

# Trends and Issues in Assumption Development and Governance

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*On Your Side*<sup>®</sup>

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## Question #1

Where are you in the assumption governance process?

- 1) We have this mastered. No improvements necessary.
- 2) We have solid processes in place, but we need to continue to improve.
- 3) We've started and have a long way to go.
- 4) This is not a priority for us.

## My Background

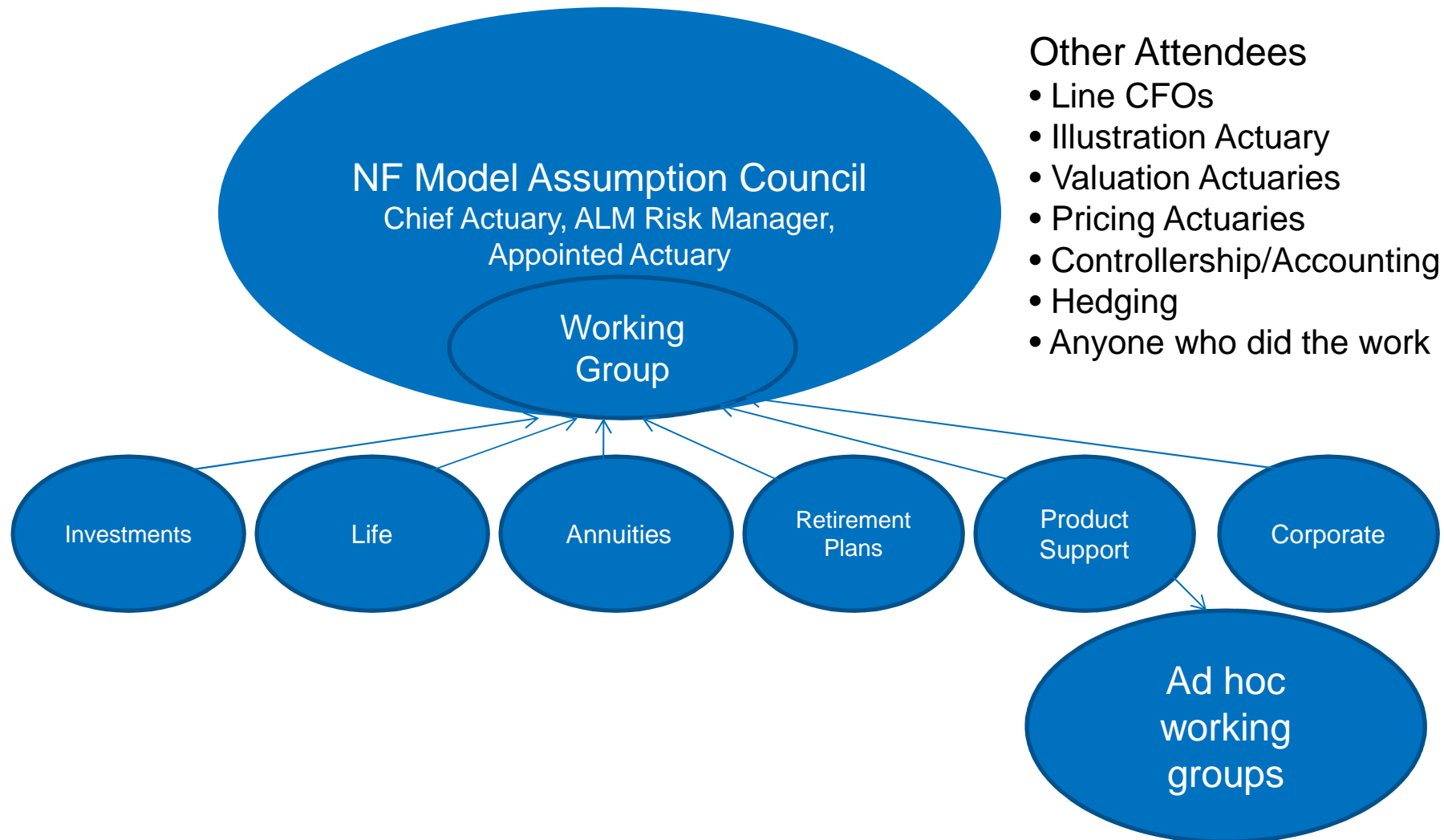
- Corporate area
- Large, domestic company
- Lead assumption governance
- Lead the SOA Assumption Development and Governance Group
  - Sponsored by Financial Reporting and Product Development Sections
  - Meets quarterly via phone



