



## 16 - LTC Morbidity Improvement Considerations

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# 2019 Valuation Actuary Symposium

## Session 16: LTC Morbidity Improvement Considerations

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# SOA: LTC Calendar Year Trends



# SOA: LTC Calendar Year Trends



Why



Who



Data and Scope



Method 1

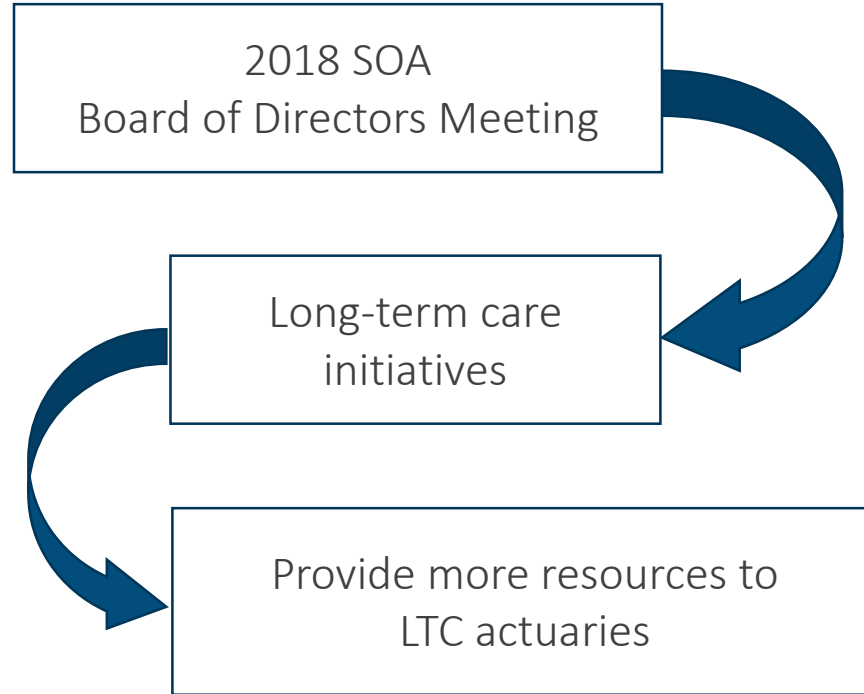


Method 2



Takeaways

# Why now?



# Industry input

## Project Oversight Group

- Rachel Erne (Chair)
- Rhonda Ahrens
- Vince Bodnar
- Linda Chow
- Peter Da Silva
- Sivakumar Desai
- Perry Kupferman
- Greg Gurlik
- Janet Perrie
- Brad Rokosh
- Al Schmitz
- Eric Stallard
- Richard Xu

## SOA Staff

- Cindy MacDonald
- Mervyn Kopinsky
- Pete Miller
- Erika Schulty

## Authors - LTCG

- Matt Morton
- Ralph Donato



## In Scope



Methods and illustration



Incidence rates

## Out of Scope

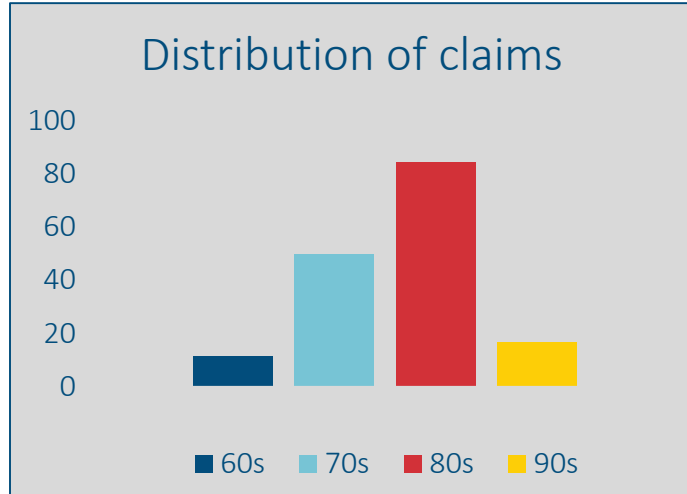
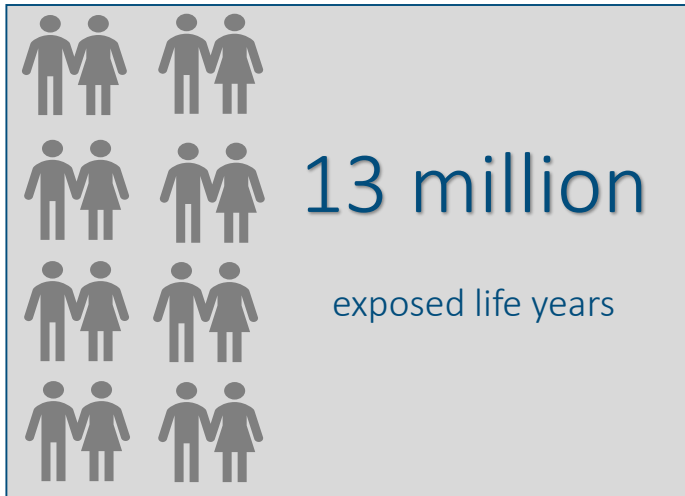


