SOCIETY OF ACTUARIES®

# *Southeastern Actuaries Conference*

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# Individual Life Experience Committee Update

August 26, 2024

Presenter:

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# SOA Antitrust Compliance Guidelines

Active participation in the Society of Actuaries is an important aspect of membership. While the positive contributions of professional societies and associations are well-recognized and encouraged, association activities are vulnerable to close antitrust scrutiny. By their very nature, associations bring together industry competitors and other market participants.
The United States antitrust laws aim to protect consumers by preserving the free economy and prohibiting anti-competitive business practices; they promote competition. There are both state and federal antitrust laws, although state antitrust laws closely follow federal law. The Sherman Act, is the primary U.S. antitrust law pertaining to association activities. The Sherman Act prohibits every contract, combination or conspiracy that places an unreasonable restraint on trade. There are, however, some activities that are illegal under all circumstances, such as price fixing, market allocation and collusive bidding.

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- Do not discuss prices for services or products or anything else that might affect prices
- Do not discuss what you or other entities plan to do in a particular geographic or product markets or with particular customers.
- Do not speak on behalf of the SOA or any of its committees unless specifically authorized to do so.
- Do leave a meeting where any anticompetitive pricing or market allocation discussion occurs.
- Do alert SOA staff and/or legal counsel to any concerning discussions
- Do consult with legal counsel before raising any matter or making a statement that may involve competitively sensitive information.

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# ILEC Activities

# ILEC purposes

- Industry benchmark studies
- Tentpole report
- Consideration for assumption choice
- Reference for VBT
- Impetus for focused topics for industry studies

# 2024 Activity

- **US Individual Life Mortality Improvement Analysis**
  - https://www.soa.org/resources/research-reports/2024/ind-life-mort-tools/
- **2019 Individual Life Insurance Mortality Experience Report**
  - Publication of final report using data through 2019
  - Final data version to ILEC in May, 2023
  - https://www.soa.org/resources/research-reports/2024/ilec-mort-2012-19/
- **Predictive Analytics Framework** – impending publication!

# Upcoming activity

- Faster releases to reduce the lag
  - NAIC (the statistical agent) handling 2020-1 together (COVID focus)
  - 2022-3 requested together
  - **Goal: reports in 2025, 2026**
- Support VBT development
- Support industry evolution
  - SI in experience request, COD, other?
- **Goal:** integration of predictive analytics in framework
- "Reproducible research": transparency and collaboration tools

# Subcommittees and projects

## Subcommittees

- Modeling
- Data
- Infrastructure
- Regulatory

## Projects

- Old age mortality
- Simplified UW
- Joint Life
- Company differences
- Population mortality

*+ POG members on other studies*

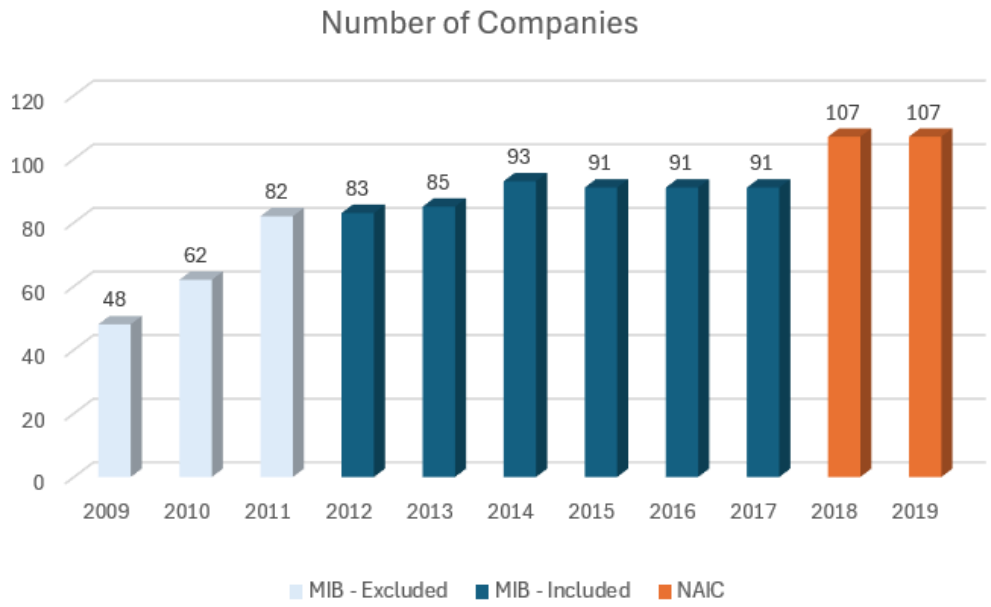
# Experience through 2019

# Purpose of ILEC Experience Study

- Evaluate recent mortality experience relative to standard industry mortality tables
- Observe general trends in mortality experience by key policy characteristics
- Identify special trends for various segments of population. Where possible provide insights into the industry changes contributing to the observed trends
- Provide the underlying data in accessible formats for further investigation by qualified actuaries

# Data: 2012-2019 Experience Years

- Beginning in 2018, the data source for ILEC Experience study changed from MIB data submission to NAIC data submission.
- The total number of companies included in NAIC dataset is 107. About 12% of the 2018-19 exposure and 10% of the claims originate from companies not in the MIB data.
- The data for experience years 2009-2011 was excluded from the analysis due to various inconsistencies that existed early in the submission process.
- ILEC Data Integration Committee compared NAIC data against MIB data and established that the data is sufficiently consistent to be studied together