# Governance Process



# Assumption Council - Nationwide



## Approving Body - Industry

- Chief Actuary
- Appointed Actuary
- Valuation
- Enterprise Risk Management
- CFOs
- Pricing Actuaries
- Accountants
- Illustration Actuary
- Tie to Model Steward and/or Model Governance
- Other

Larger and foreign companies started putting processes in place 3+ years ago.

Smaller, domestic companies are just starting the process.

## Question #2

Do you have a governing body that approves assumptions?

- 1) Yes, and it has been operating for years.
- 2) Yes, but it has recently started.
- 3) No, we use existing business structures for approvals.



## Question #3

To what extent are assumptions running through your governance process?

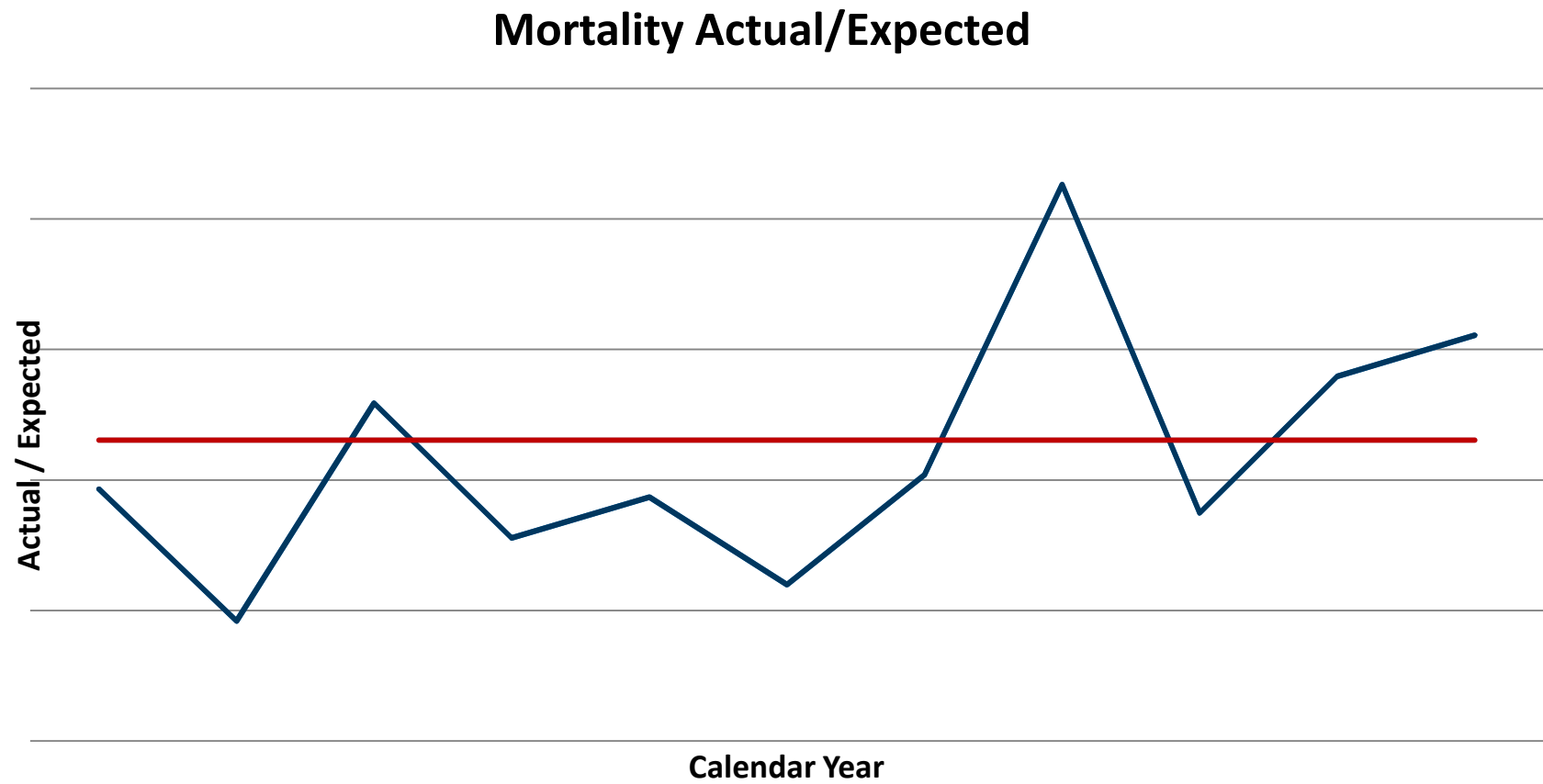
- 1) Everything – pricing, illustrations, valuation, cash flow testing, ALM, ERM, etc.
- 2) Most – just a few loose ends
- 3) Some

