

UPDATE TO NAIC LTC ACTUARIAL WORKING GROUP

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AMERICAN ACADEMY *of* ACTUARIES

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General Linear Model (GLM): Predictive Dimensions

- We have developed a statistical GLM and other statistical methods to identify dimensions to help explain the historic mortality experience. From these methods, we also identify which dimensions have had the greatest significance and might be most appropriate for use in projecting future experience.
- Dimensions to be used for mortality are gender, marital status, underwriting risk class, issue age, and policy year.
- Lapse will use the same dimensions for study. This will make total terminations consistent. Fewer dimensions may be recommended (e.g., no issue age, gender), but no additional dimensions.



Mortality Select Period

- Data has suggested that there was less value from selection at younger issue ages than at older, but longer selection periods at younger issue ages than older.
- For issue ages below 65, we have extended the selection period to thirty years.
- For issue ages above 70, we have reduced the selection period to ten years.
- The selection period is graded between these issue ages.

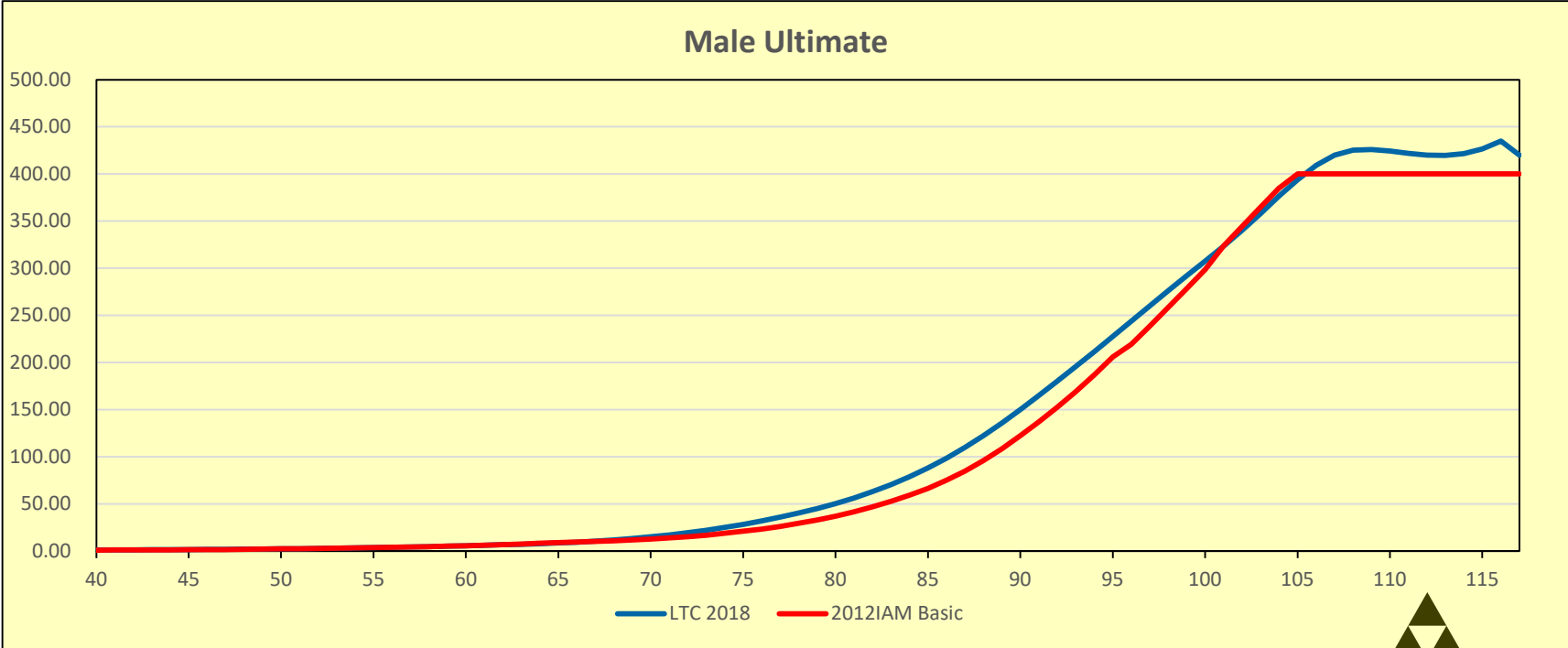


Valuation Mortality Table

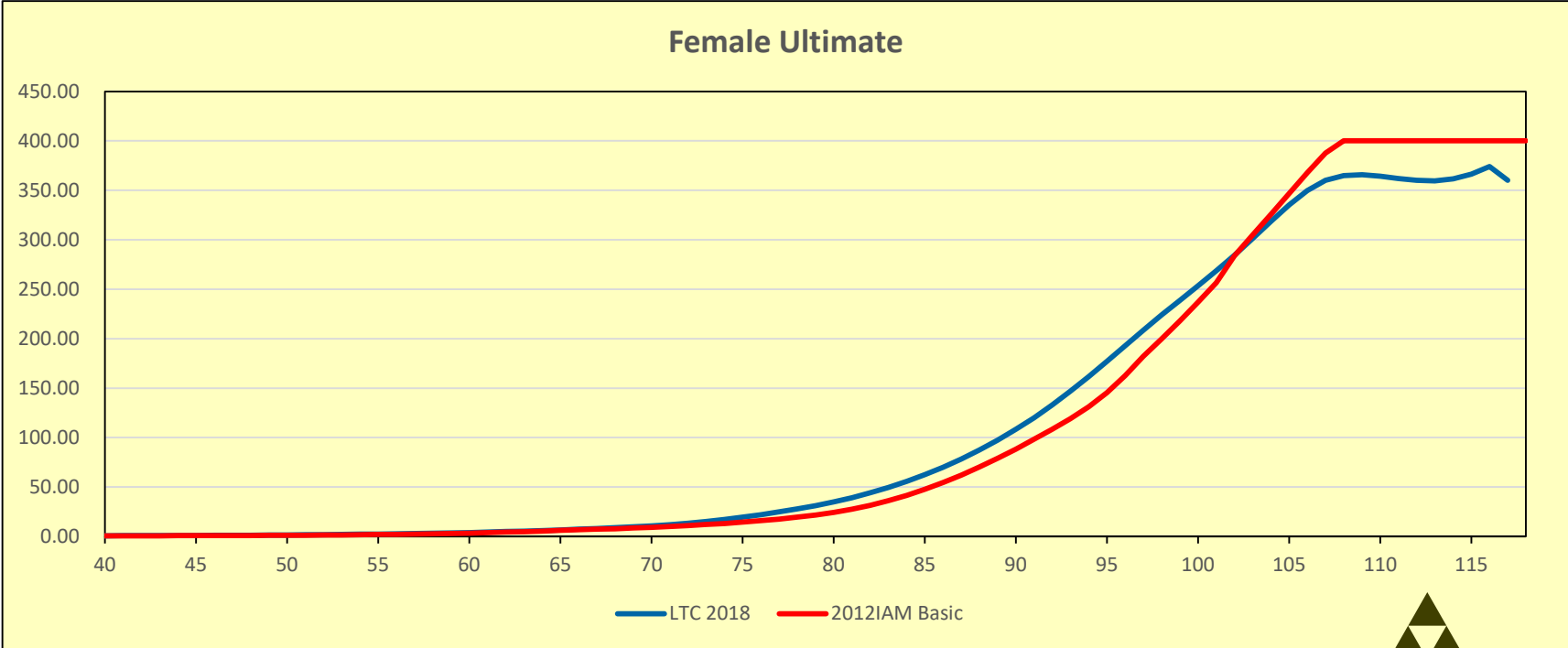
- Age basis - age last birthday (ALB).
- Mortality exposure period 2008 – 2011. Improvement will be applied from mid-point to 2020.
- Exposure lives basis for both total lives and active lives.
- Valuation tables are derived by multiplying the “Expected” mortality rates by a factor, .90 pending final review.
- Cap of 0.40. The cap only affects very old ages.



Ultimate Basic Mortality Table - Male



Ultimate Basic Mortality Table - Female



Next Steps

- Study lapse rates on same dimensions as mortality.
- Validate total terminations, mortality and lapse combined.
- Complete mortality study for active life exposure basis.
- Apply mortality improvement from mid-point to 2020.
- Finalize margin for valuation tables.
- Mortality subgroup has begun drafting Report. Complete Report.
- Anticipate draft report emerging in 2nd quarter of 2019.