# Objectives

I. Objectives for the 2024 Experience Study

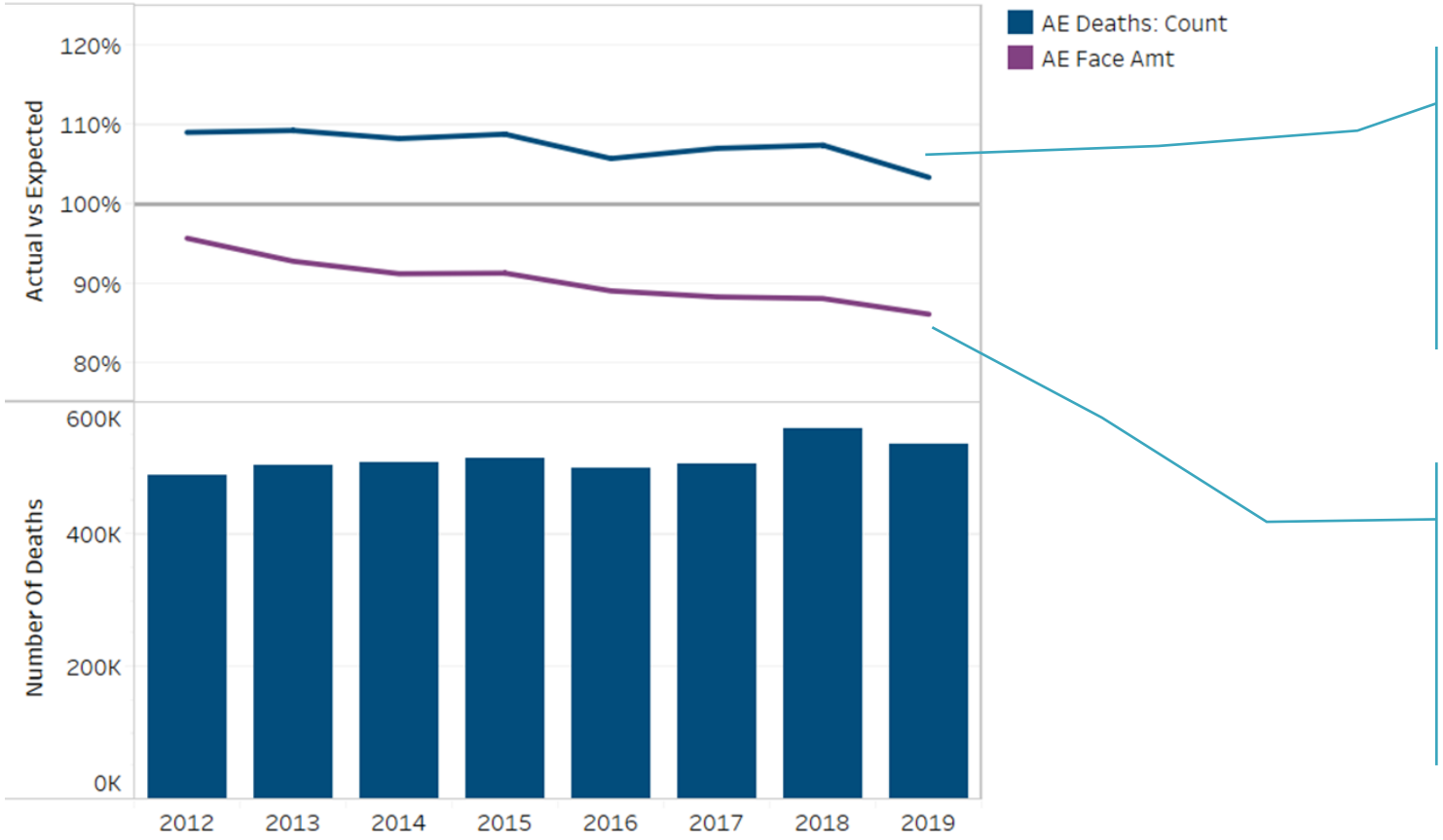
1. Gain confidence in the NAIC dataset. Confirm internal consistency of the joined dataset.
2. Identify, analyze and document pre-COVID industry trends
3. Introduce new analytical approach powered by Tableau dashboards

II. Objectives for Presentation

1. Share high level observations from the analysis
2. Introduce new study approach using Tableau dashboard
3. Encourage audience curiosity about ILEC work and mortality data investigation

# General Trends

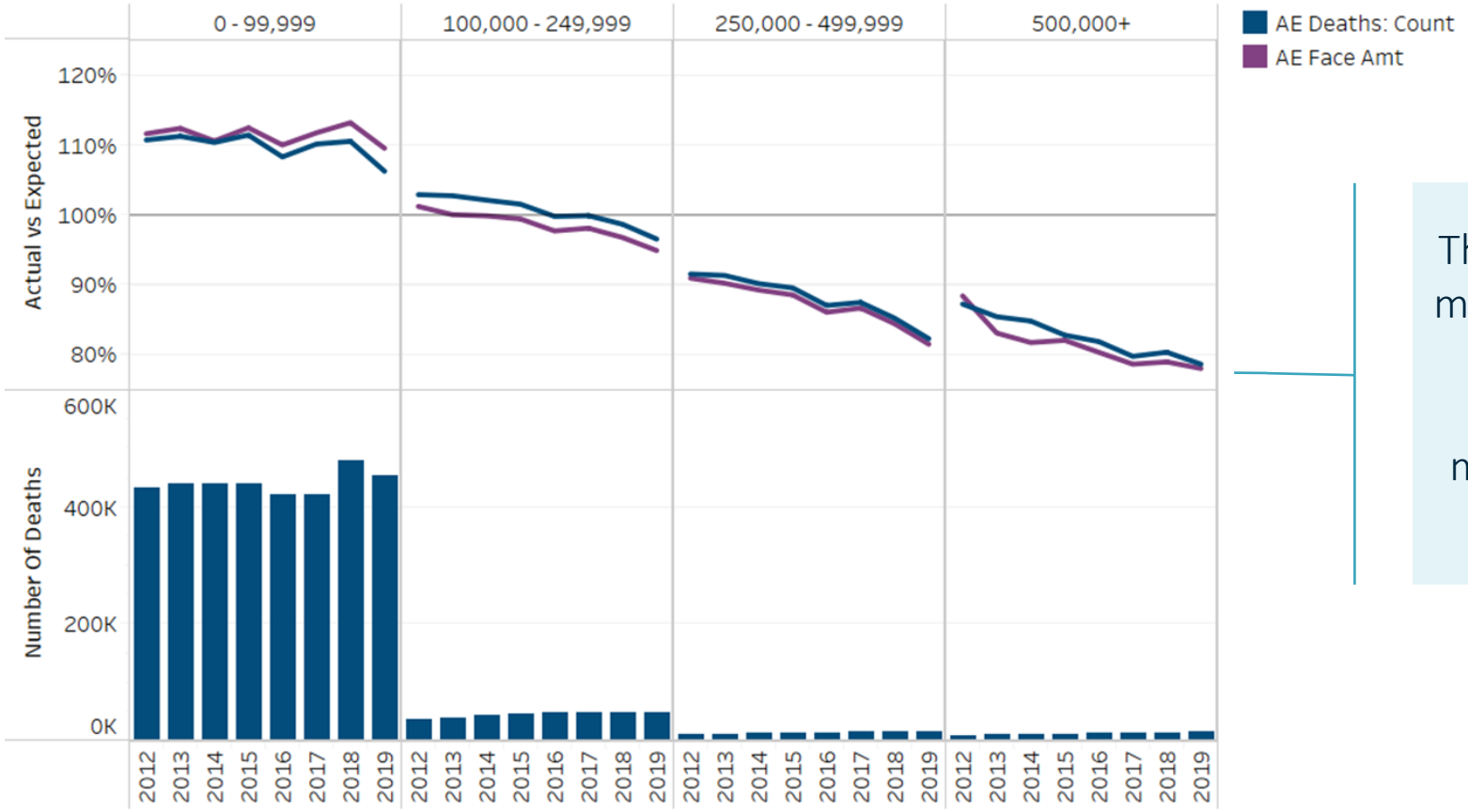
# Aggregate Trend by Calendar Year




Since mortality curve by count is weighted towards smaller size policies, the higher level of the curve indicates higher mortality for lower face amounts.