## What is reviewed for approval?

- Internal experience studies
- Industry studies – SOA, LIMRA, Consultants, Reinsurers
- Business and general knowledge
  - Regulatory considerations
  - Sales practices – at issue and current
  - Underwriting practices
  - Business evolution
  - Demographics

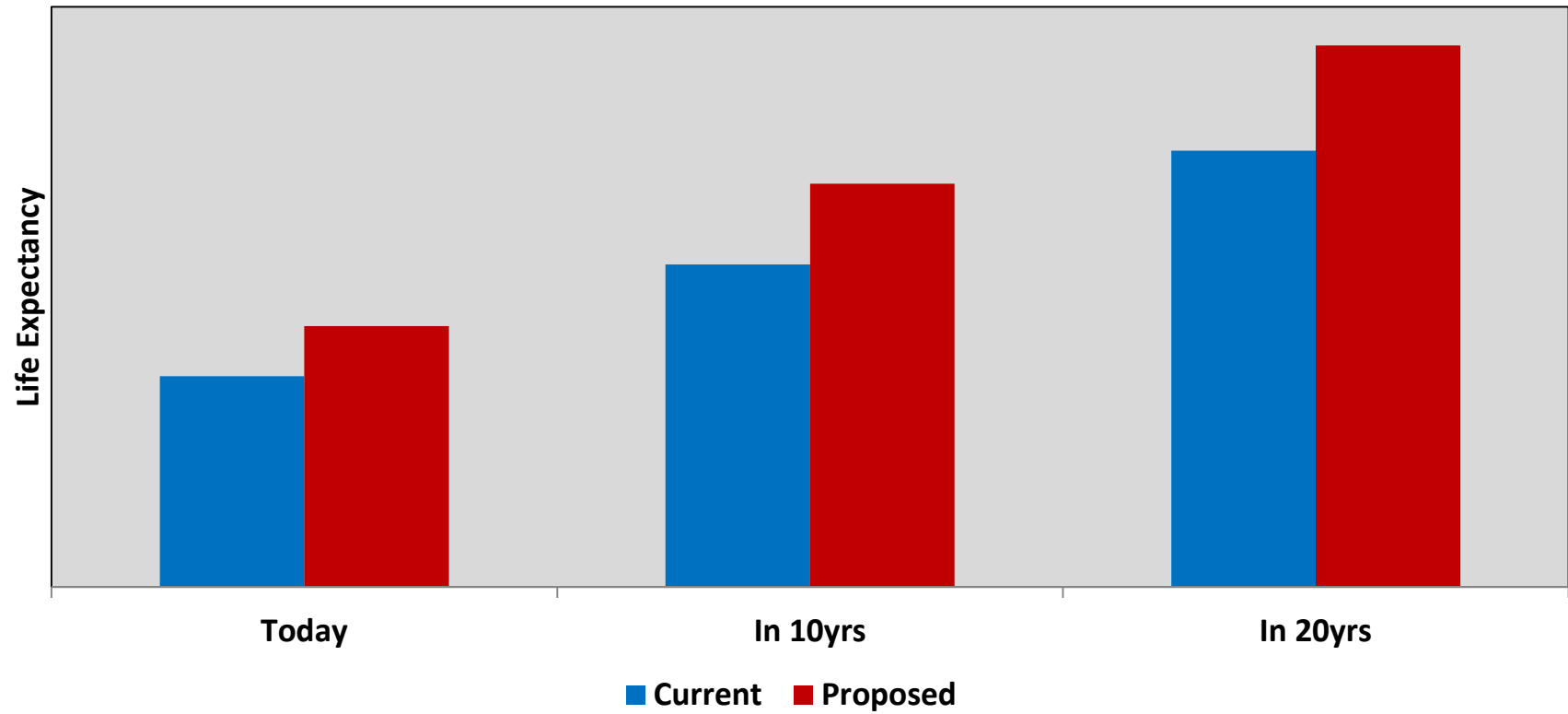
All with as many pictures as possible.