Claim length



Benefit utilization

# Data



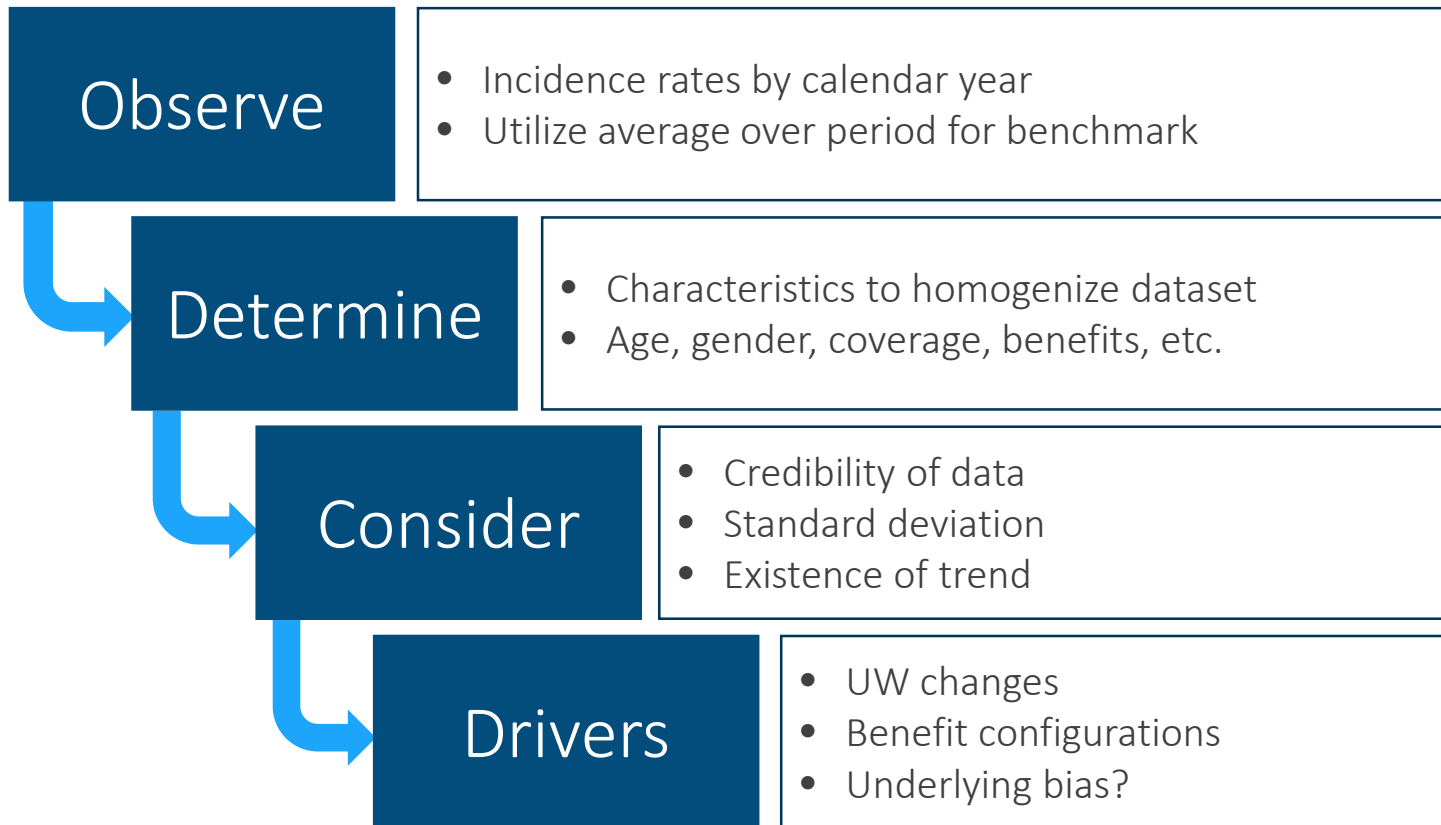
# Analysis Comparison

## Method 1

## Method 2

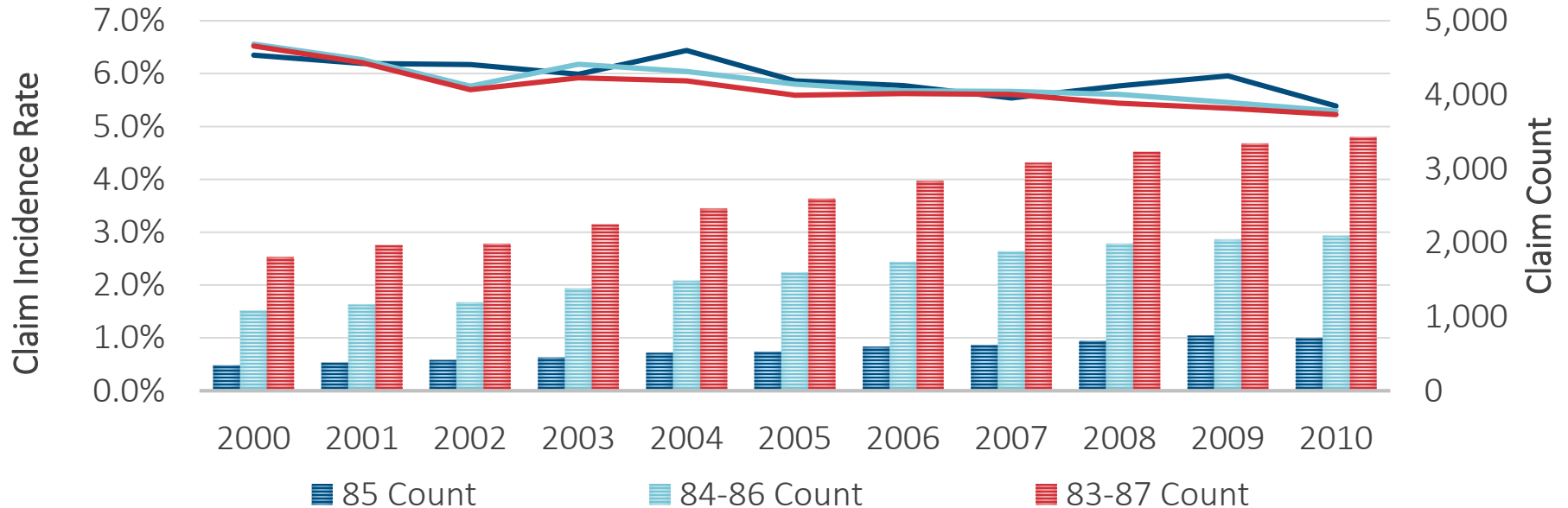
Analysis Type	Observation	Actual to Model
Data	Intercompany Data	Intercompany Data
Model	N/A	2000-2011 Experience Basic Table
Incidence Rates	Total Lives	Total Lives
Analysis Type	Homogeneous Cell	Aggregated
Claim count	Credibility considerations	Aggregated

