

Update on the Group Long-Term Disability Table to the NAIC Health Actuarial Task Force (HATF)

Academy/Society of Actuaries
Group Long-Term Disability Work Group

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AMERICAN ACADEMY *of* ACTUARIES

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Objectives

Section 1: Valuation Consideration by Product Type

History and Product Comparisons

- Group Life Waiver of Premium
- Individual Disability
- Group Long Term Disability

Valuation Precedents

Section 2: Group LTD Valuation Proposal

- Background and Timeline
- Valuation Table Considerations
- Proposal
 - Base Margin
 - Use of Own Experience
 - Time Period
 - Credibility
 - Own Experience Margin
- Scenario Testing
- Comparison to CGDT87
- Comparison to Experience by Year



Section 1: Valuation Considerations by Product

Group Life Waiver of Premium

- New Valuation Standard Adopted in 2009
- Adopted as “Actuarial Guideline” (not a model regulation)
- Was not replacing any previous model regulations or actuarial guideline
- 700,000 Life-Years Exposed
- Base Margin added to recovery and death assumptions
- Carrier modifications use three to six years of experience with credibility recommended , but not defined
- Floor or minimum reserve is explicitly defined
- Commissioner can recommend 100% of own experience for unfavorable experience



Valuation Considerations by Product

Group Life Waiver of Premium: Differences from Group LTD

- No offsets to insurance carrier liability
- Single definition of disability (no transition)
- Little active claims management
- Group Life WoP - low death rate = beneficial to insurance companies
 - Margin = adding to death rate assumptions
- Group LTD – high termination rate = beneficial to insurance companies
 - Margin = reducing claim termination rate assumptions



Valuation Considerations by Product

Individual Disability (CIDA, CIDC)

- 1985 CIDA adopted in the late 1980's – incidence and termination rates
- Adopted as model regulation
- 1985 CIDC developed in late 1990's as an interim step to recognition that termination rate experience was much different than CIDA table

This table came with a recommendation that new tables be developed

Newer table development in process – aiming to have experience tables by end of 2012 – database of 360,000 claims

Covers periods of favorable and unfavorable experience



Valuation Considerations by Product

Individual Disability: Differences vs. Group LTD

- Reserves include active life component
 - incidence rates are needed
- Offsets are less significant
- Can be different definitions and limitations of disability
- Occupation is captured and used for segmentation



GLTD Product: Valuation Precedents

1985 CIDA Exposure: 134,000 claims Period: 1973-1979

Margin: 5% reduction in term rates graded to 0% after 18 months

No Margin on Incidence Rates

1985 CIDC: Did not do seriatim claim study: 1993-1997

Margin: sufficient to cover 85% of companies (2-3% morbidity margin)

2006 Group Life Waiver Study

Exposure: 750,000 Life-Years Study Period: 1993-2002

Margin: 25% on Recoveries, 35% on Deaths

1987 CGDT

Base Study: < 24 Months: 1975-1980: 13,000 Terminations

Years 3-10: 1962-1980

Years 11+: 1985 CIDA Study

Margin: 10% on Terminations



Section 2: Group LTD Valuation Proposal

➤ Background

- August 2009—SOA Group Disability Experience Committee produces and publishes a 10-year claim termination experience report
 - More than 1 million claims; 680K terminations; 2.4 million life years
 - June 2011—Base experience table and accompanying report published.
- March 2011— Committee presents to HATF at NAIC Spring Meeting. This results in the following charge:
 - “The Health Actuarial Task Force asks the American Academy of Actuaries to develop a Valuation Table to replace the 1987 Commissioners Group Disability Table...”
- The work group is targeting a complete recommendation to be made by June 2012



GLTD Valuation Proposal - Influences

- Converting an actuarial study to a valuation standard: no official template
- Considered by GLTDWG:
 - Other related valuation tables:
 - Current GLTD statutory model; New group life waiver model
 - Elements specific to the study:
 - Study size (credibility) and period (economic cycles)
 - Granularity of experience table
 - Study limitations
 - Elements specific to the product / industry:
 - Sensitivity and materiality of reserves
 - Disparity of experience by carrier
 - Relation to capital requirements
 - General elements:
 - Not overly complex
 - Balancing “prescribed” vs. “principle based”