## Example: Mortality

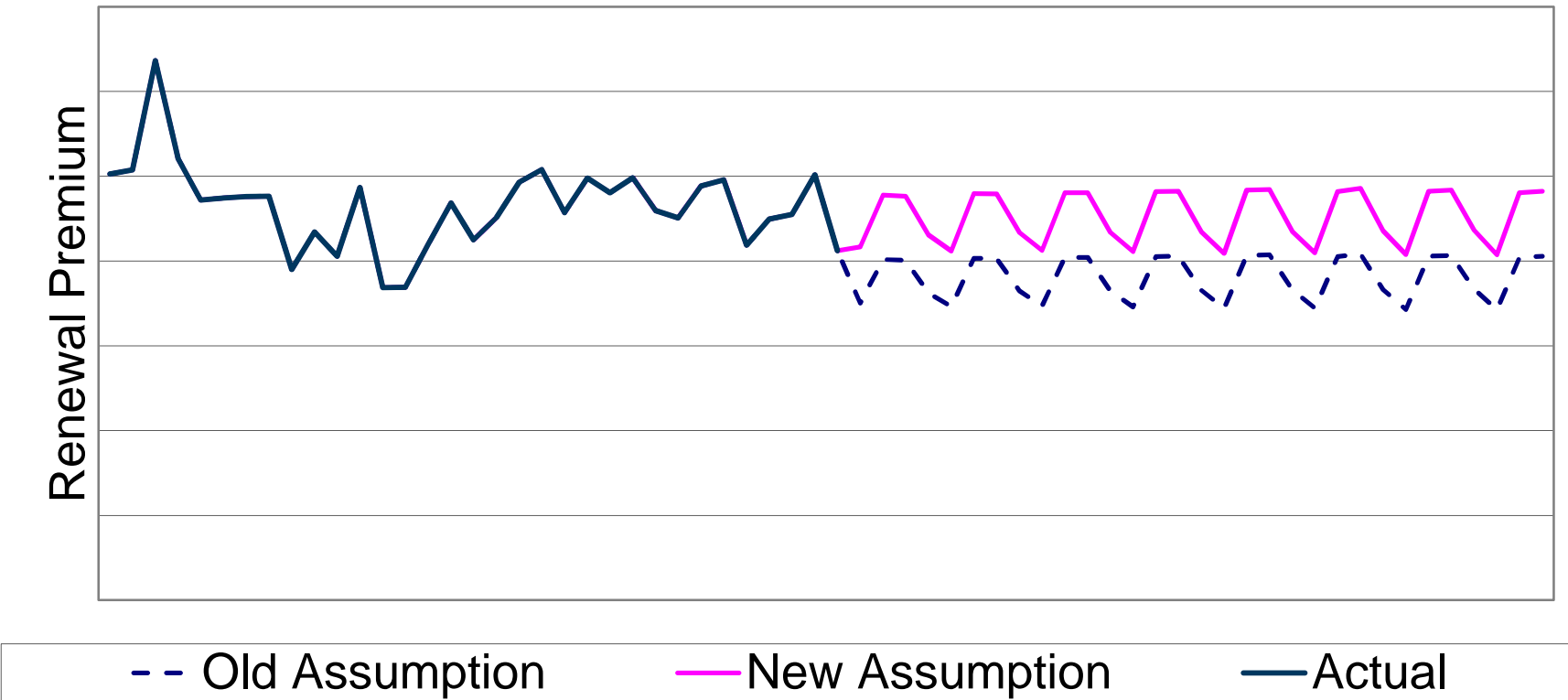


## Example: Mortality

Life Expectancy - Age x Gender y



# Example: Renewal Premium



## Example: Statistical Lapse Study

### Benefits

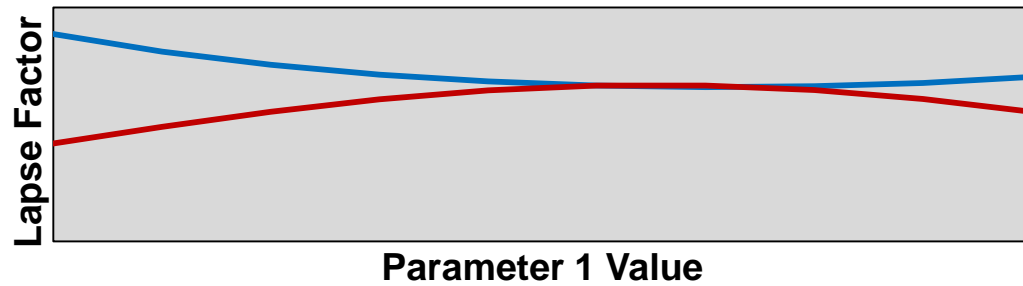
- Pinpointing significant variables
- Interaction between variables
- Calibrating “base” vs. “dynamic”

### Process

- Define universe of variables
- Test in model
- Review
- Revise and test

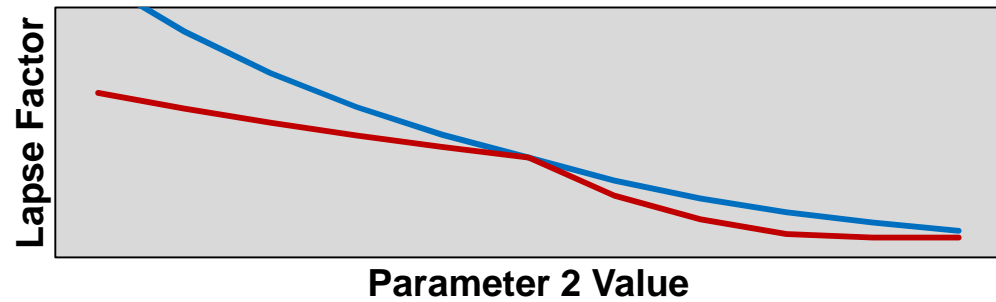
# Example: Statistical Dynamic Lapse Study

