



2017 SOA  
Life & Annuity  
Symposium

May 8-9, 2017  
Seattle, WA

## Session 36 PD, Evaluating New Mortality Scoring Tools

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## Session 36: Evaluating New Mortality Scoring Tools

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May 8, 2017

# Today's Environment



**Consumers expect immediate satisfaction**

But...



**Faster processes lead to more anti-selection**

So...



**The industry is balancing experience with product design**

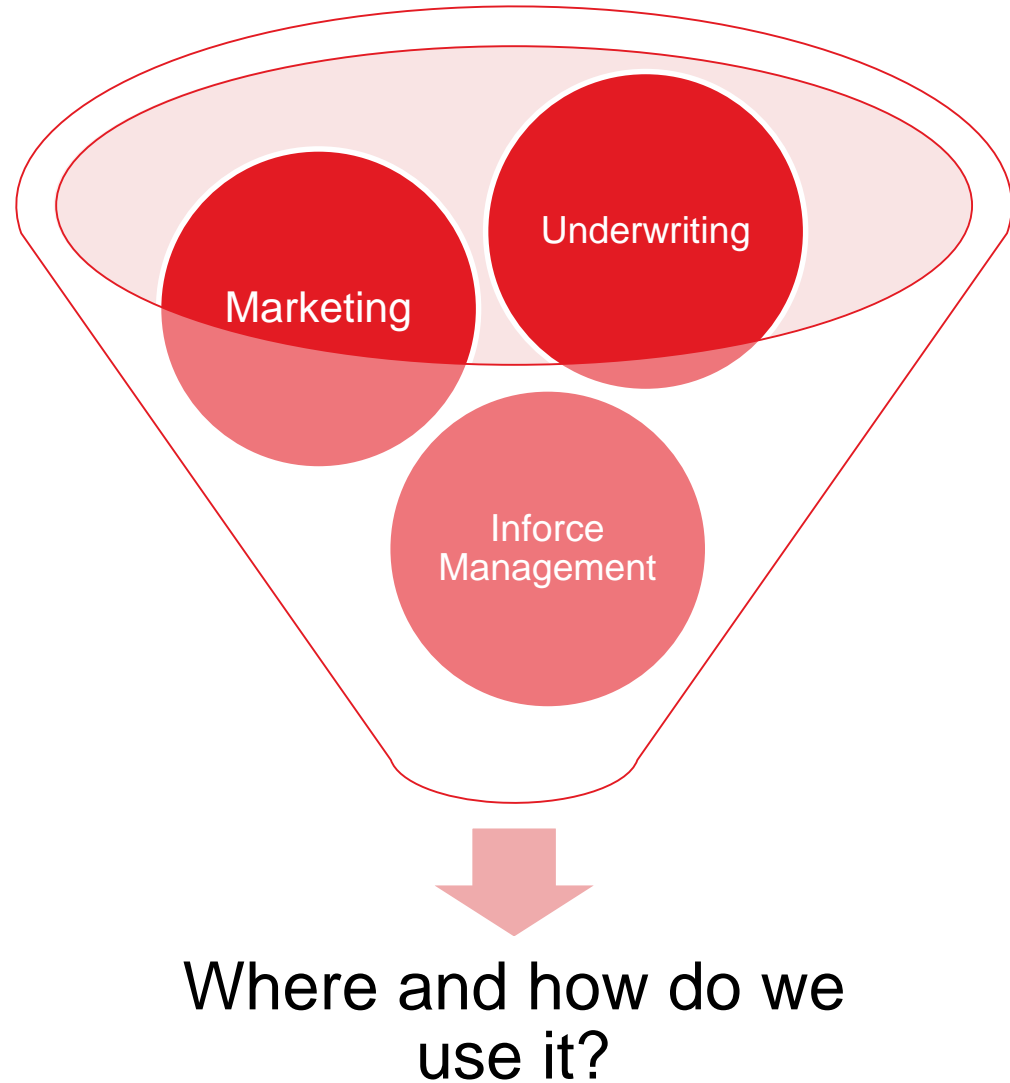
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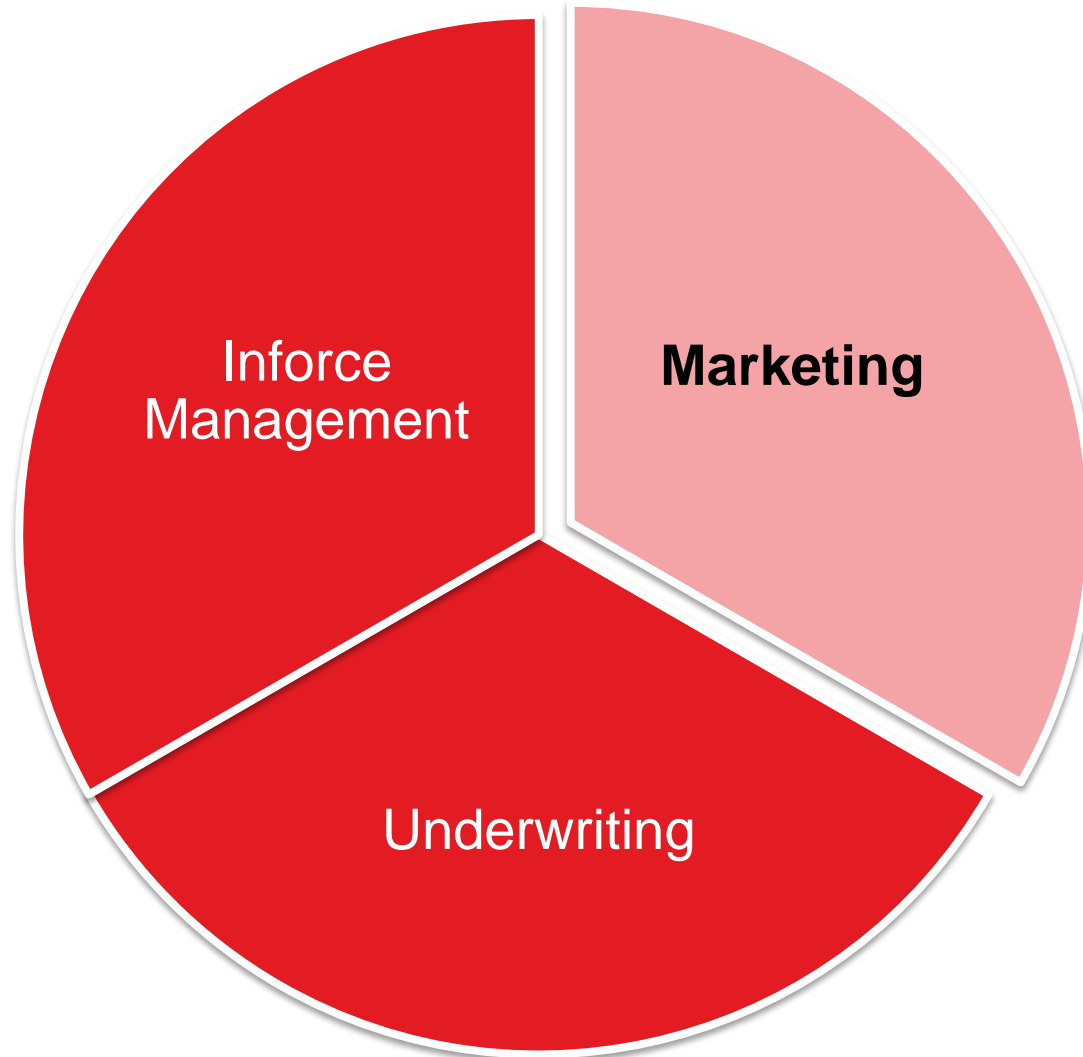
**Data driven solutions are bridging the gap**

