

WCIRB Actuarial Committee Meeting

March 16, 2020

Agenda

1. Actuarial Research Working Group Meeting Summary
2. AC19-08-05: Review of Loss Development Tail Methodology
3. AC20-03-01: First Quarter 2020 Review of Diagnostics
4. AC20-03-02: 12/31/2019 Experience – Review of Methodologies

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01

Actuarial Research Working Group Meeting Summary



02

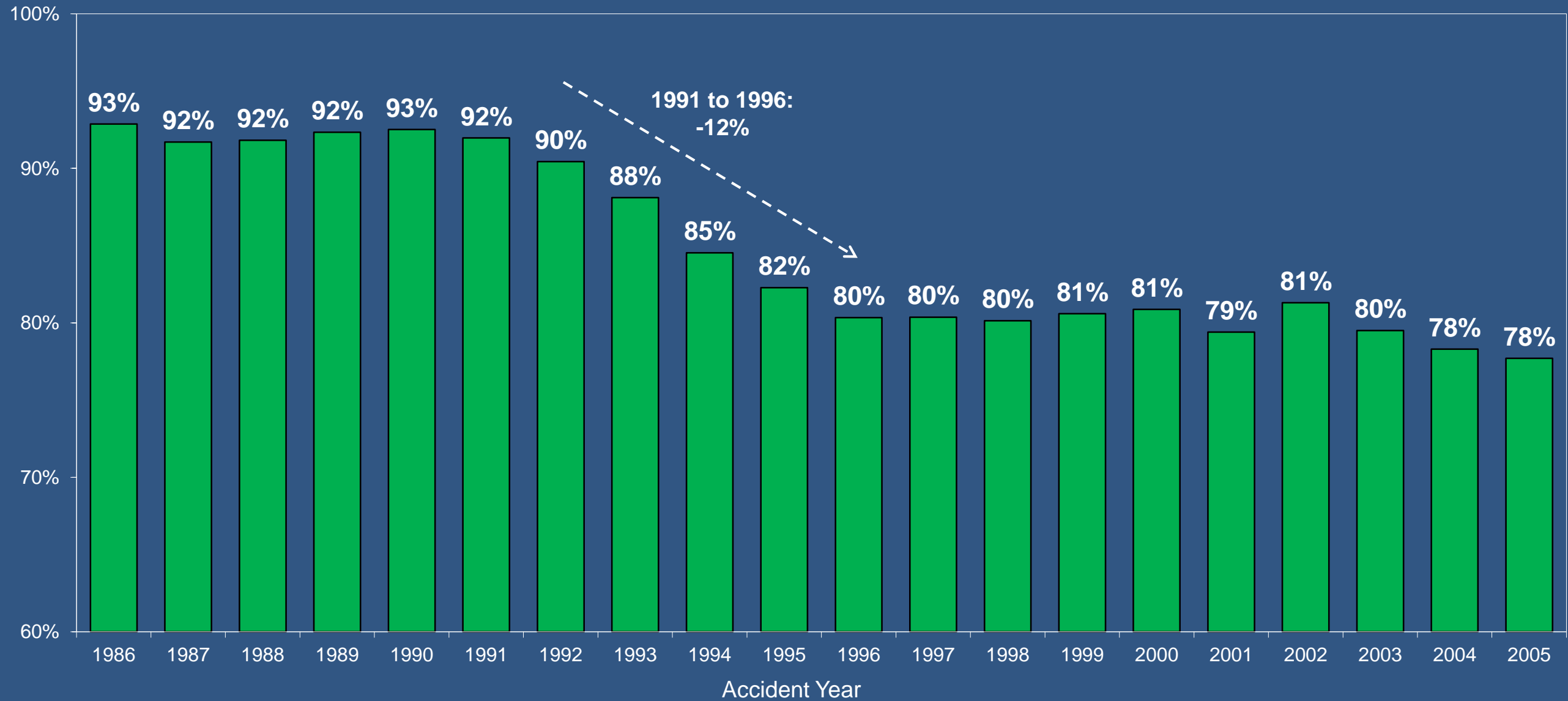
Review of Loss Development Tail Methodology