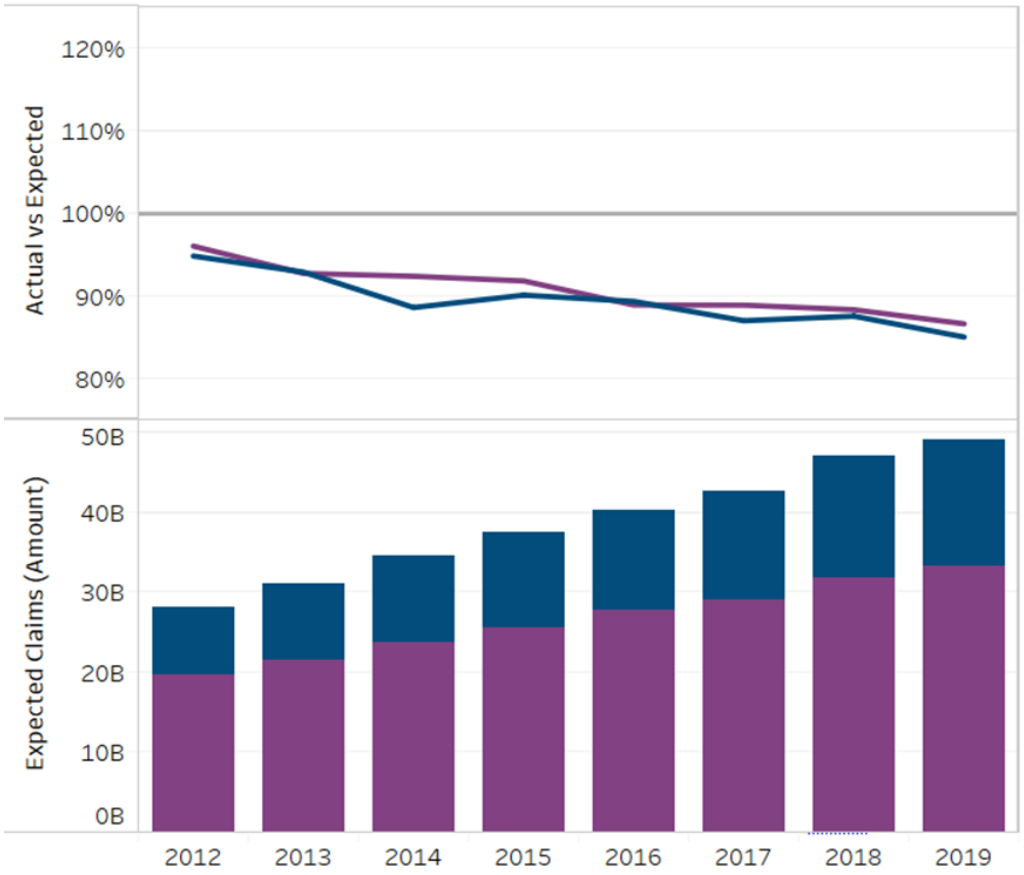
Steeper slope for the mortality curve by face amount indicates a more pronounced mortality improvement for larger face policies

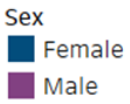
# Trend by Face Amount




This data cut illustrates variability in mortality levels by face amount size. The closeness of the two curves indicates relative consistency of mortality within each face amount range.