## Parameter 1



— Epoch 1 — Epoch 2

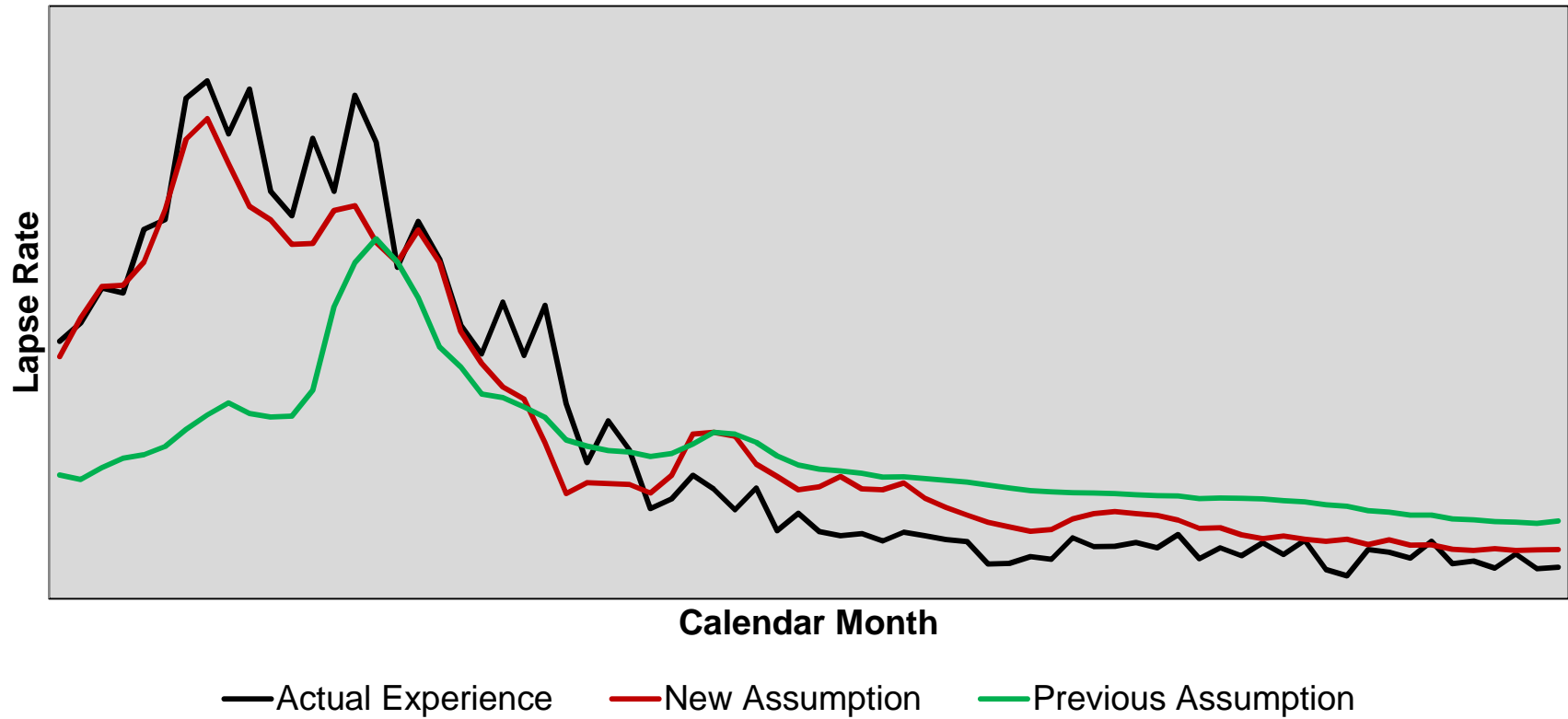
## Parameter 2



— Epoch 1 — Epoch 2