Tail Development – Background

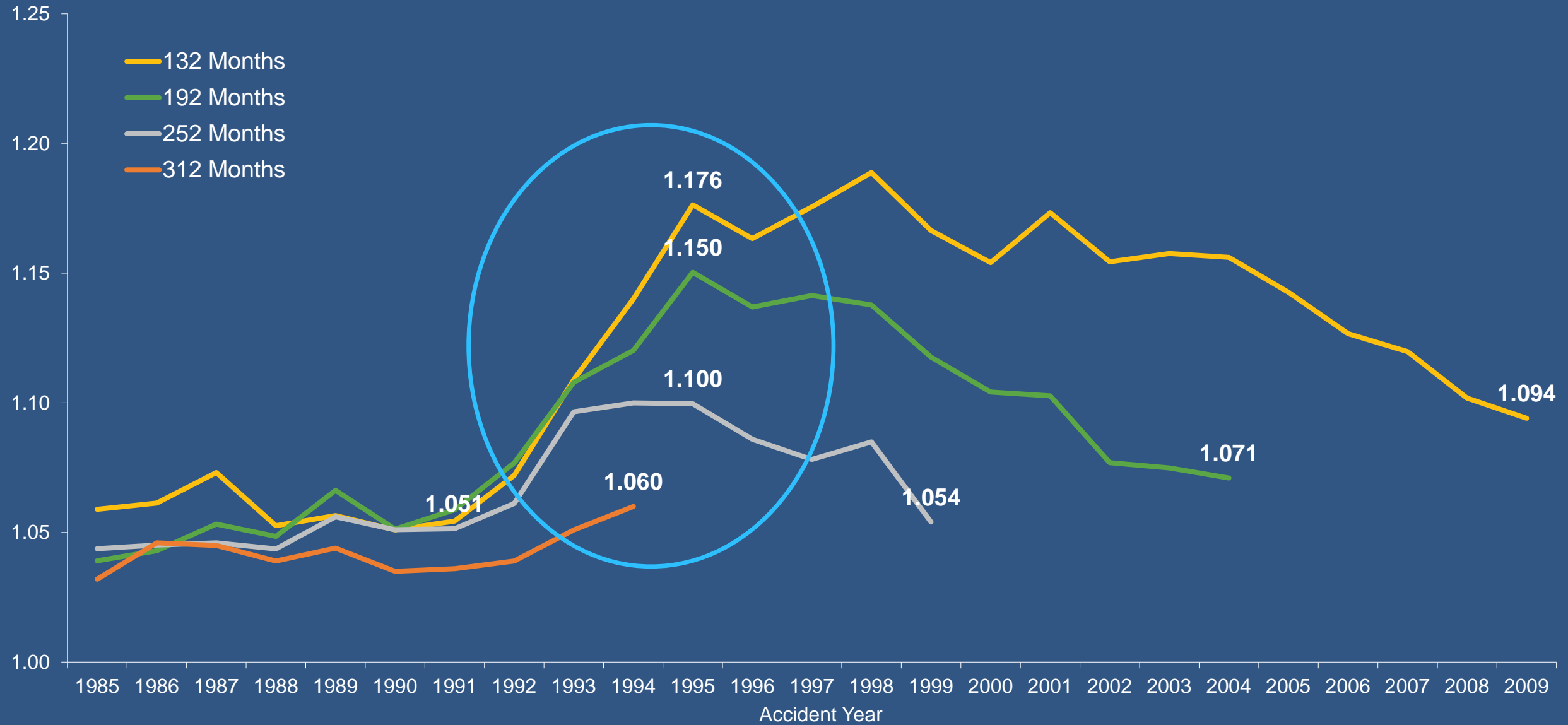
- Current methodology uses incurred development after 264 months
 - Used in lieu of paid due to dramatic shift in payment pattern in mid-1990s driving sharp differences in paid and incurred projections (2014 study)
 - Inverse power curve fit to incurred development used for development after 420 months
- At 3/18/2019 meeting, Committee expressed concern with incurred tail development given recent anomalous pattern
- August 2019 study showed inverse power curve fit to paid development is more stable
 - Committee recommended review of factors driving use of incurred development in pre-1998 accident years
- Committee & CDI also recommended review of claim settlement rate impact on tail development given recent sharp increase in settlements