# Trend by Gender

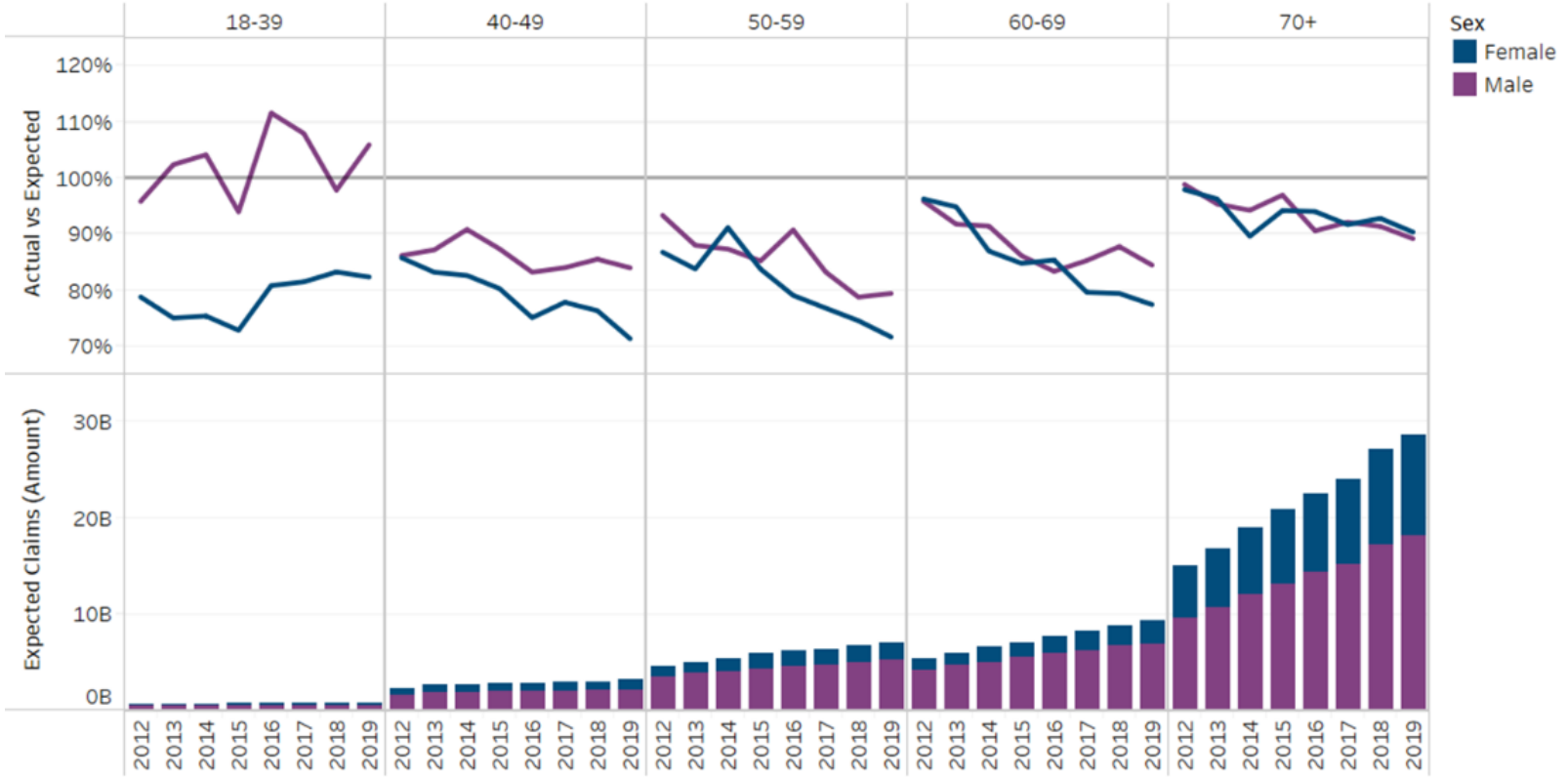



Shape and level of mortality curves are very similar between the two genders

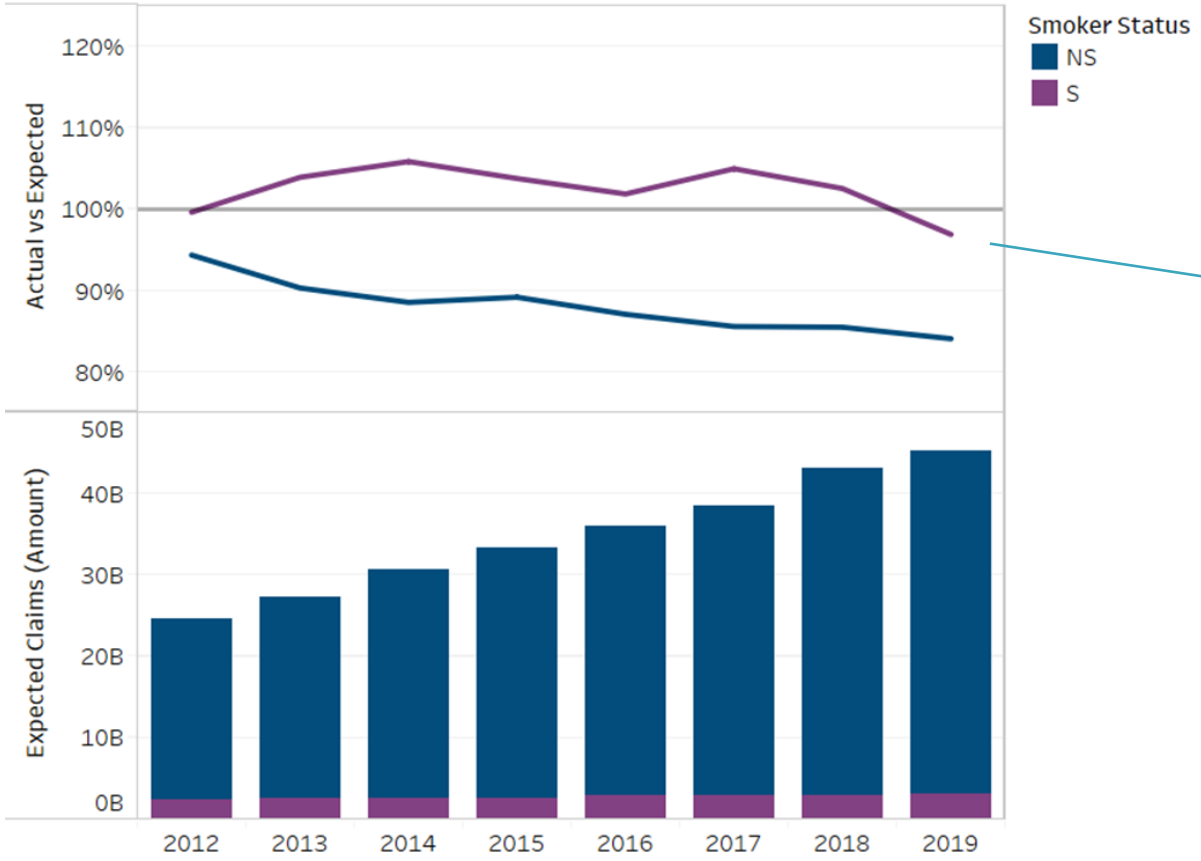
Expected claim amounts by gender over the study period indicate that volume of business for females has been increasing gradually over time but is still significantly lower than for males.

# Trend by Gender and Issue Age




- Issue ages 18-39 exhibit patterns of high A/E for males and increasing mortality for females.
- Issue ages 40-69 show relatively consistent patterns of improving mortality
- Older age mortality had higher A/Es than middle ages with less improvement

# Trend by Smoker Status




Smoker mortality curve is both higher and flatter. Flatness indicates that there is no noticeable mortality improvement versus the table.