# Method 1 – Observation Based



# Method 1 - Illustrative

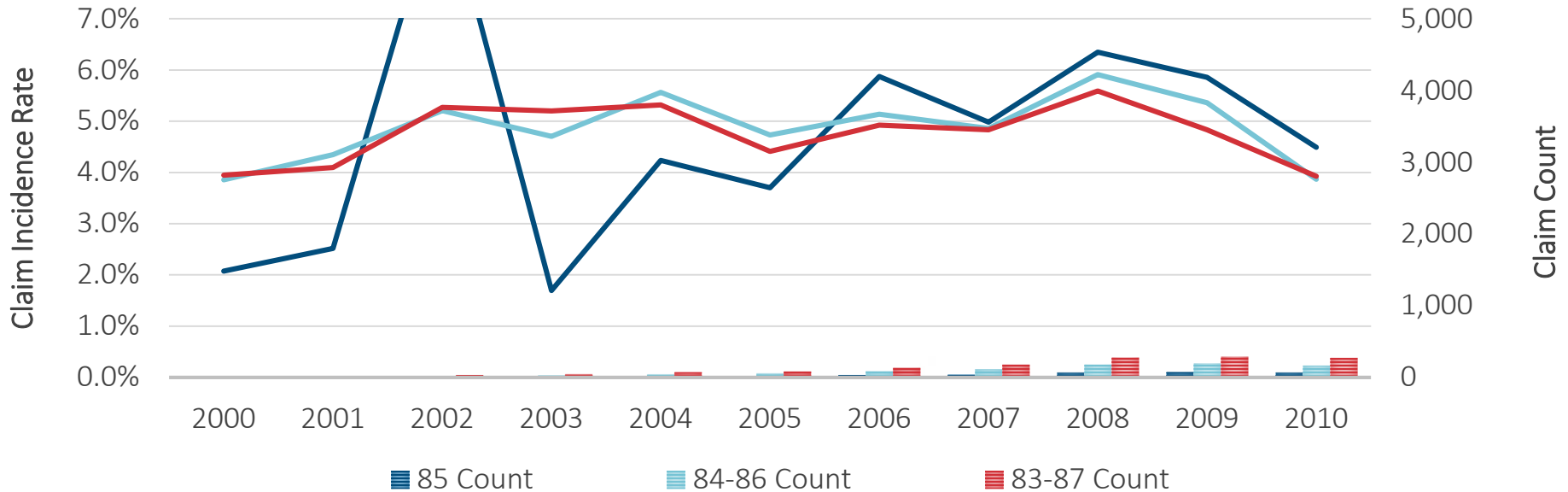
## 85 YEAR OLD INCIDENCE RATES



Control for age and gender only

# Method 1 - Illustrative

## 85 YEAR OLD INCIDENCE RATES

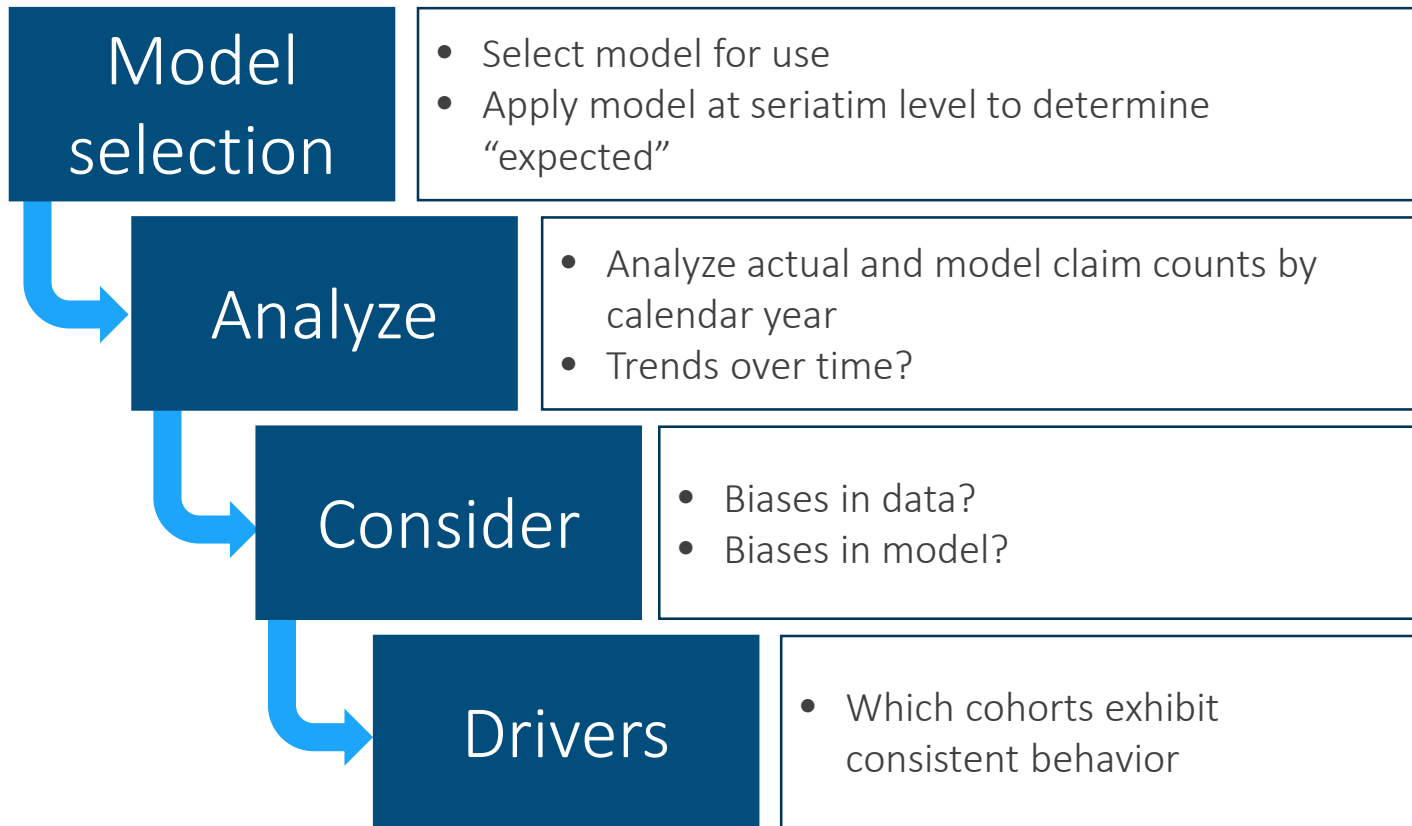


Observed trends highly dependent on risk characteristics included as filters  
Comp / Dur 10+ / Indiv / Fully UW / Single / 90 EP

# Method 1 – Limitations

- ✓ More homogenous cell yields less data
- ✓ Credibility considerations
- ✓ Determination of required characteristics
- ✓ Identifying cause of trend