# Potential Uses of Risk Scoring Tools

- Our industry has always been about data
- Multiple scoring tools are available and interact
- Need to determine your objectives to find the best fit

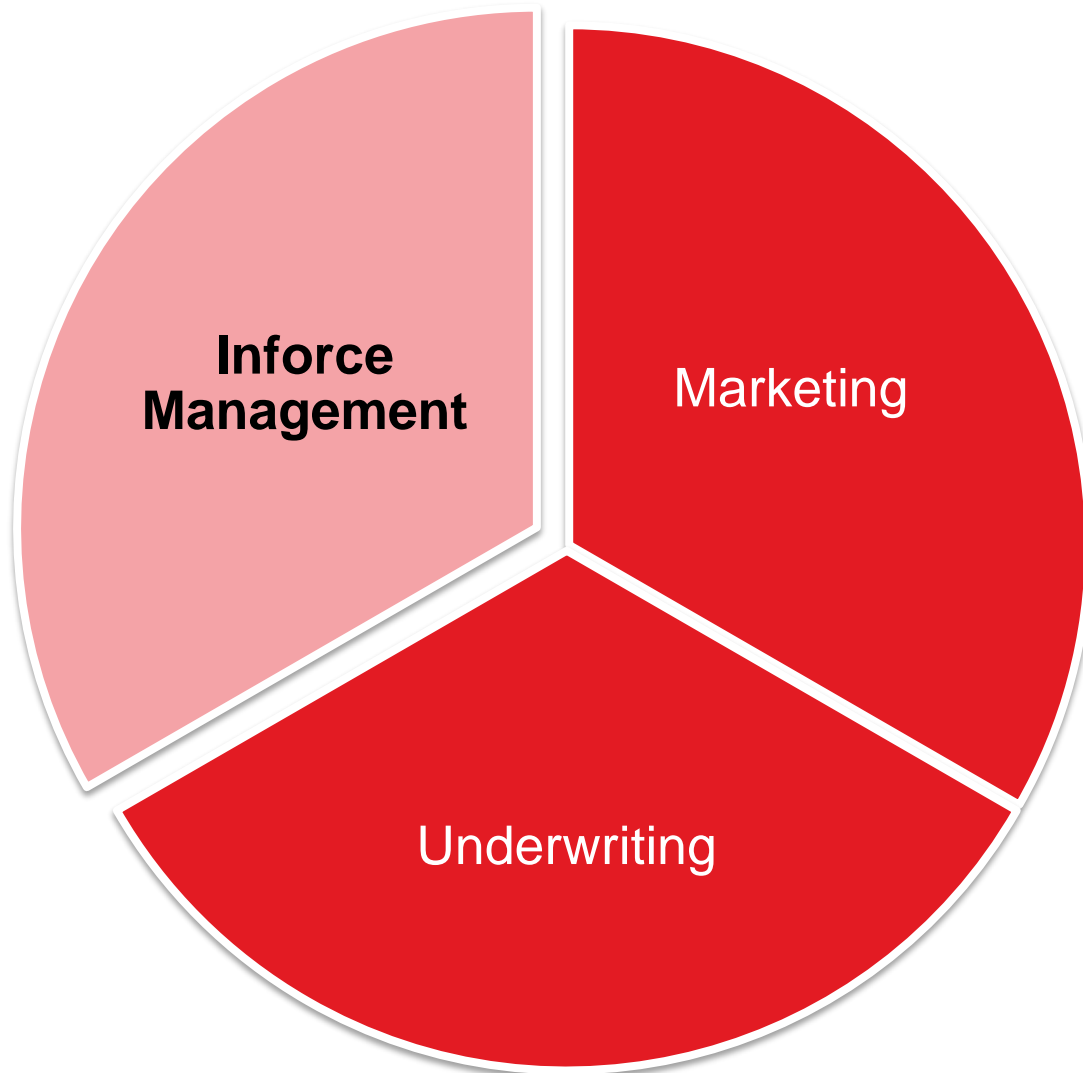


# Where and How Do We Use It?



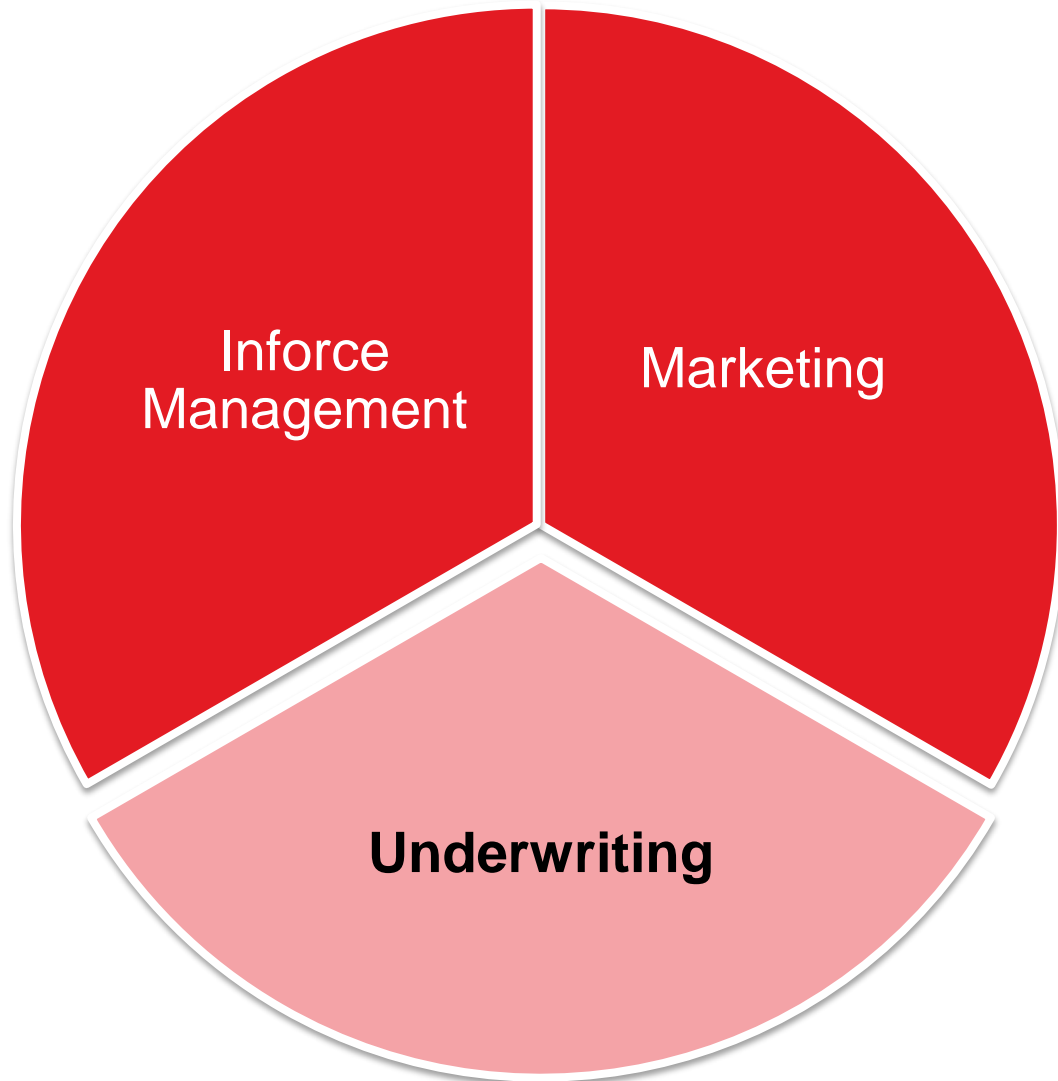
- Lead generation/target marketing
- Cross-sell/up-sell
- Restrictions on data use may be less stringent