Basis of 2014 Methodology Change – Paid Medical @ 84 Months as % of Paid Medical @ 168 Months



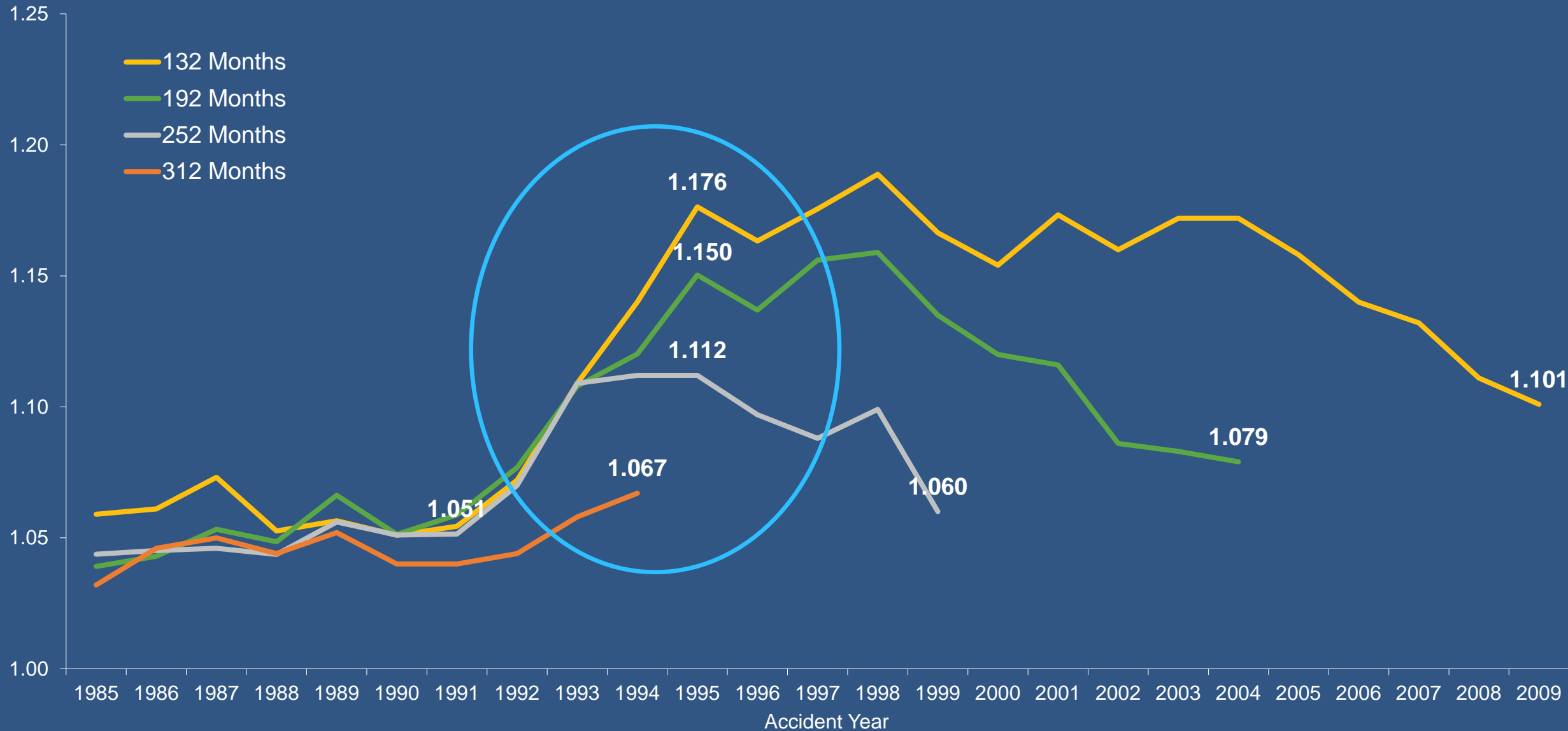
Medical Incurred to Paid Ratios (Exhibit 1.2)