# Trends by Product

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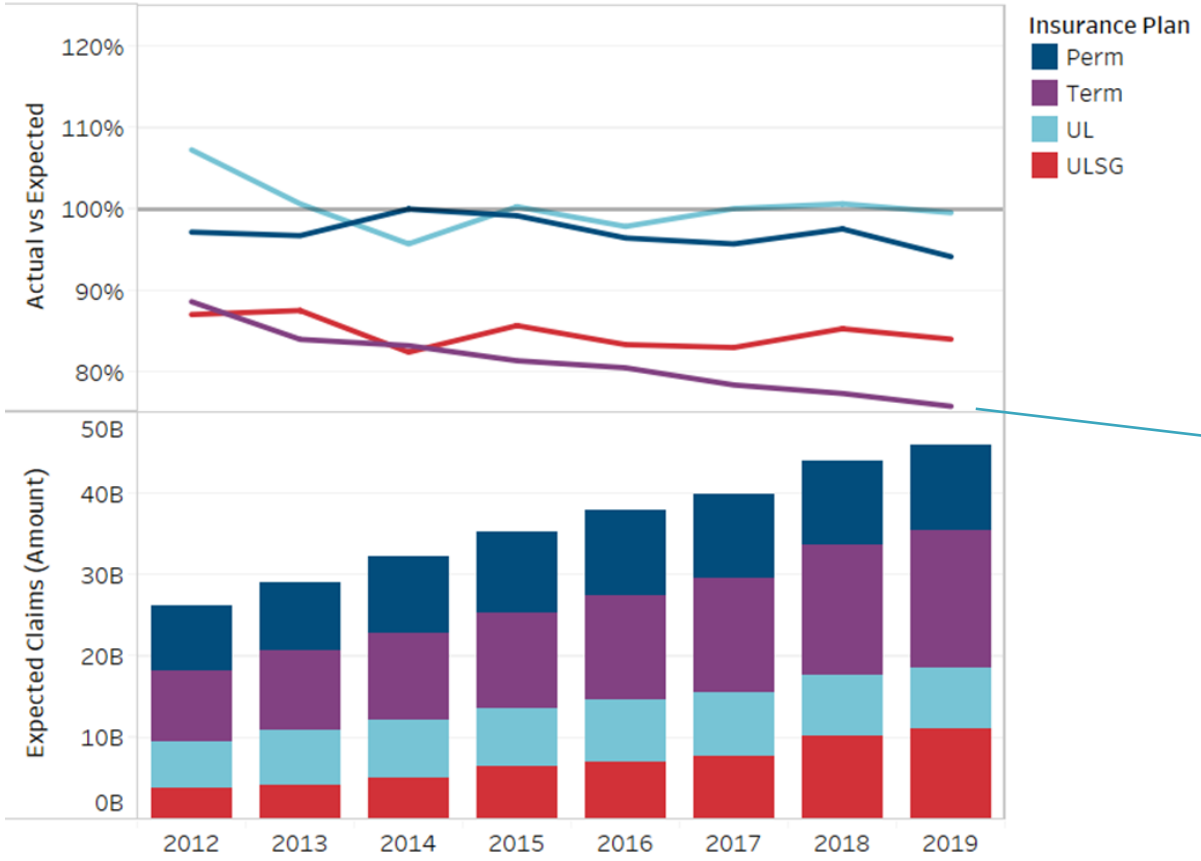
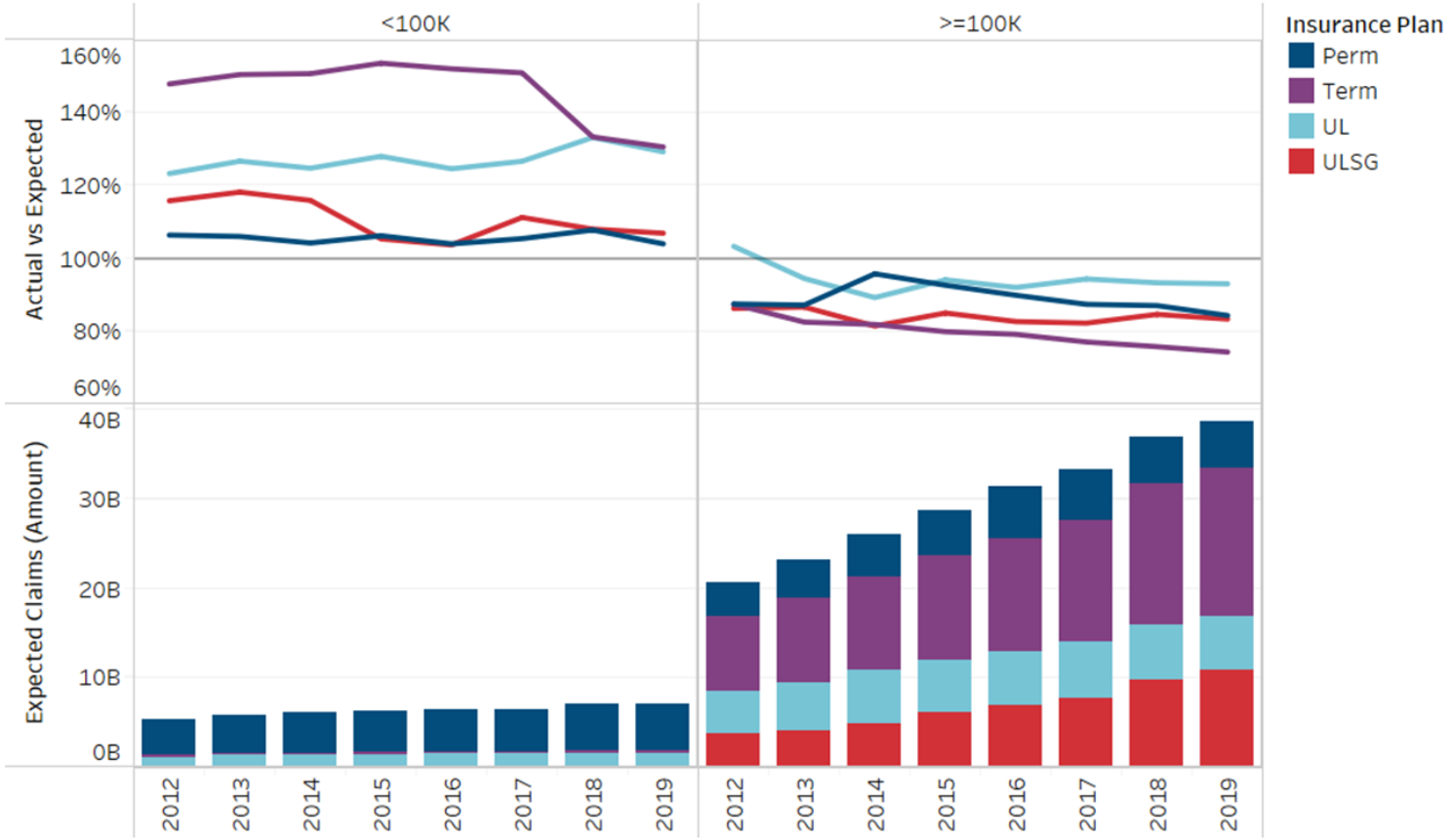



Mortality for Term exhibits the most pronounced pattern of mortality improvement.

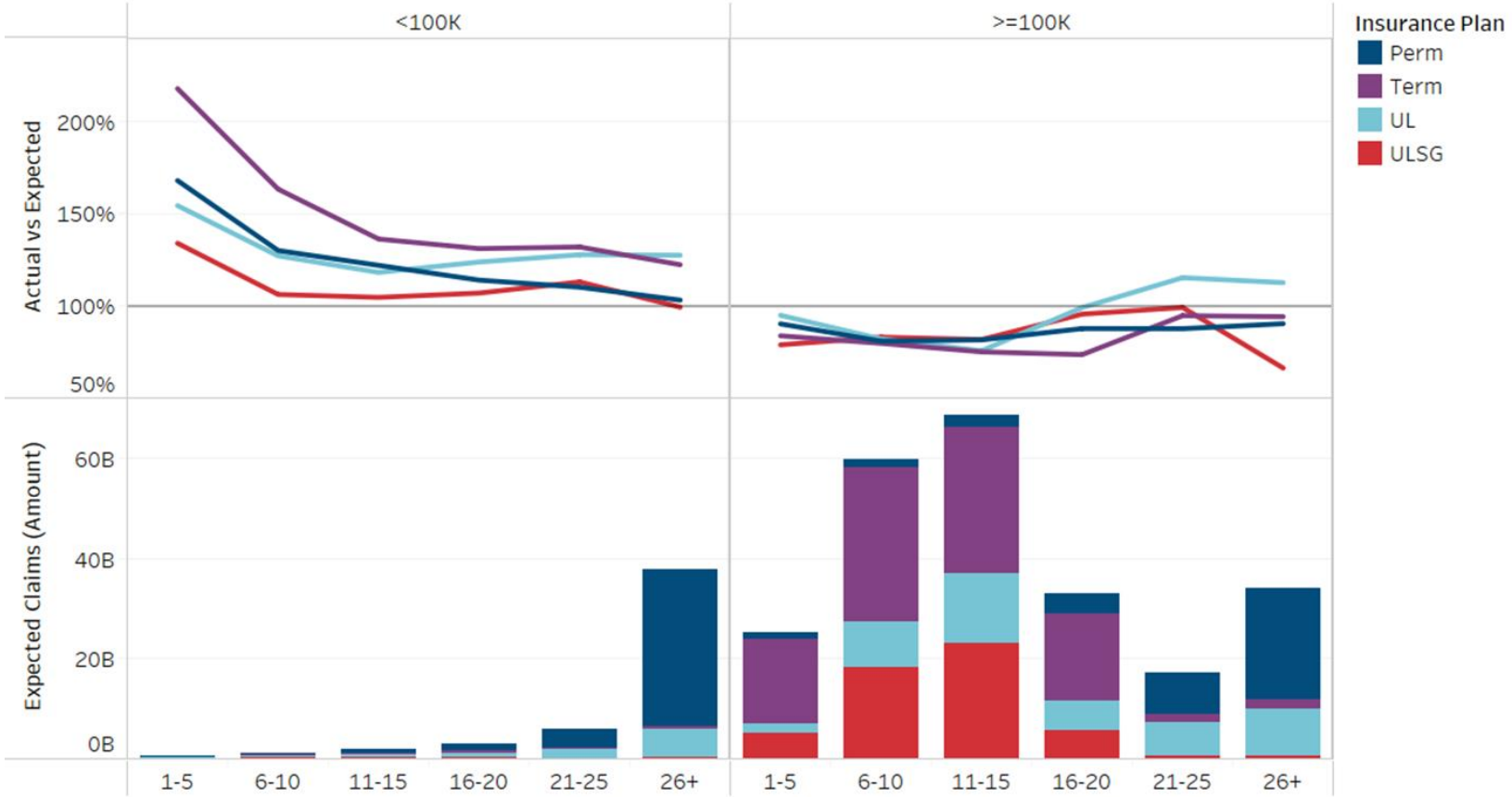
Can we try to explore this further?