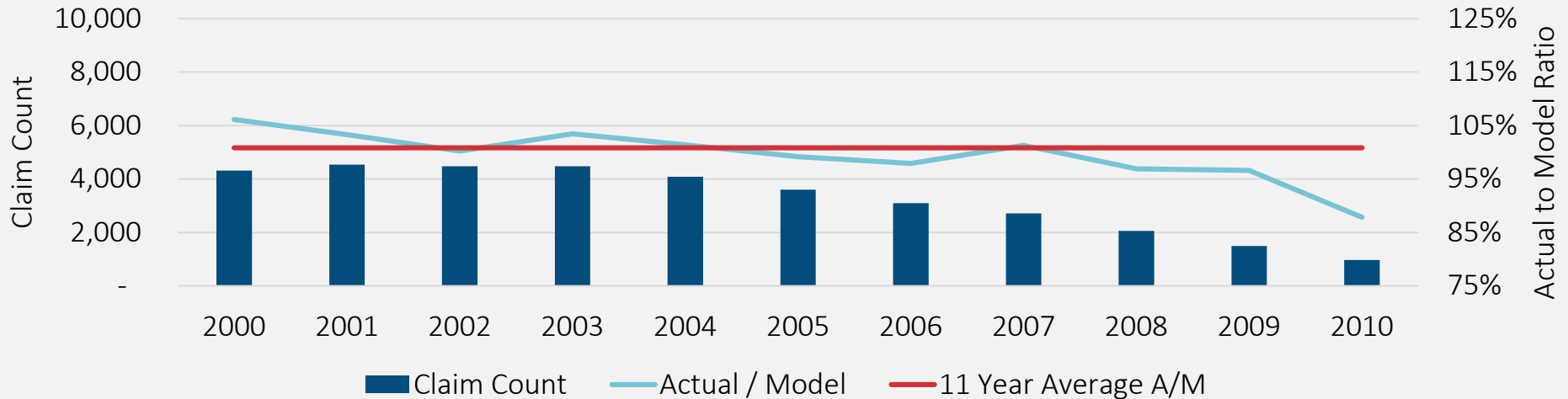
# Method 2 – Actual to Model





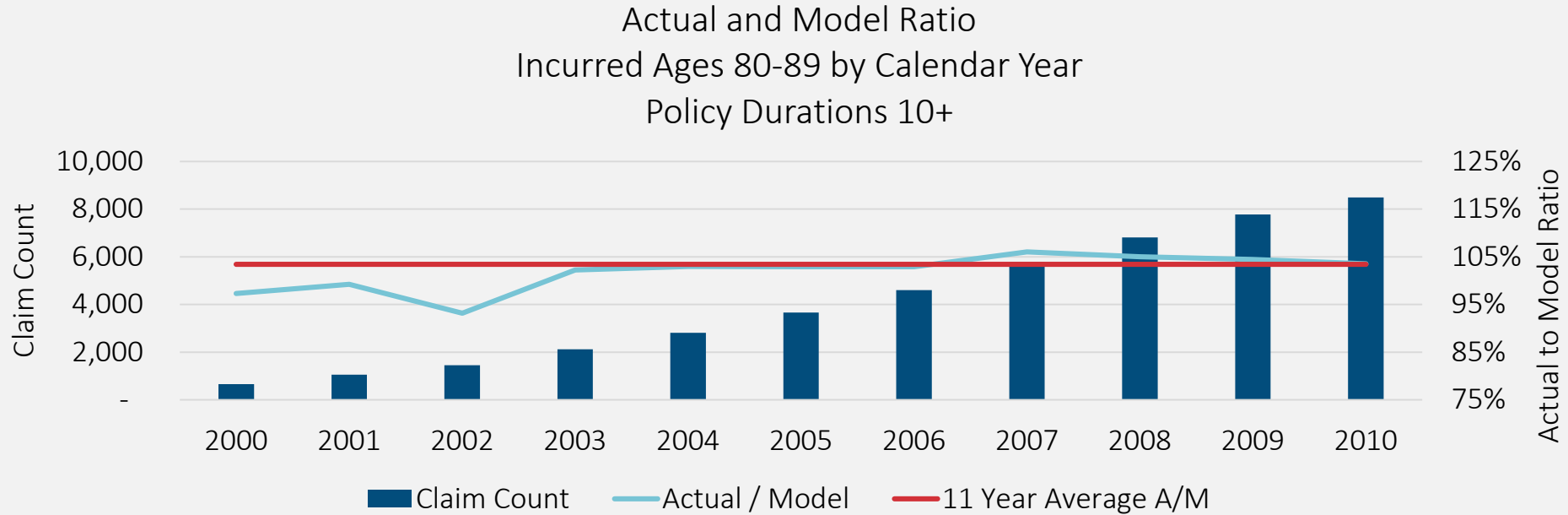
# Method 2 - Illustrative

Actual and Model Ratio  
Incurred Ages 80-89 by Calendar Year  
Policy Durations 1 - 9



What does that tell us?

# Method 2 - Illustrative



What does that tell us?

# Method 2 – Limitations

- ✔ Limitations of model
- ✔ Model selected
- ✔ Embedded assumptions any model

# Takeaways



There are many ways to conduct this analysis. No single solution