# Example: Statistical Dynamic Lapse Validation

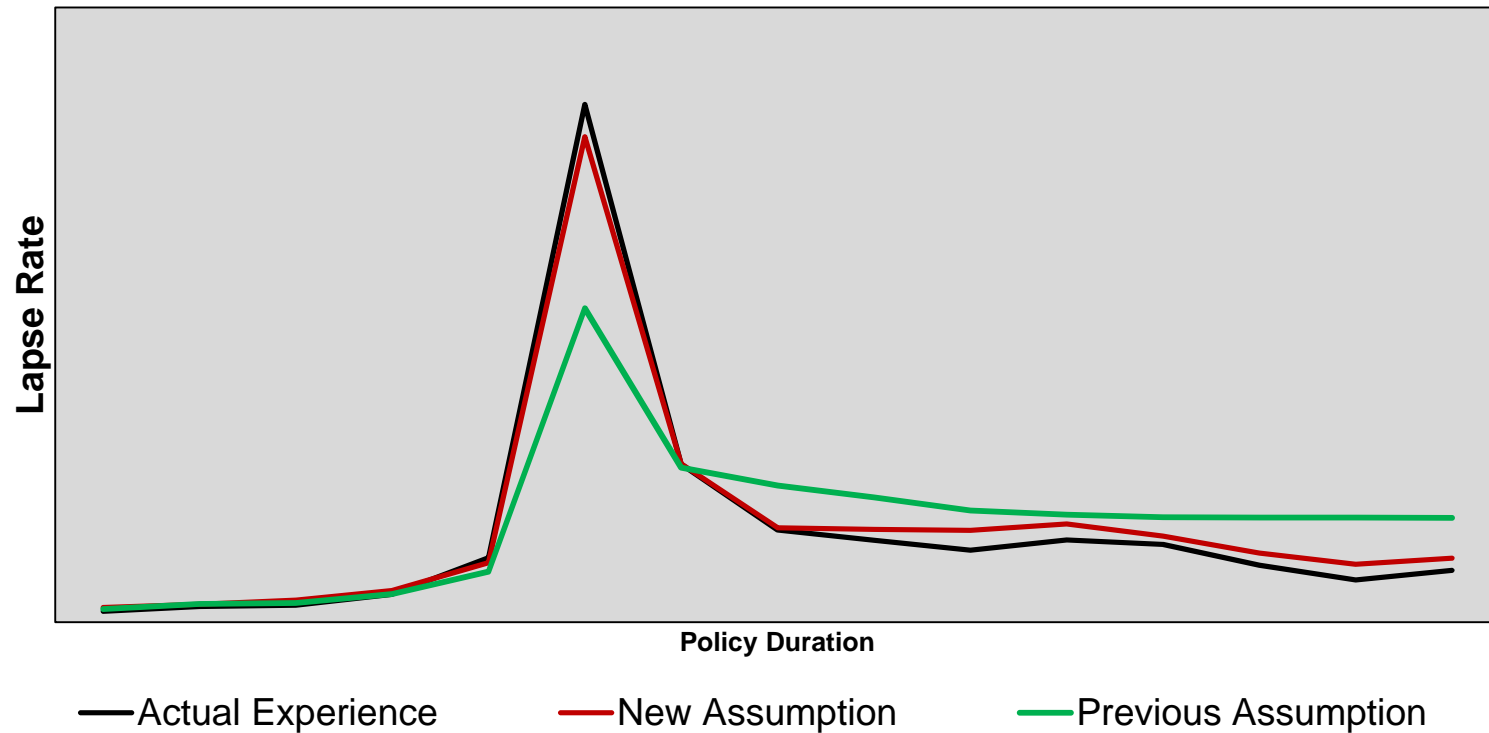
## Actual Lapse Rates vs. Assumptions Over Time