# Trend by Product and Face Band



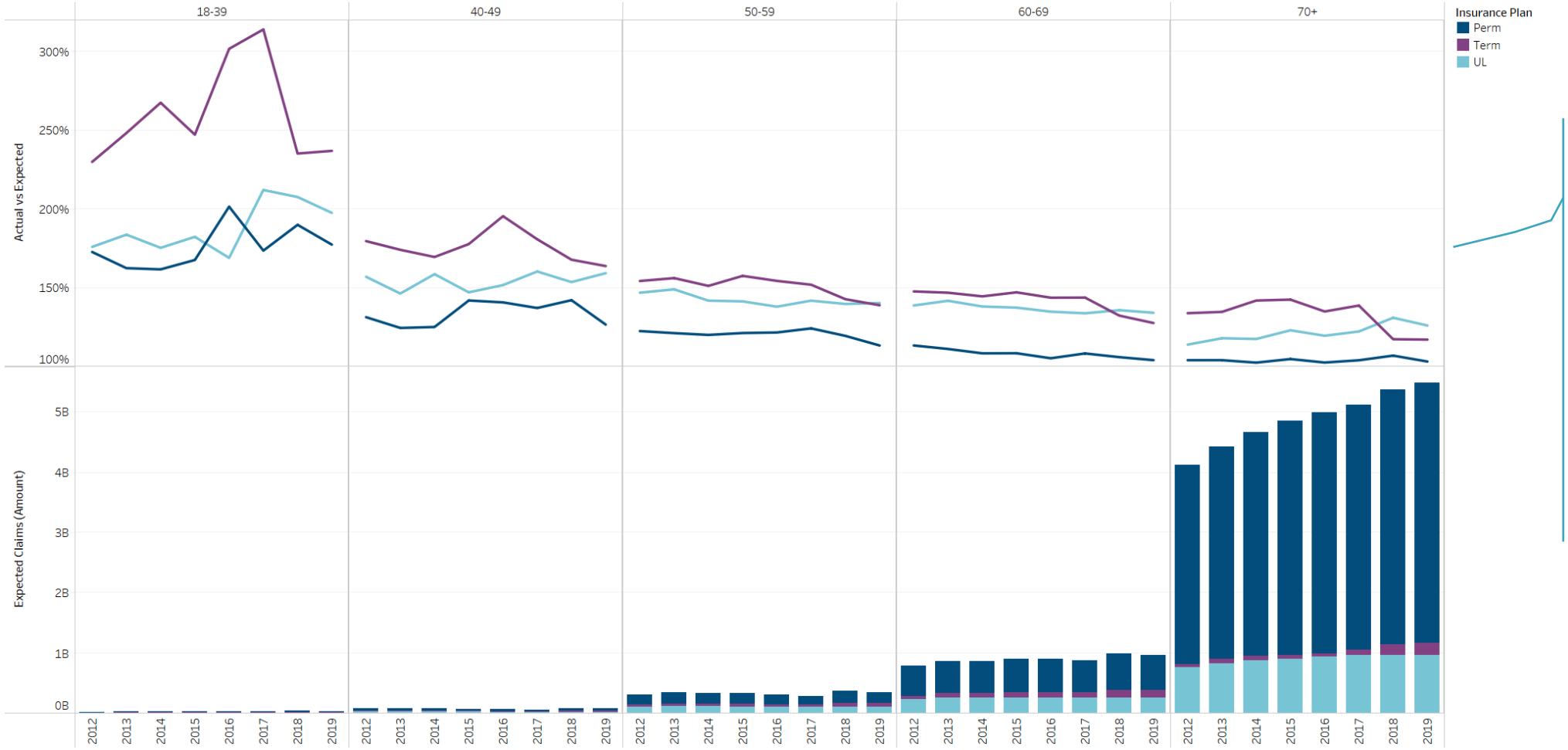

- The lower face amount segment did not show a decreasing mortality trend for any products, unlike the higher face amount segment.
- In the higher face amounts, most of the recent improvement seems to be concentrated in Term and Perm

# Trend by Product, Face Band, and Duration




- The lower face amount segment continues to show higher mortality but is shown to decrease as duration increases
- In the higher face amount group, A/E for durations 21+ (i.e. policies issued before 2000) noticeably increases

# Low Face Amounts (<$100k) by Attained Age




Term mortality is generally higher for all age groups. The difference is most extreme for ages <40, which may be reflective of the effect of opioid epidemic.