Many considerations and characteristics are required to conduct analysis



A good start, but more data and information will be collected in the future for a more complete analysis

# A recent client study



# Takeaways

1



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Are claims getting longer?

2



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Analyze survival rates

3



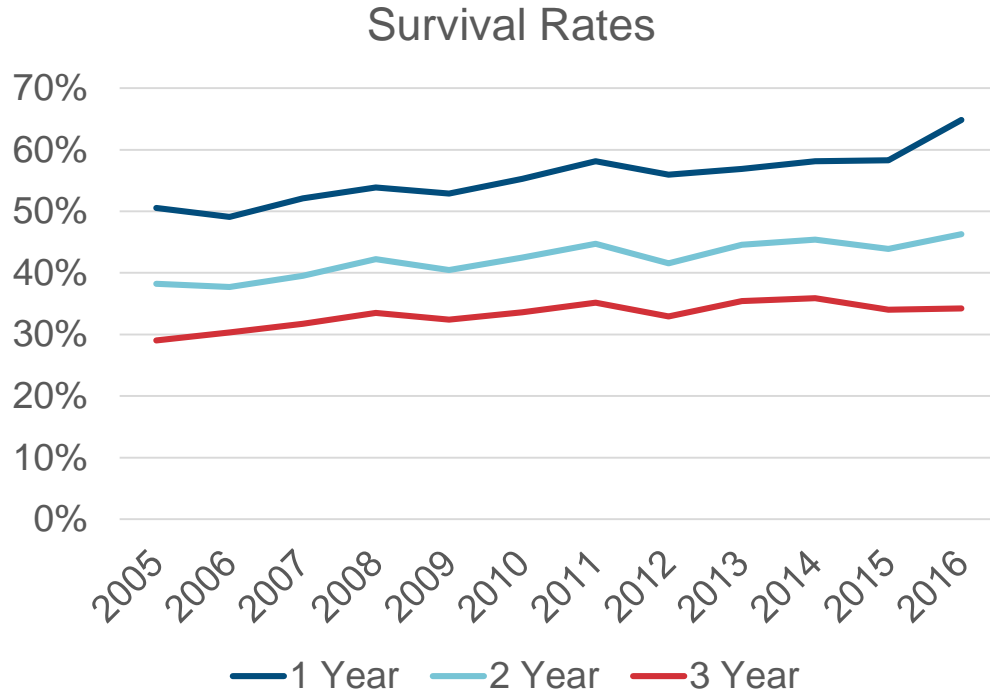
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Determine key characteristics that are changing