# Where and How Do We Use It?



- Improve understanding of inforce risk profile
- Improve inforce projections of mortality and lapse
- Target conservation efforts

# Where and How Do We Use It?



- Fully Underwritten
- Simplified Issue
- Accelerated Underwriting

# Underwriting Applications

## Fully Underwritten

- Improve risk segmentation
- Preferred knock-out
- Upgrade / downgrade
- Higher margins or lower rates

## Simplified Issue

- Addition of a preferred class
- Improved mortality
- Lower retail rates

## Accelerated Underwriting

- Improved customer experience
- Lower UW costs
- Speed to issue
- Increase placement

*Some tools may be useful for several different applications*

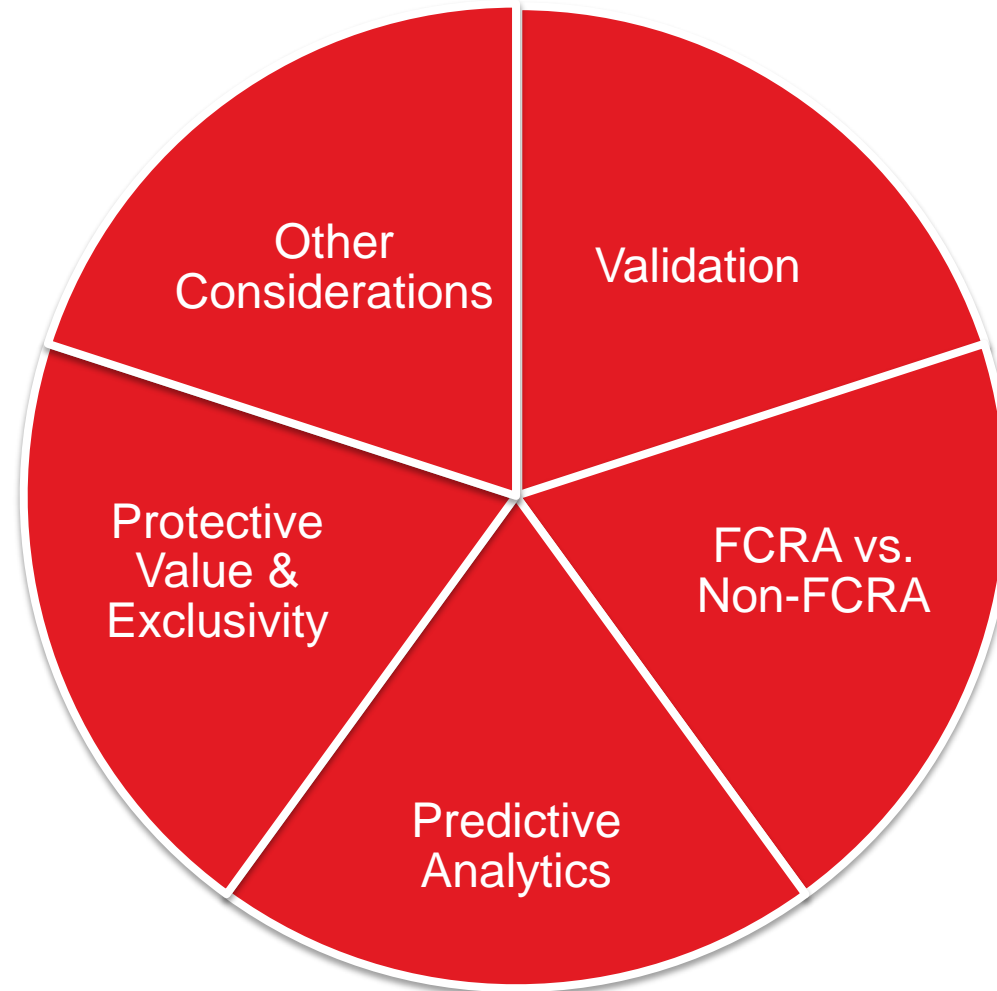




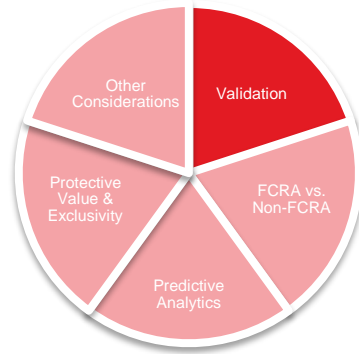
**RGA**

## **Risk Scoring Tools: Selection and Validation**

# What to Consider When Choosing a Tool?



# Validation



## Retrospective Analysis

- Demonstrates the value on historical experience – mortality/lapse/etc.
- Provides a starting point in setting future assumptions
- Should be considered necessary for the validation of a new scoring tool
- Industry data/population data/company specific
- Individual company results can vary greatly
- Relative mortality vs. actual mortality