GLTD Valuation Proposal - Considerations

- 2008 Experience Study was limited to Disabled Life Terminations
- Goal: Replacement of the 1987 Commissioners Group Disability Table (87 CGDT) in model regulation.
- Out of Scope: Guidelines on...
 - IBNR, Offset Assumptions, Discount Rate, Adequacy Testing
- Proposal: Detailed Prescription for setting termination assumptions, with the recommendation that the selections be automatically approved if the prescribed formula is followed.
- Appointed Actuary bears ultimate responsibility for maintaining reserve adequacy
- Required Capital provides significant additional protection against insolvency



GLTD Valuation Proposal

- Base Table: Simplified Version of 2008 Experience Table with 85% of deaths to account for past and future declines in mortality rates
- Recovery and Death Rates:
 - Gender by Age by Elimination Period by Duration by Claim Diagnosis
 - Modified by Benefit Amount and by Definition of Disability
- Valuation Table: Base Table with Margin: 15% on Total Terminations in all durations
- For carriers above a certain size, statutory reserves are based on a credibility-weighted blending of the Valuation table and the Company Experience with Margin Experience



GLTD Valuation Proposal

- Credibility is based on expected terminations and defined for four duration groups
- Own Experience Margin: between 5% and 15% (based on expected terminations)
- Protection for poor termination experience:
 - Reserves must be higher than 100% of own experience
- Protection for overly positive termination experience:
 - Reserves must be higher than 130% of valuation table level
- Own Experience Termination Study: Based on Five Years of Termination Experience



GLTD Valuation Proposal – Base Table Margin

- Base Table:
 - Based on a very large number of claims
 - Cover a long study period (1997-2006)
 - Deemed to be fully credible (true industry mean)
 - Margin needed to cover the risk that the table is not the correct mean for a given carrier
 - Margin set so that 85% of carriers in study have A/E's above 100%

carrier	15% margin
A	135.0%
B	145.3%
C	134.0%
D	125.9%
E	107.1%
F	105.8%
G	103.3%
H	128.7%
I	112.8%
J	109.4%
K	101.1%
L	61.1%
M	106.0%
N	102.9%
O	90.8%
P	126.9%
Q	112.7%
R	105.1%
S	111.5%
T	139.2%
U	97.6%
Count>100	18
carrier count	21
% of carriers	85.7%

- Valuation Table:
Margin: Base Table Termination Rates X 85%



GLTD Valuation Proposal – Credibility

Selections are based on “Minimum Fluctuation” theory

100% credibility is defined so that we are:

X% confident that the true expectations (Confidence Interval)

Will be with y% of the measured outcome (Allowable Error)

Assumption: observed terminations are “normally” distributed based on a random process with an additional variance factor to capture systematic trends

Percent standard deviation in termination A to E: V / \sqrt{N}

N = expected terminations

V = subjective variance factor



GLTD Valuation Proposal – Credibility

Recommended Credibility

$$\text{Credibility} = \sqrt{N/K}$$

Confidence Interval: 85%

Allowable Error: 5%

Credibility is capped at 100%

N: *Expected* # of Terminations based on Valuation Table

Duration	Variance	
	Factor	K
1-2 Years	4.0	3,300
3-5 Years	3.0	2,500
6-10 Years	2.5	2,100
11+ Years	2.0	1,700



GLTD Valuation Proposal – Credibility

Why use different Duration Groups?

Claim management dynamics can differ substantially by duration

1-2 Years:	Active early management phase
3-5 Years:	Change in definition of disability
6+ Years:	More passive management (permanent disabilities)

Termination A to E's are dominated by early duration experience

1-2 Yrs vs Total,
5-6 Yrs vs Total 6+

Duration Groups: make it possible to “bend” the curve to fit experience



GLTD Valuation Proposal – Credibility

Why use different Duration Groups?