# Claim data

- ✔ LTCG client data
- ✔ Combined 10 carriers experience
- ✔ Consistent definitions of unique claim

# Illustration: Claim length

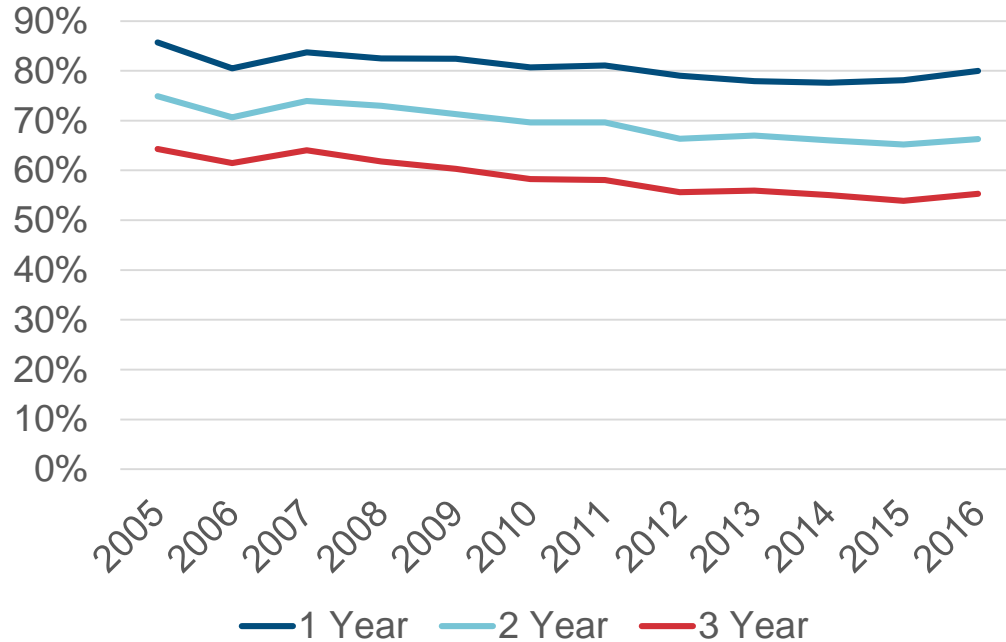


1. 80-84 year old disability age
2. Female
3. Survival Rates
4. Recovery and death



