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**Health Pricing Boot Camp
August 10- 11, 2009**

**Session 3a: Long-Term Care—
Product and Regulation**

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Session 3a Long-Term Care Pricing Assumptions

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Primary Pricing Assumptions

- Morbidity
- Claim Cost Components
- Persistency
- Mortality
- Morbidity and Mortality Improvement
- Investment Income
- Commission Expenses
- Administrative Expenses
- Common Discounts



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Morbidity

Actuaries
Risk Is Opportunity.™

- Estimating benefits (claim costs) for LTCI is challenging
 - Complexity of different benefits within a policy
 - Interrelationship of types of benefits
 - Marketing, Underwriting, and Anti-selection
 - Lack of credible insured data
 - Product contains “long tail” risk
- Most carriers modify insured population data tables, or rely on consulting firms / reinsurers to supply the pricing assumption.



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Persistency

Actuaries
Risk Is Opportunity.™

- LTCi is a lapse supported product due to level premium pricing.
- Higher persistency reduces profits, since more people remaining at the oldest ages when claim costs are the largest.
- LTCi has the lowest lapse rates of any insurance product.
- In the 1990s, persistency was expected to resemble other health products, with ultimate persistency at 5% or more.
- Lapse rates generally decrease with duration from issue.



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Persistency Effect on Premiums



Sample Impact of Ultimate Lapse Rates on Premium Levels	
Ultimate Lapse Rate	Premium
1%	\$1,000
2%	900
5%	670
8%	500



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Mortality



- Mortality operates on LTCi in a similar manner to persistency.
- Annuity mortality is most often used for LTCi pricing.
- Annuity mortality required for calculating reserves, since life mortality would make reserves too low
- Many companies use selection factors for LTCi applying them to either life experience tables or to annuity valuation tables.



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Mortality and Morbidity Improvement



- Mortality and Morbidity are assumed to improve at a similar rate.
- They are estimated to improve at 0.5-2.0% per year.
- A simplifying assumption of improving morbidity only by about half of these rates is often used.
- Companies are prohibited from using morbidity improvement in calculating reserves.
- Most companies assume no morbidity improvement in pricing or use a lesser amount for only a fixed number of years.
- Improvement in a cognitive area (such as a cure for Alzheimer's) will have a disproportionately higher impact on morbidity



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Investment Income



- LTCi Incidence increases steeply by attained age, but premiums are required to be level by issue age.
- LTCi products build up significant reserves in early policy years, which are released in later years as claims exceed premiums.
- Pricing is quite sensitive to both the rate of investment income as well as the assumed change in rates over time.
- Asset / Liability matching is even more important for LTCi than it is for most other insurance products.
- Liabilities have longer "Durations" than Assets usually available.
- Interest rate immunization techniques can only be used for the largest portfolios and are only as good as the guarantor.



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Commission Expenses



- Commissions were originally designed with high renewals and lower first year commissions as is typical for health insurance policies in order to protect the company from replacements, minimize surplus strain, and encourage persistency.
- Once it became clear that lapse rates were low and replacement activity virtually non-existent, companies began reducing renewals and increasing the first year compensation.
- Now, commissions are very similar to life insurance structures with high commissions first year, moderate commissions years two through ten and little or no commission after the tenth year.



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Administrative Expenses



- First Year Administrative Cost Much Greater for LTCi than Life
 - Underwriting "wastage" for declines and unplaced policies high
 - Medical records (and their interpretation) very expensive
 - Policy issue age more expensive
- Administrative Cost for Claim Handling is Very Small Initially, but Increases Rapidly in the Later Durations
 - 20-30% of first year premiums
 - Plus 3-5% of premium for maintenance expense
 - Plus 3-5% of claims paid
- Rate Increases, if necessary, become a Significant Extraordinary Expense for Compliance and Implementation Activities



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Common Discounts



- **Spouse Discounts**
 - Prevalent in LTCI since one spouse often cares for the other spouse with little or no cost to the insurance company
 - Spouse claim costs about half of no-married claim costs, until the first spouse dies when claim costs revert to a much higher level
 - Most companies use a discount in the 30-40% range with lesser amounts if only one insured is applying
- **Good Health Discounts**
 - Available for the healthiest 30-50% of the applicants
 - Discounts typically in 10-25% range
- **Endorsed Employer Group and Association Discounts**
 - Companies typically offer a 5-10% discount for groups
 - Employer groups are 3+ and Associations are 10+ in size



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