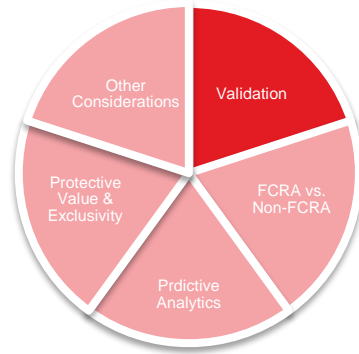
Caution when using alone!

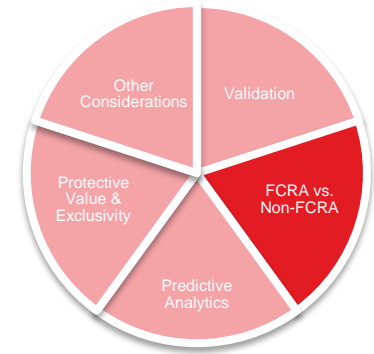
# Validation

Distribution  
Analysis

- **Caution when using alone!**
  - Anything can segment your business
  - Takes many years to validate experience
- Combined with a retrospective study can provide great insight
- Be mindful of differences by product and target market

Caution when using alone!





# FCRA vs. non-FCRA

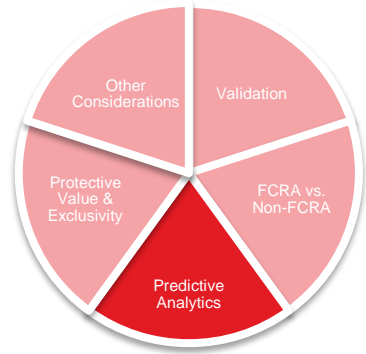
## FCRA

- Fair Credit Reporting Act (FCRA) Section 604 specifies permissible purposes for use of consumer reports to a person “which it has reason to believe intends to use the information in connection with the underwriting of insurance involving the consumer...” Thus, consumer reports may be used in connection with the underwriting of life insurance.

## Non-FCRA

- Generally used in lead generation/target marketing
- Must understand whether the data is for an individual or household
- Data quality may not be as accurate as FCRA compliant data

# Predictive Analytics



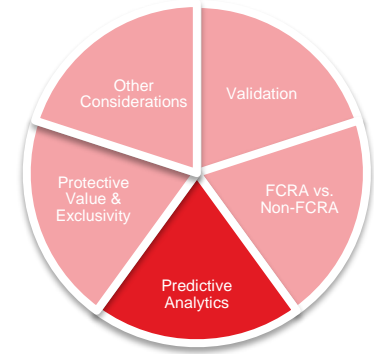
## Understand the development

- Target variables, input data, modeling technique, etc.
- More data inputs does not always indicate a better model
- Were separate sets of data used to develop and validate the scoring tool?
- Is your data source raw data or modeled data?
- Can the data be used in underwriting (i.e., is it nondiscriminatory?)

## Model should be transparent

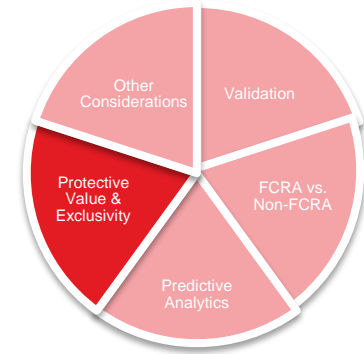
- A score from a model should also provide the drivers behind the score
- A score from a model should have meaning
- Transparency is key

# Predictive Analytics



## Ask the tough questions!

- How much data was used?
- Was the data related to the data that will be used going forward?
- Did the model really address my problem?
  - Example: Predicting death or underwriting decision?
- What happens if a data element is not available?
- Did your modeler understand the business? Do they have a stake in the success of the model?



# Protective Value & Exclusivity

## Protective Value

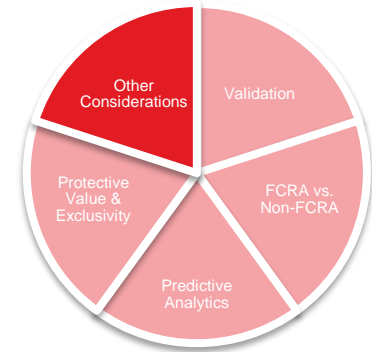
- Determine the value the scoring tool provides to you
  - The value should always outweigh the cost of the tool

## Exclusivity

- The scoring tool may illustrate protective value on its own, but...
- The protective value may diminish with current pieces of evidence in practice



# Other Considerations



**Make sure you understand the output and restrictions of the scoring tool**

## Limitations on Use

- Can it be used to make UW decisions?
- Consult legal counsel

## Rights to the Score

- Can the score be shared with third parties – e.g., reinsurance audits?