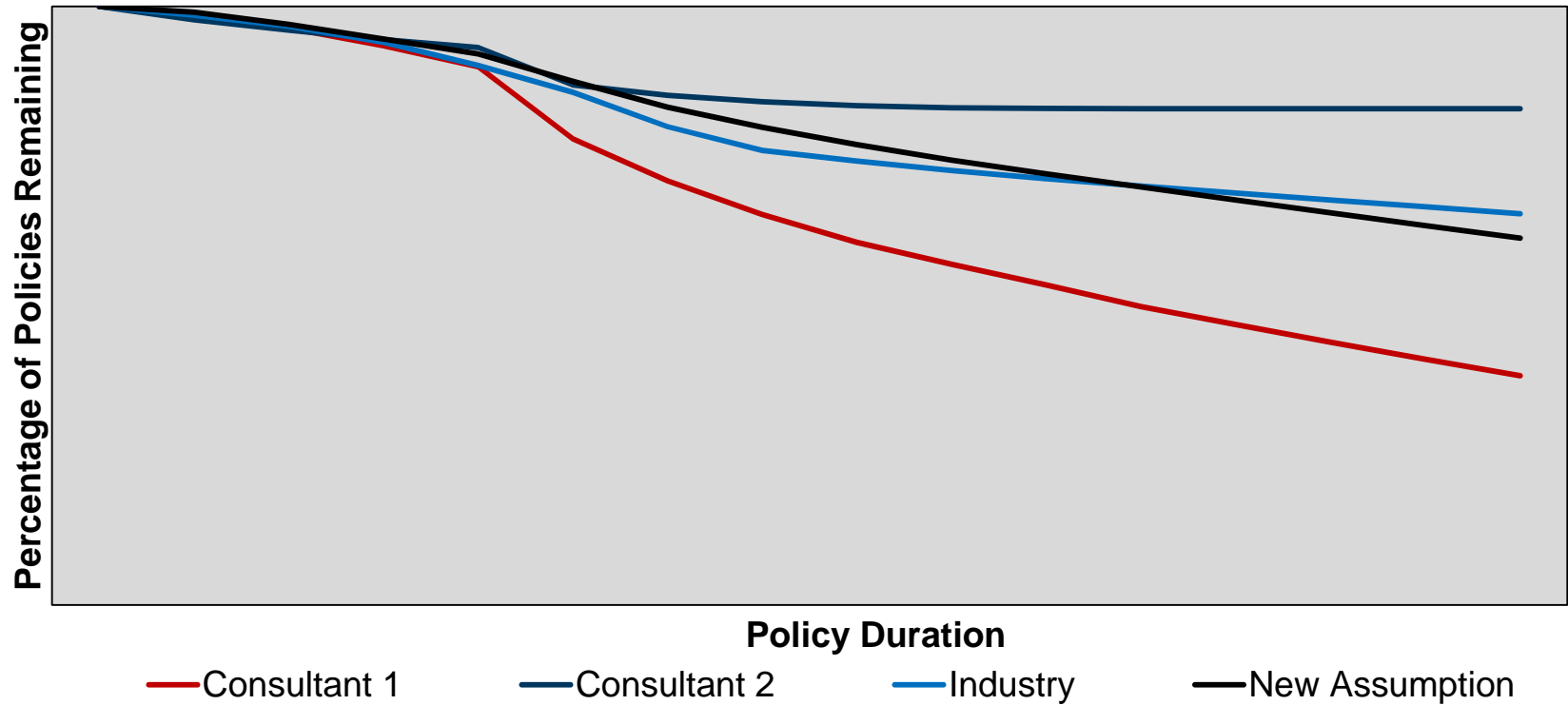
# Example: Statistical Dynamic Lapse Validation

## Actual Lapse Rates vs. Assumptions by Duration



# Example: Statistical Dynamic Lapse Validation

## Persistency by Policy Duration



## Assumption Review - Nationwide

Timeframe	Item	Approve	Involve	Inform
March-June	Best estimate and prudent estimate assumptions (DAC unlock products)			
June	Valuation and hedging assumptions			
June - August	Illustration Actuary testing – self and lapse support tests			
3Q	Best estimate and prudent estimate assumptions (remaining products)			
3Q	Corporate Risk Models (also used for ALM)			
3Q	Pricing assumptions			
3Q	Enterprise Risk Management			
4Q	Reserve Adequacy Testing assumptions			

Meetings are conducted separately for each product line.

Span of control and structure of meetings varies widely by company.

## Consistency

- Across applications?
- Across product lines?

My guiding principle: Assumptions should be consistent.

The overriding principle: Assumptions should make sense.

Another principle: Work should not be done more than once.

## Question #4

To what extent are assumptions consistent across your company?

- 1) Consistent across all applications.
- 2) Consistent across all products.



# Storage and Documentation



## Goals of Documentation

- Auditor-friendly trail
- Clear “final answer”
- Easily retrievable
- Records decisions

## Examples of Documentation in Industry

- Database for storage
- Database that feeds models
- Models themselves
- Spreadsheets
- Word documents
- SharePoint or other collaborative environment
- Shared drive



## Question #5

Are you satisfied with your current storage solution?

- 1) Yes, we are at final state.
- 2) Yes, but we need significant improvements.
- 3) No, we need something different.



# Issues and Challenges



## Resources

- Is it worth it?
- How many?
- Small company

## Other Industry Challenges

- Credible data
  - Small company
  - New product
- Low interest rates
  - Recent experience is all down
  - Anticipating competitor re-pricing on the ride up
- Legacy assumptions
- Provisions for Adverse Deviations

## Contact Information

If you are interested in joining quarterly calls around assumption topics:

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# Questions?