As of December 31, 2019



Medical Incurred to Paid Ratios Adjusted for Changes in Pharmaceutical Cost Levels (Exhibit 2)

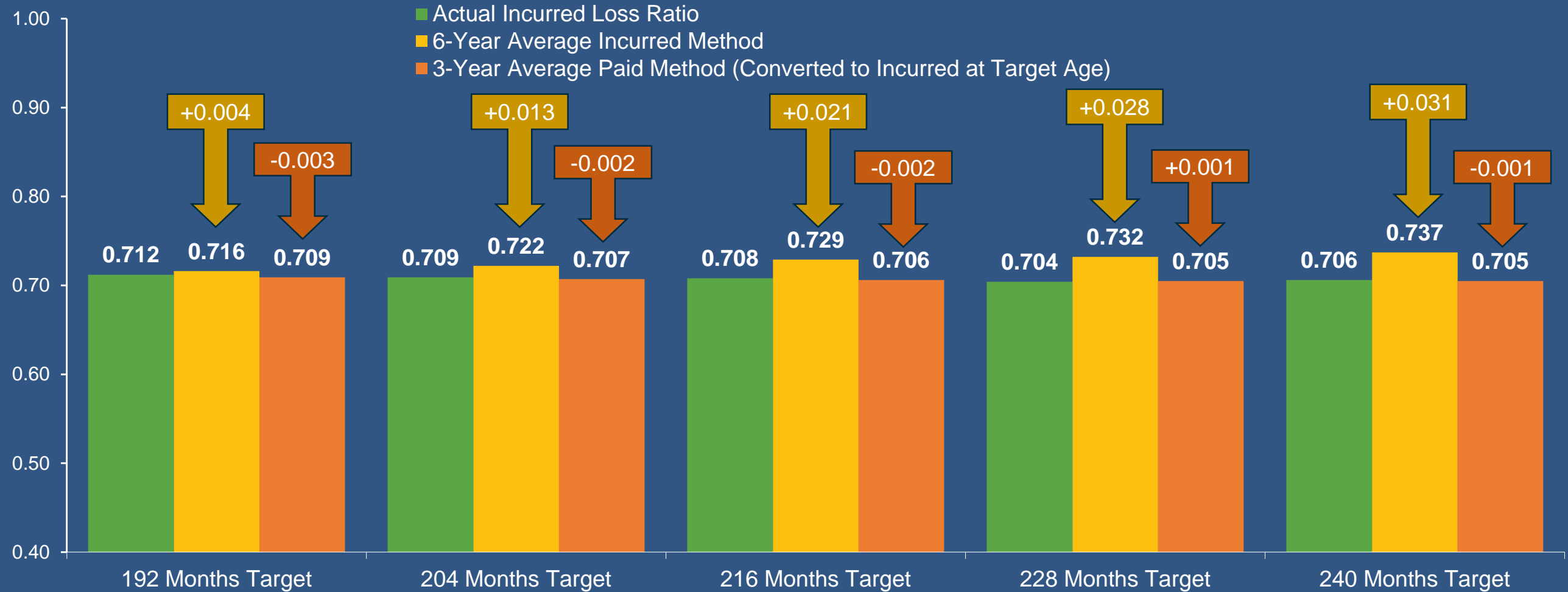
As of December 31, 2019



Retrospective Tests of Longer-Term Loss Development

- Accuracy of paid and incurred development projections compared at later periods (108 to 360 months)
- Each accident year medical loss ratio developed from a beginning age to a target age
 - 3-year average unadjusted paid method
 - 6-year average unadjusted incurred method (3-year average also reviewed)
- Developed loss ratios compared to the actual reported incurred loss ratio at the target age
 - Developed paid loss ratios converted to incurred using reported incurred/paid ratio at target age