## Reason Codes

- Can underwriters understand and explain decisions?
- Field reaction

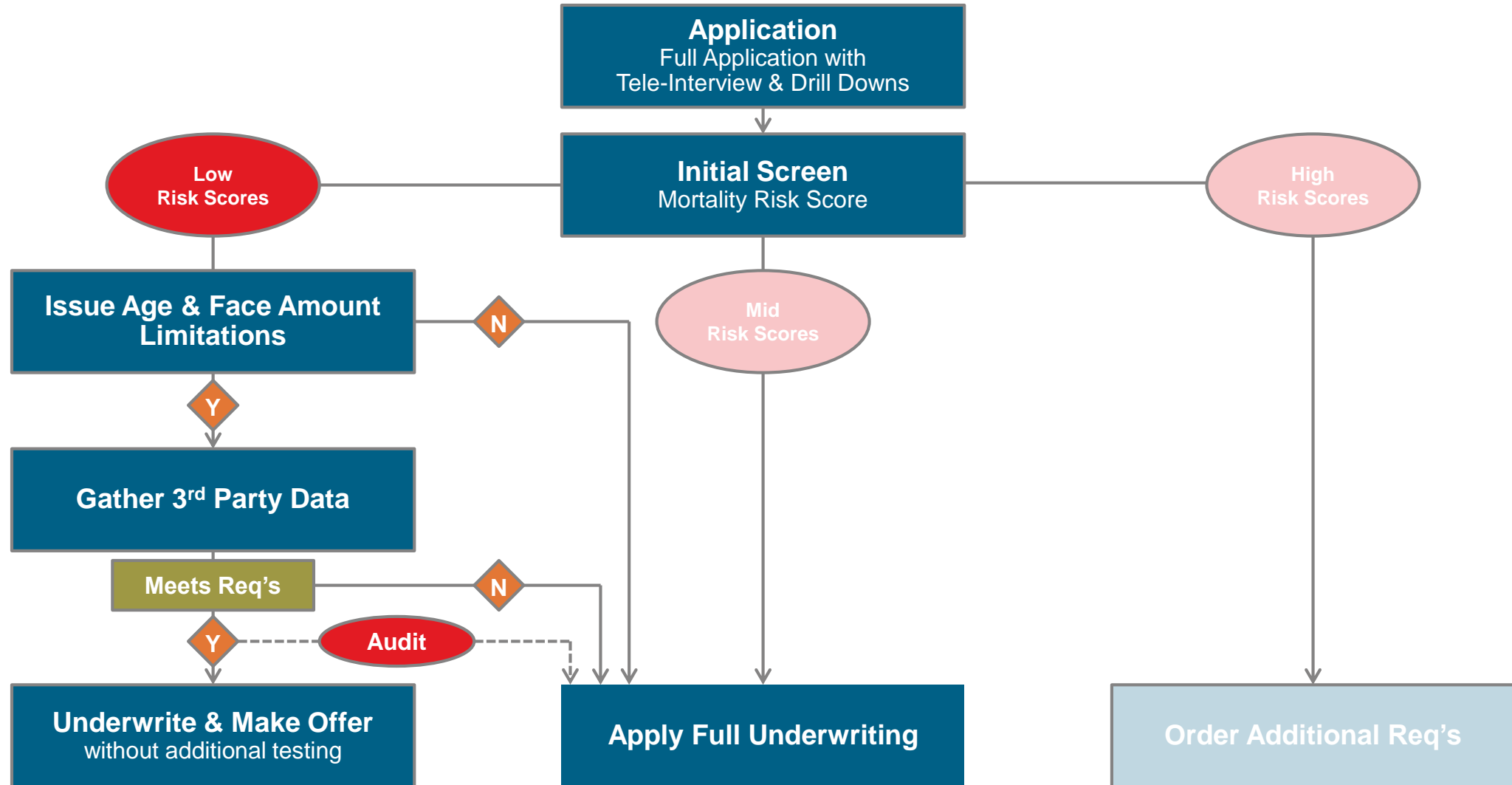


