recoveries



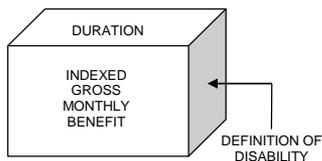
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TABLE 1R: Base Recovery Rates by Age / Gender, Duration and Diagnosis



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TABLE 2R: Adjustment Factors by EP and Duration Since EP



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TABLE 3R: Adjustment Factors by IGMB, Duration and Definition of Disability

DURATION

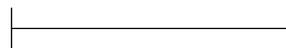
TABLE 4R: Adjustment Factors by Duration (for Any Occ period)



X

DIAGNOSIS

TABLE 5R: Adjustment Factors by Diagnosis (for Any Occ period)



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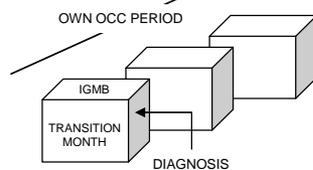


TABLE 6R: Adjustment Factors by Change in Definition Transition Month, IGMB, Diagnosis and Own Occ period

Proposed 2012 Valuation Standards

Status

- In November 2012, the National Association of Insurance Commissioners (“NAIC”) Health Actuarial (B) Task Force exposed a new valuation basis for Group Long Term Disability (“GLTD”) for comments
 - The new basis consisted of three components
 - The proposed 2012 GLTD Valuation Table, which would replace the 1987 Commissioners Group Disability Table (“CGDT”)
 - A proposed modification to the NAIC Health Reserves Model Regulation (#010)
 - A proposed new Actuarial Guideline
- The proposed changes would be effective for all new claims incurred starting January 1, 2014
 - Companies have the option to move existing claims to the new basis
 - ACLI has requested a transition “window” of 2014 to 2017
- The exposure period ends May 31, 2013

Proposed Valuation Basis

- Reserves will be set using a credibility-weighted combination of the company's experience and the 2012 GLTD Table, using the following formulas

Parameter	Definition
T=	Valuation table modification factor (i.e., the percentage of 2012 GLTD Table to be used)
T=	$[Z \times (F \times (1-M)) + (1-Z)]$, where
Z=	A credibility weighting factor
F=	The ratio of the company's actual experience to the 2012 GLTD Table
M=	Margins to be added to company experience (5% to 15%)

- Limits

Parameter	Floors Applied to Aggregate Reserves
$T \leq$	$F \times (1-M)$, and
$T \leq$	1.30 (for claims > 2 years, or > 5 years if using 5,000 terminations in durations 3 – 5 option)

Proposed Credibility Formulas

- Credibility Weighting Factors (Z)
 - Calculate separately for claim durations 1-2, 3-5, 6-10 and 11+ years

Factors	Definitions
Credibility (Z) =	$\sqrt{N/K}$, where
N =	Expected number of terminations based on Valuation Table and company exposure
K=	Credibility determination factors by duration of claim (see below)

- Credibility Determination Factors (K)

Duration (years)	K
1-2	3300
3-5	2500
6-10	2100
11+	1700

2012 GLTD Valuation Table

- Starts with a slightly simplified version of the 2008 GLTD Experience Table
- Separate recovery and death rates, which vary by:
 - Gender
 - Age
 - Elimination period (“EP”)
 - Claim duration
 - Claim diagnosis
 - Benefit amount
 - Definition of disability
- Deaths and recoveries are combined into aggregate terminations and then multiplied times 0.85 to add the valuation margin

2012 GLTD Valuation Table - Recoveries

Recoveries

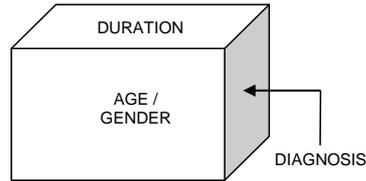


TABLE 1R: Base Recovery Rates by Age / Gender, Duration and Diagnosis

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TABLE 2R: Adjustment Factors by EP and Duration Since EP

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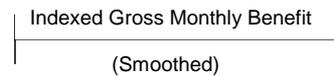


TABLE 3R: Adjustment Factors by IGMB

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TABLE 4R: Adjustment Factors by Definition of Disability and Duration

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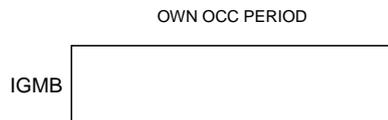


TABLE 5R: Adjustment Factors by IGMB and Own Occ period

Company Experience Table

- Based on study of company's own experience
 - Most recent five years of experience, if possible
 - Combine affiliates with common claim administration
 - Separate any major sub-groups that may produce significantly different results
 - Measure actual-to-expected ("A-to-E") based on claim count, using 2012 Valuation Table as expected basis
 - Update study at least every five years or whenever experience may have changed enough to increase the Valuation Table modification factor (T) by 10%
 - Use all available Valuation Table parameters (e.g., Diagnosis), if possible
- Small companies are exempt if both of the following are true:
 - Fewer than 50 open claims incurred in the last two years
 - Fewer than 200 open claims incurred more than two years ago
- Changes in subsequent experience could change reserves for existing claims

Next Steps

- Updates to be provided in presentation

Recent Trends in Group LTD Experience

- Informal survey results and open discussion

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