Sample Calculation:

Carrier 1	1-2 Yrs	3-5 Yrs	6-10 Yrs	11+ Yrs	Total
Actual Terms	5,000	1,000	250	100	6,350
A to E Terms	105%	90%	85%	80%	101%
Impact on Reserves	3.7%	4.8%	4.1%	3.8%	4.1%
Carrier 2					
Actual Terms	4,640	1,222	338	150	6,350
A to E Terms	97%	110%	115%	120%	101%
Impact on Reserves	-4.2%	-4.7%	-4.0%	-3.8%	-4.1%

The same total A to E can lead to indicated reserves that differ by 8%



GLTD Valuation Proposal – Own Experience Margin

- Own Experience Margin is based on the number of total terminations in the five year study used to determine experience adjustment factor
- Initial Experience margin is selected so that there is 95% confidence that the true number of expected terminations will fall below the selected table expectations
- Final Experience Margin = Initial Margin + Fixed Additional Margin
- Margin applied as a reduction in termination rate by Duration Group
- Variance Assumptions match what was used in credibility selection
- Additional Margin = 3%
- Actual Own Experience Margin is bounded by 5% and 15%



GLTD Valuation Proposal – Scenario Testing

The work group tested the application of the prescribed method using:

Multiple carrier sizes: small, medium, large, and very large

Multiple termination patterns:

high/low, low/high, low/high/low, low, Very low

Reserve Balance Tested against

1. 100% of Own Experience
2. Credibility Blended w/ No Margin

Results: Reserves are always adequate versus #2 and versus #1 for all but small carriers with poor termination experience.

Up to 2% inadequate for small carriers with low or very low terminations in all durations: This led to requiring reserves greater than 100% of own experience for carriers above a specified size.



GLTD Proposal – Comparison to Current Standard

Proposal has *more explicit margin* than existing standard.

-15% vs. 10% reduction in terminations

Existing standard currently has *implicit margin* due to significant improvements in recovery rates

Proposal specifies explicit margin on own-experience adjustments across all duration years.

Existing standard allows for use of own experience for two or five years, with *undefined* margin

Actual reserve impacts will be variable by company due to the own experience modifications.