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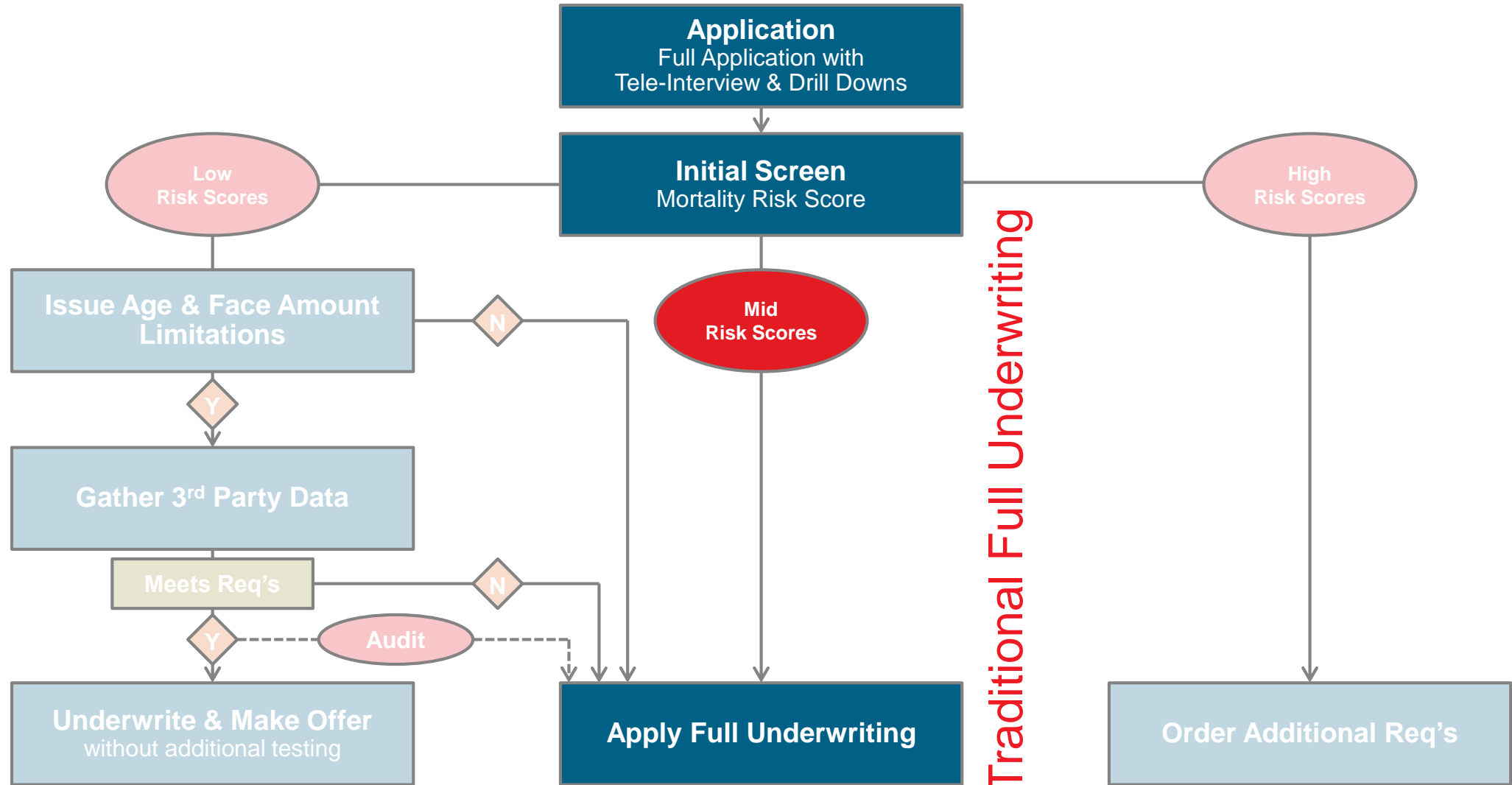
## **Case Study – Accelerated Underwriting**