# Trends for Older Ages

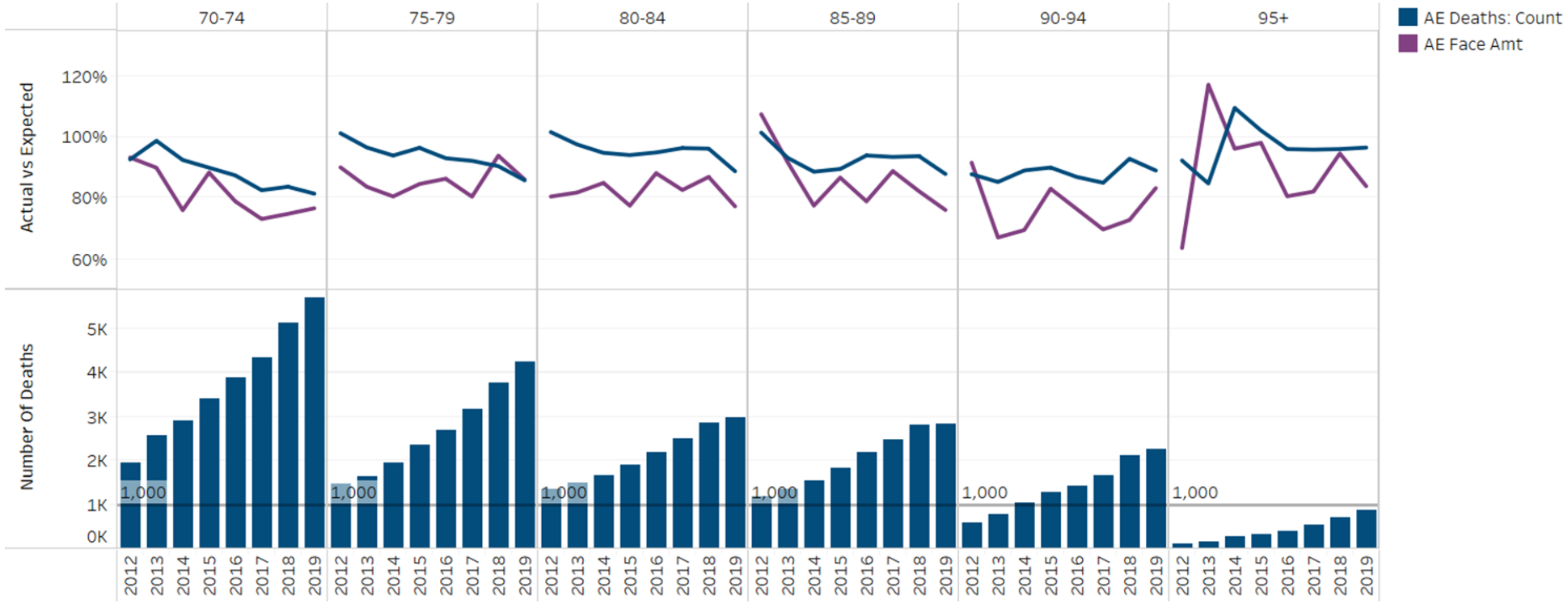
# Additional filters

- Older age analysis is defined as attained ages 70+, which will be applied as a filter to subsequent graphs
- In addition, we use “Modern” dataset filters in an attempt to account for potential impacts from changes in product design and more granular underwriting practices

| Core Filters |
| --- |
| Observation Year: >=2012 |
| Issue Age: >=18 |
| Post Level Term excluded |

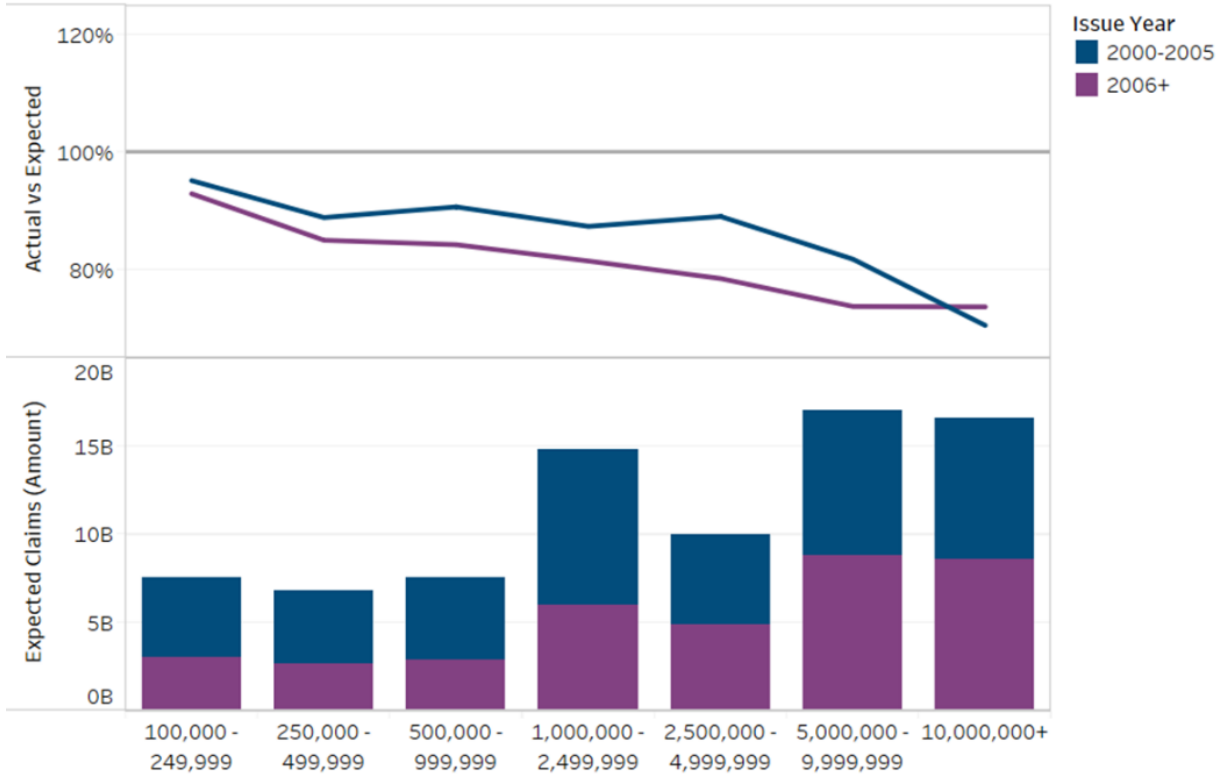
| Modern Filters |
| --- |
| Filters: Core Filters |
| Issue Year: >=2000 |
| Face Amount >=100k |
| Products categorized as “Other” excluded |