# Illustration: Claim length

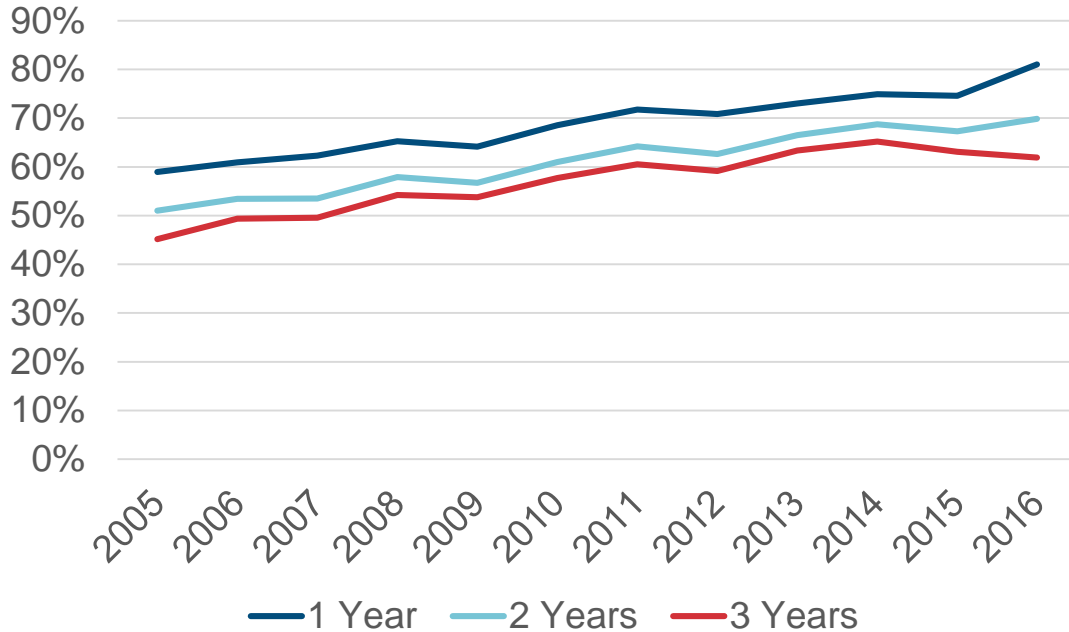
Survival Rates



1. 80-84 year old disability age
2. Female
3. Survival Rates
4. Death only

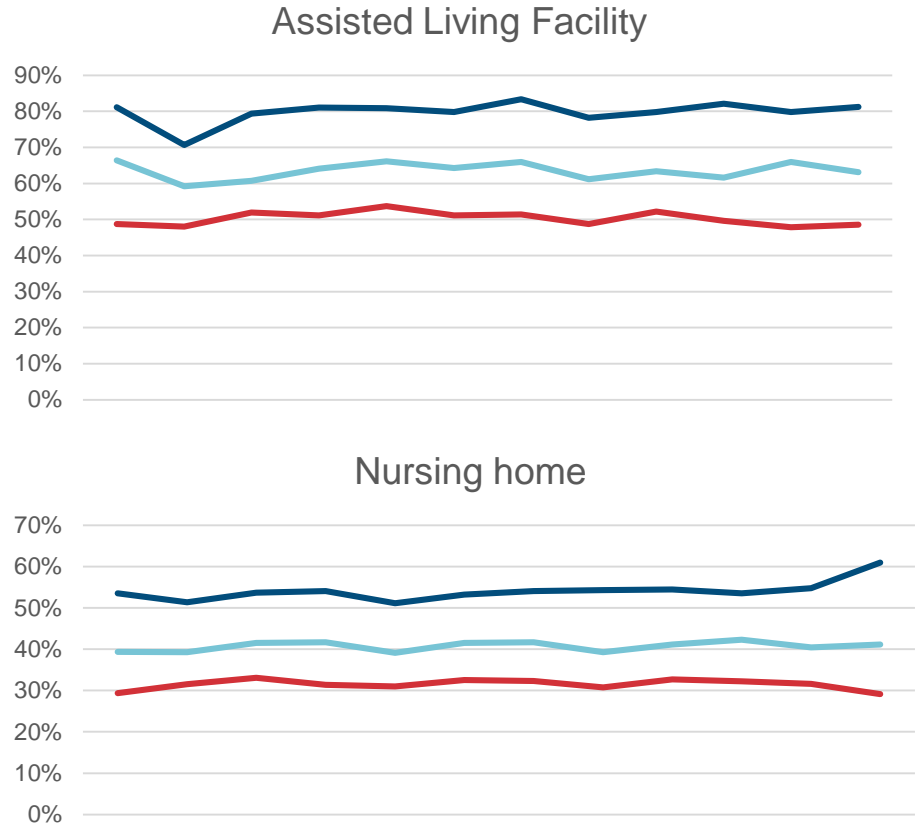
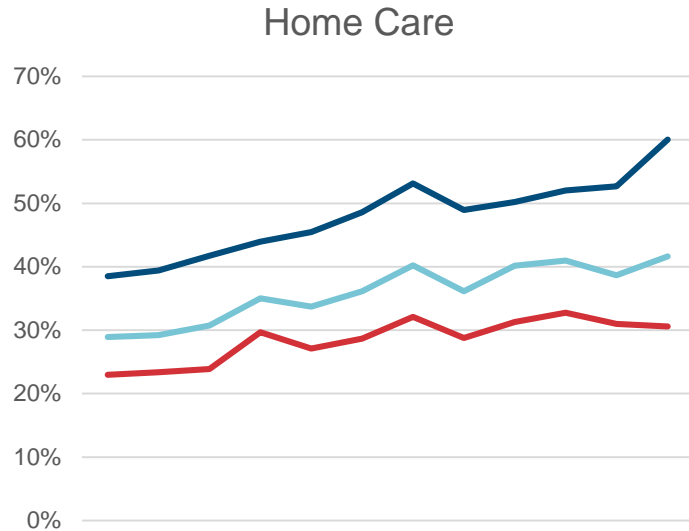
# Illustration: Claim length

Survival Rates



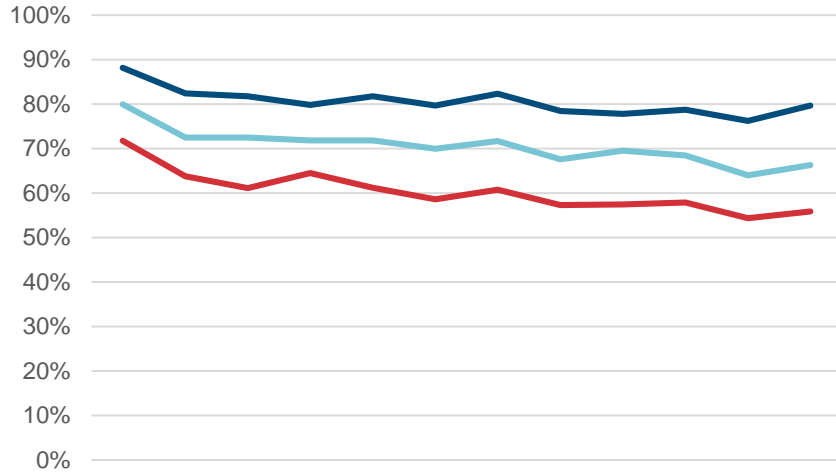
1. 80-84 year old disability age
2. Female
3. Survival Rates
4. Recovery only