# Accelerated Underwriting (Example)

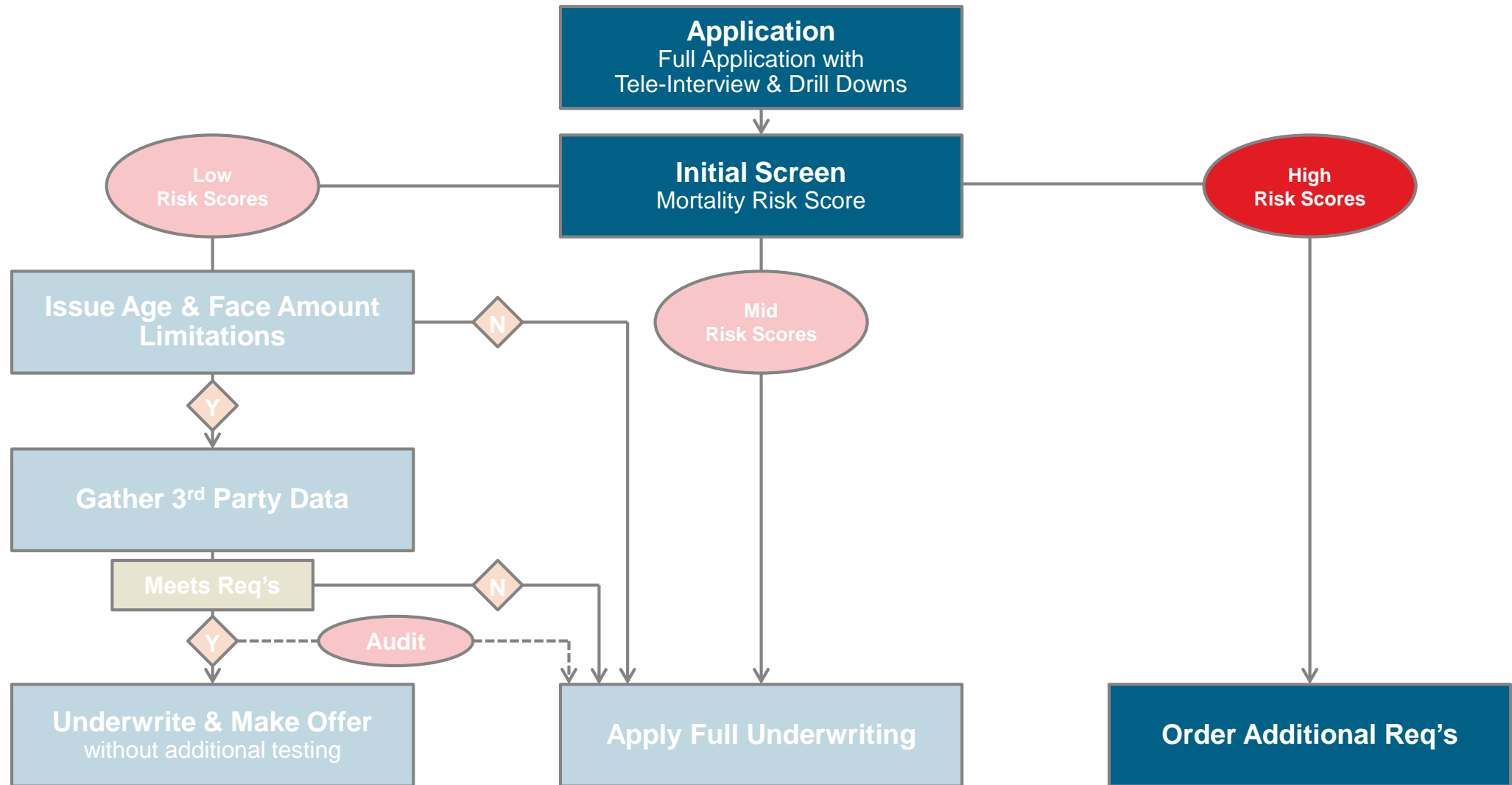
Accelerated / Fluidless Path



# Accelerated Underwriting (Example)



# Accelerated Underwriting (Example)



Additional Information Needed

# Designing an Accelerated Underwriting Program

- Define eligible class of applicants (issue age, face amount)
- Desired pass-through rate on accelerated path
- Desired pricing impact – balancing act
  - Increased eligibility by age and/or amount, increased number of classes available, higher pass-through rate → more mortality slippage
  - Impact of distribution shift by class
  - Mitigate mortality slippage through downgrades
  - Residual impact on ineligible insureds
  - Lower UW costs, improved placement rates, lower lapses may help offset higher mortality costs
- Ongoing monitoring and refinement
- Start small and expand

# Accelerated Underwriting (Example)

## Retrospective distribution analysis - hypothetical

FUW Class	Accelerated (Waive Fluids or Paramed) Low Risk Score, Pass UW Rules			Normal FUW Requirements			Total	Risk Class Distributions	
	SPNT	PNT	SNT	Low Risk Score	Mid Risk Score	High Risk Score		Current	New
Super Preferred NT	170	0	0	30	140	10	350	35%	43%
Preferred NT	60	75	0	30	120	15	300	30%	26%
Standard NT	15	15	30	45	85	10	200	20%	18%
Rated NT	1	1	5	15	20	3	45	5%	4%
Preferred T	1	1	0	10	11	2	25	3%	2%
Standard T	1	1	1	9	11	2	25	3%	2%
Rated T	0	0	0	1	3	1	5	1%	1%
Decline	1	2	2	15	25	5	50	5%	5%
	<b>249</b>	<b>95</b>	<b>38</b>	<b>155</b>	<b>415</b>	<b>48</b>	<b>1,000</b>	<b>100%</b>	<b>100%</b>

Risk Score Mortality Impact:      <100%      <100%      <100%      <100%      >100%      >200%

% of Issued that are Accelerated:      40%

% of Issued that are Accelerated by Class: 

	SPNT	PNT	SNT
Mortality Slippage:	110%	110%	110%

Weights:      50%      30%      20%

Weighted Average Mortality Slippage: 110%

# Key Takeaways

- Expanded use of scoring tools is a large component of our industry's future
- Do your due diligence – Ask the tough questions
- Implementation of any new tool or underwriting program must be well-thought out with proper training and buy-in from key stakeholders
- **Through the responsible use of new mortality scoring tools**
  - We can provide better risk selection
  - Enhance the consumer experience
  - Grow the underserved life insurance industry





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