# Older Ages - Trend by Attained Age



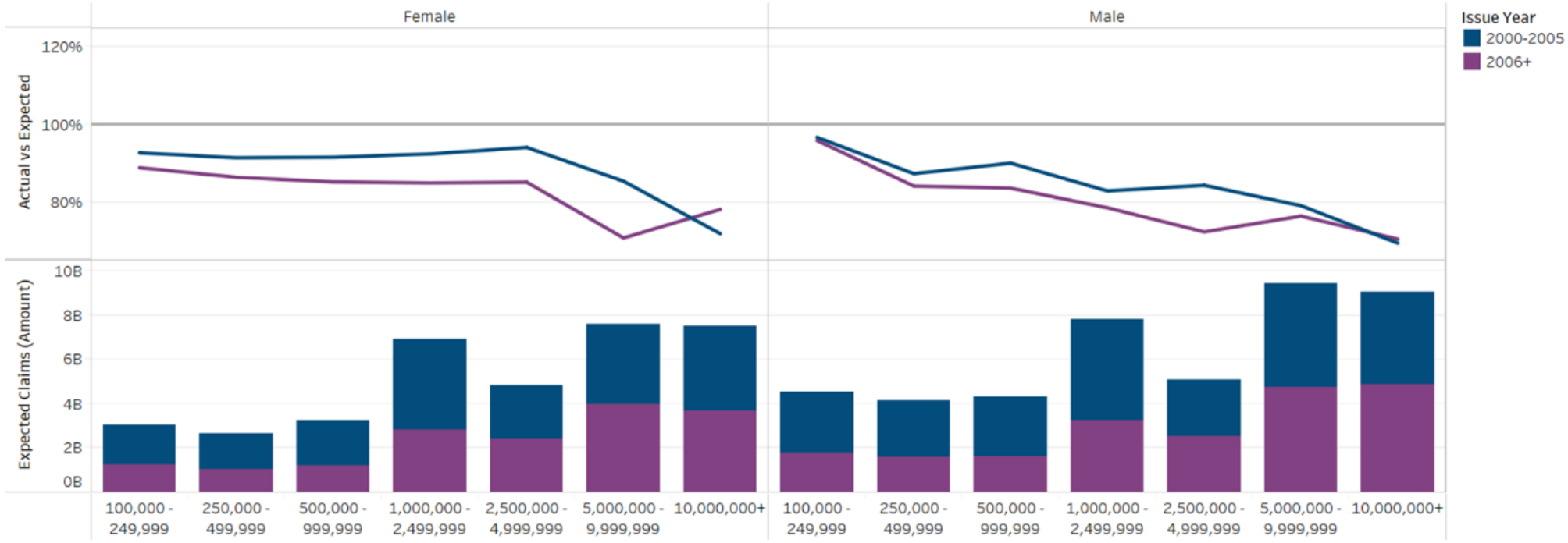

- The clearest patterns of mortality improvement are observed for ages 70-84.
- A/Es by count for ages 85+ tend to have a flatter pattern, with more volatility by amount

# Older Ages - Trend by Face Band



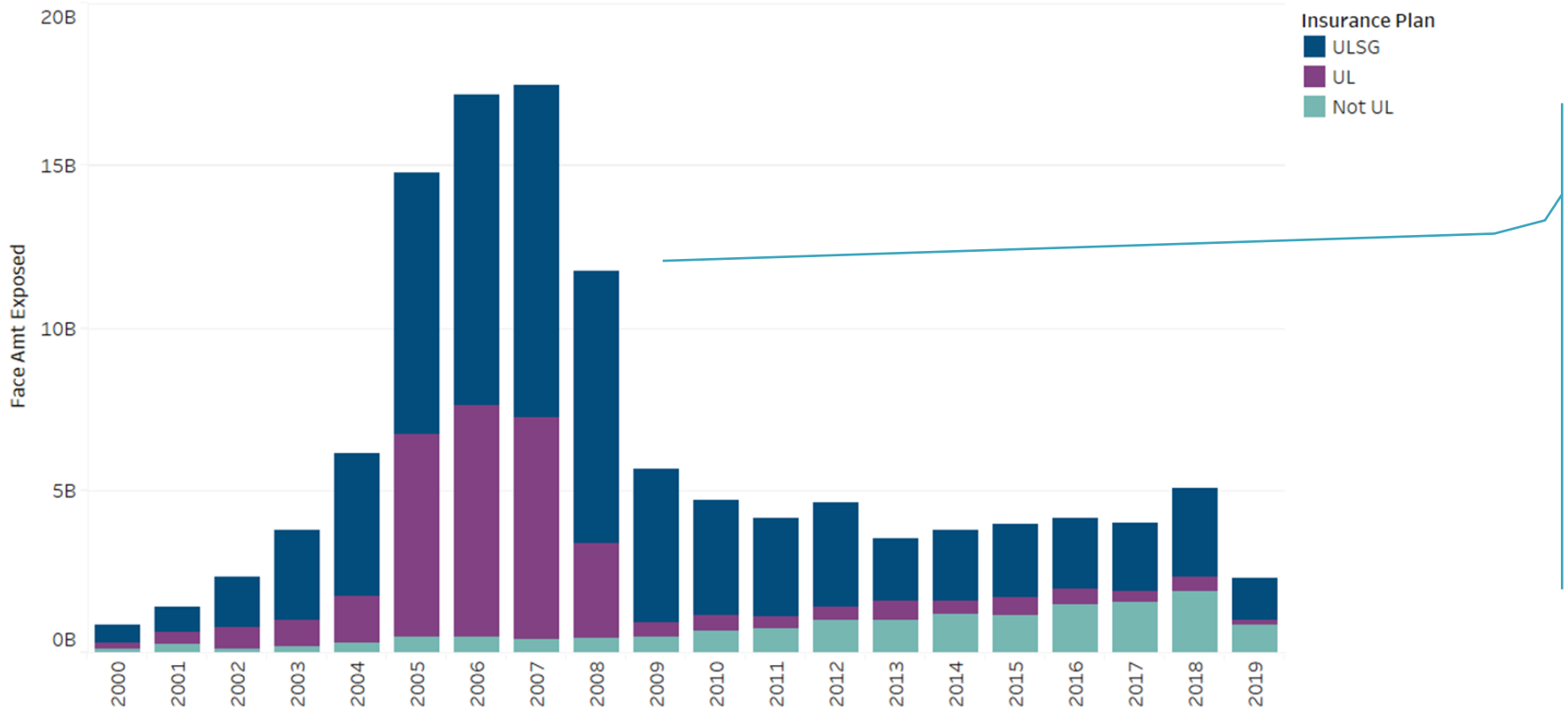

- Issue years 2006+ exhibit a clear decreasing trend by face amount, with the impact levelling off for face amounts $5m+
- Issue years 2000-05 show a flatter trend between $250k-$5m, with significant decreases only being observable at $5m+.

# Older Ages - Trend by Face Band and Gender




- Females exhibit a flat trend for face amounts <$5m for both issue year cohorts
- Males exhibit a clearer decreasing trend across all face amount bands

# Older Ages - Exposure by Issue Year ($1m+ Face)




A sharp increase in $1m+ UL and ULSG sales is observable in the dataset between 2005-2008, which may in part be due to the proliferation of STOLI sales

# In Conclusion

1. Overall, pre-COVID, insured population was still experiencing some mild mortality improvement. The patterns of mortality improvement varied by age and face amount.

2. All trends must be analyzed carefully in context of all underlying relationships – such as by face amount, product, duration and other covariates.

3. Tableau dashboard is available to the users and can provide significant insight.

# Thank you


- Tatiana Berezin, Cindy Chen, Connie Cheng, Ed Hui, Ken Klinger, John Koestner, Kevin Larson, Kyle McCarthy, John McGarry, and Jim Toole
- The Society of Actuaries: Korrel Crawford, Pete Miller