# Illustration: Claim length: Deaths & Recoveries

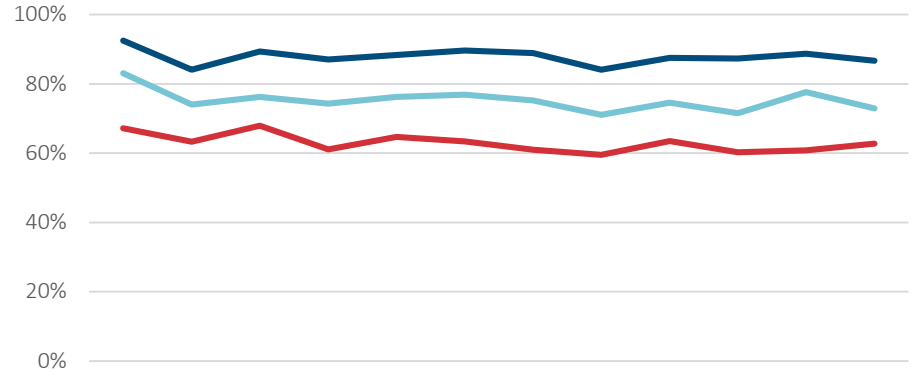


# Illustration: Claim length: Deaths

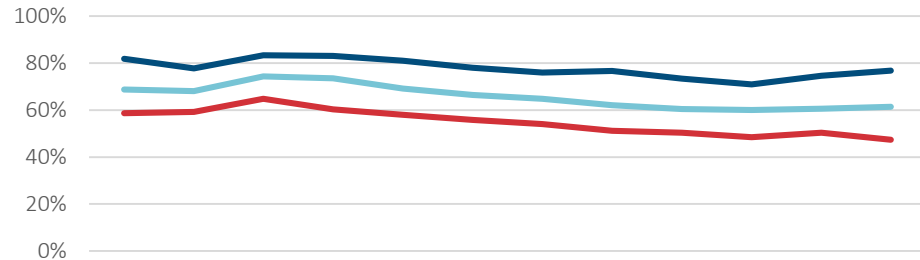
## Home Care



## Assisted Living Facility



## Nursing Home



# Limitations

- ✔ Data credibility / reliability
- ✔ Survival rates vs. claim termination
- ✔ Drivers

# LTC Medical Symposium



# LTC Medical Symposium

- Panel of 13 professionals **external** to the LTC insurance industry
  - Gerontology
  - Geriatricians
  - Geneticists
  - Economist
  - Mortality
  - Other academics

# LTC Medical Symposium

- Panel of 13 professionals [external](#) to the LTC insurance industry
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# Emerging trends impacting morbidity and mortality

- Dementia / Alzheimer's

# Emerging trends impacting morbidity and mortality

- Functional impairment
  - Diseases should not be considered in isolation
- Aging: the underlying factor
  - Slowing the process by making cells divide slower / less (curing senescent stage of cell life)

# Emerging trends impacting morbidity and mortality

- Obesity

- Increase in stroke and mortality for 20-30 year olds
- Level-off (“Obesity saturation”) expected soon
- Obese children have risk factors not seen before
- Impact to LTCI: Earlier deaths? Historical data will not reflect future experience.

# Emerging trends impacting morbidity and mortality

- Biomarker tests provide consumers with an understanding of mortality (at the tails)
- Not perfect, but improving, and costs decreasing
- Liquid biopsies detect cancer early
- Hopkins test for 8 different types of cancer
- Growing fields of medicine: how to choose drugs for patients based on genes

# Future of Care Delivery

- Opportunities for care management in LTCI blocks
- Expanding inforce management to include proactive pre-claim intervention
- Pharmacogenetics
- Educating family caregivers
- Telemedicine

# Future of Care Delivery

- Technologies for aging in place
- Smart home and ADL assistive technologies
- Digital care planning

# Actuarial Guideline 51



# AG 51

- In response to growing concern for LTC reserve adequacy
- First required in YE2017 for companies with 10,000+ policyholders
  - Gross basis (i.e. direct issued and net retained)
- Separate LTC projections required in cash flow testing



# AG 51

- Morbidity
  - Studies
  - Trends
  - Industry or external data
  - Older-age assumptions
- Morbidity Improvement
- Overall level of claims: PVFB for key cells

# AG 51

- Reinsurance treaty info
- Sensitivities
  - 0% morbidity improvement / 0% mortality improvement
  - 0% morbidity improvement (but with mortality improvement)
  - No future non-approved premium rate increases
  - Net yield pickup capped at 150bps above Treasury yields
    - Average over the block of LTC policies

# AG 51

- Regulator feedback
  - Very wide array of company morbidity assumptions
  - Seeking greater understanding of drivers
  - Providing company feedback



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