

Actuarial & Finance

Pricing and Assumption Considerations

Tuesday, March 28, 2017

Adam Walling, Mutual of Omaha
Stephanie Moench, Milliman, Inc.



17th Annual Intercompany Long Term Care Insurance Conference



Key Modeling Assumptions

- Morbidity
 - **Incidence & Selection**
 - Continuance / Recovery
 - Transfers
 - **Utilization**
 - **Improvement**
 - Anti-Selection
- Mortality
 - **Active / Disabled**
 - **Selection**
 - **Improvement**
- Voluntary Lapse
 - **Active / Disabled**
 - Shock Lapse
- Demographics
- Asset Rate





Other Modeling Assumptions*

- Expenses
 - Commissions
 - Acquisition & Underwriting
 - Claims & Maintenance
 - Premium Tax
- Target Surplus

** Generally company specific or pre-determined*





Additional Considerations

- Model Complexity
 - First principles vs. Total claim costs
 - Granularity of assumptions
- **Actual to Expected (A/E) Analyses**
- **Credibility**
- GAAP vs. STAT





General Considerations

- Select period vs. ultimate assumption
- Starting vs. current site of care
- A/E studies (to be discussed later)



Additional Combination Product Considerations

- Rationing behavior
 - Lower claim frequency
 - Could vary by age



General Considerations

- Differs by strength of underwriting
- Underwriting has become tighter over time
- How much selection?
- For how long?
- Relationship by age / duration
- Impact of marital status





Additional Combination Product Considerations

- Mortality-focused underwriting
 - Protective value for morbidity
- Potentially less comprehensive morbidity underwriting
- Additional risk classes (e.g., smoker / non-smoker)
- Younger average issue age





General Considerations

- Initial level
 - “Day” vs. “dollar” utilization
- Policy vs. claim duration
- Trending initial levels / future projections
 - Cost of care inflation
 - Policy inflation
- Historical levels vary considerably
- Impact of transfers between sites of care
- Assumption parameters





Additional Combination Product Considerations

- Rationing behavior
 - Lower utilization for certain sites of care?
- Monthly claim adjudication
 - Lower utilization due to higher monthly max





General Considerations

- Choosing an underlying table
 - Generally industry tables are “total” vs. “active”
- Lack of industry-wide disabled mortality experience
 - No comprehensive industry studies
- Lack of ultimate experience
- Interaction with incidence assumption
- Conservation of mortality
- Assumption parameters





Additional Combination Product Considerations

- Underlying mortality table generally differs from that used for stand-alone LTC
- Rationing behavior
- Deaths during rationing period are “active” not “disabled”
 - Lower disabled mortality
 - Higher active mortality





General Considerations

- Usually modeled together
- Total vs. active & disabled
 - How do you reflect in disabled cohort?
- How much improvement?
- For how long?



Additional Combination Product Considerations

- Combined impact on LTC and life components



General Considerations

- Pooling experience
- Select period vs. ultimate assumption
- Impact of changes in underwriting over time
- Credibility
 - Various methodologies
 - Changing underlying expected assumption
- Level of granularity / specificity





Thank you for your participation!