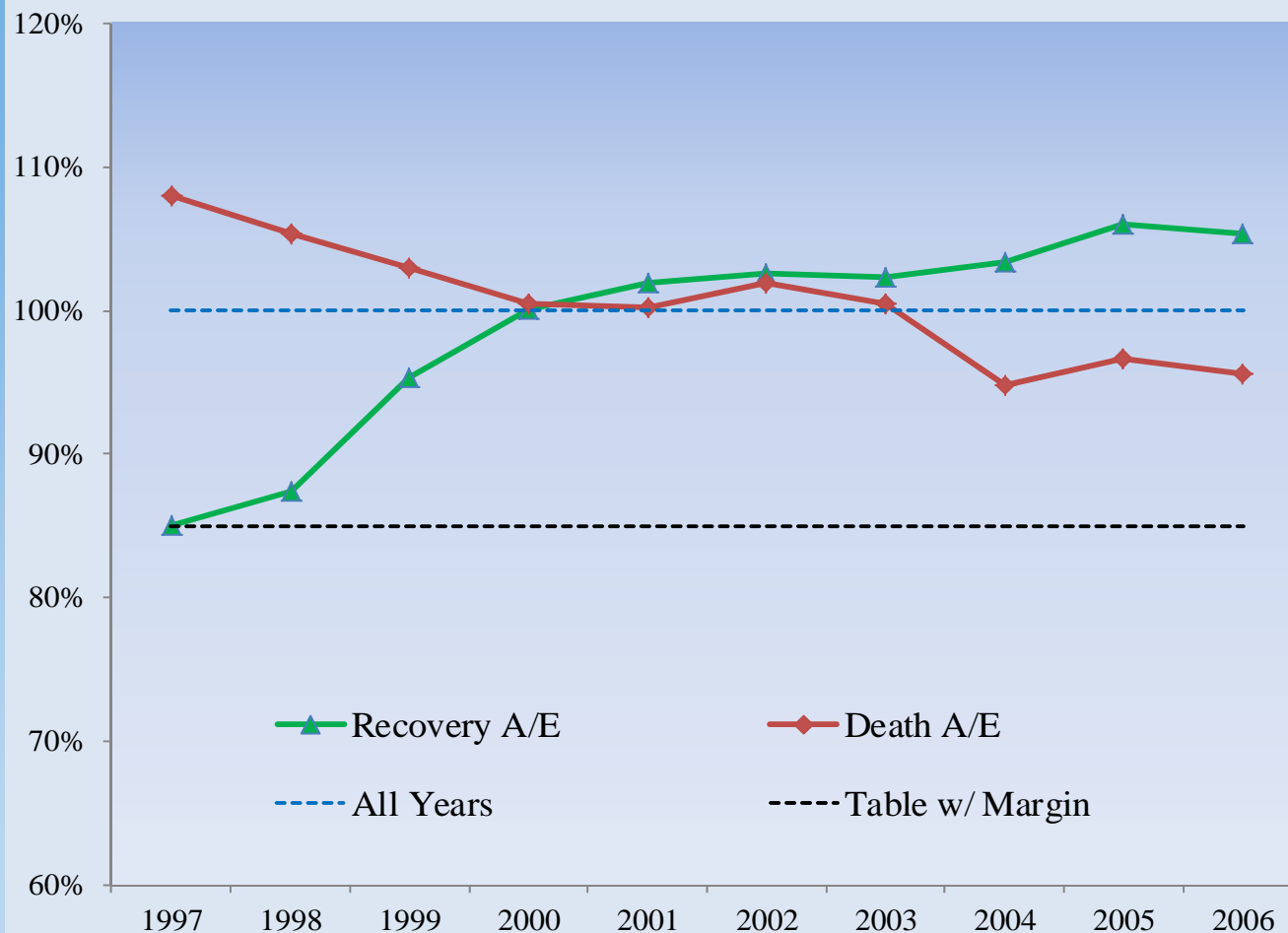
GLTD Proposal – Comparison to Current Standard

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Proposed Standard	Current Standard: Small Carriers	New Table Impact	Current Standard: Large Carriers	New Table Impact
Own experience (5 – 15% margin) mixed with proposed table (15% margin) starting from in year 1 <i>(greater weight on new table in later years)</i>	Year 1-2: Own experience (Margin undefined) Year 3+: CGDT 87 (10% margin on rates)	Year 1-2: Credible Experience w/ Margin Year 3+: Reserve Impact -5% to -6% with no experience adjustment	Year 1-5: Own experience (Margin undefined) Year 6+: CGDT 87 (10% margin on rates)	Year 1-5: Credible Experience w/ Margin Year 6+: -2% to -3% with no experience adjustment
	Years 3+ represent 60% to 70% of the Total Balance		Years 6+ represent 35% to 40% of the Total Balance	



GLTD Proposal – Study Results by Year



Term Counts

	Recov
Yrs 1-2	275,500
Yrs 3-5	44,138
Yrs 6-10	6,638
Yrs 11+	2,091
Total	328,367

Deaths

Yrs 1-2	43,951
Yrs 3-5	17,457
Yrs 6-10	8,600
Yrs 11+	5,530
Total	75,539



GLTD Proposal – Next Steps

Proposal Implementation: questions still under discussion

- When should the table be implemented?
- How should it be implemented?
 - Rolling transition versus All at Once ?
 - Required versus Allowed?
- Recommended Form of Implementation?

Timeline of action for GLTDWG:

March 2012 NAIC Meeting: Work group solicits feedback from HATF on proposal

March-June 2012: Prepares detailed memorandum of final proposal

August 2012 NAIC Meeting: Requests commissioner approval

2012/2013: Implementation



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