Retrospective Tests Example from AY 1999 Medical Projected from 180 Months (Exhibit 3)

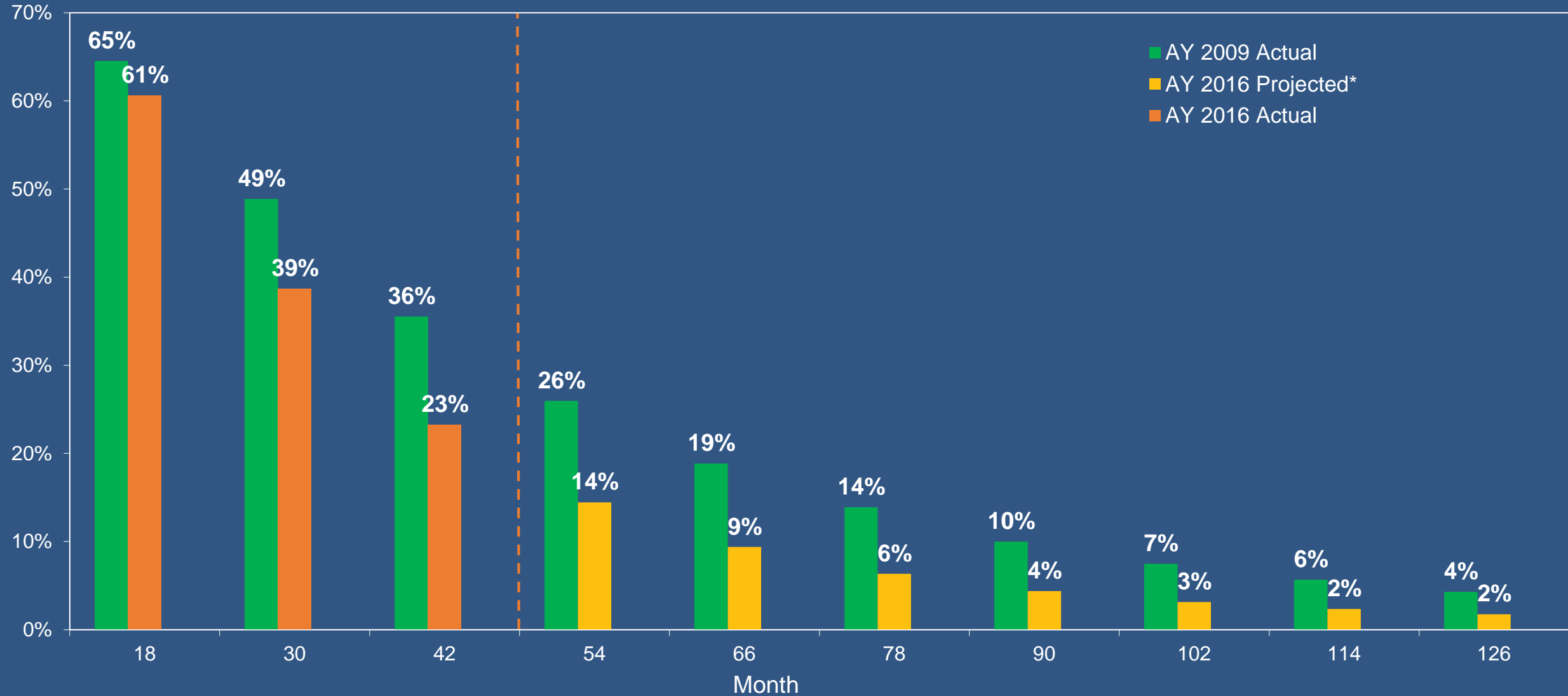


Summary of Retrospective Test Results (Exhibit 4)

- Paid method average error 68% lower than incurred method
 - Results consistent across AY and evaluation
- Paid method more accurate in 83% of tests
- Staff believes paid method more stable and accurate, particularly to project more mature years
- However, uncertain if payment pattern on very old claims is applicable to develop more recent years given significant shifts in system over time (reforms, claim settlement rates, etc.)

Proportion of Ultimate Indemnity Claims Open

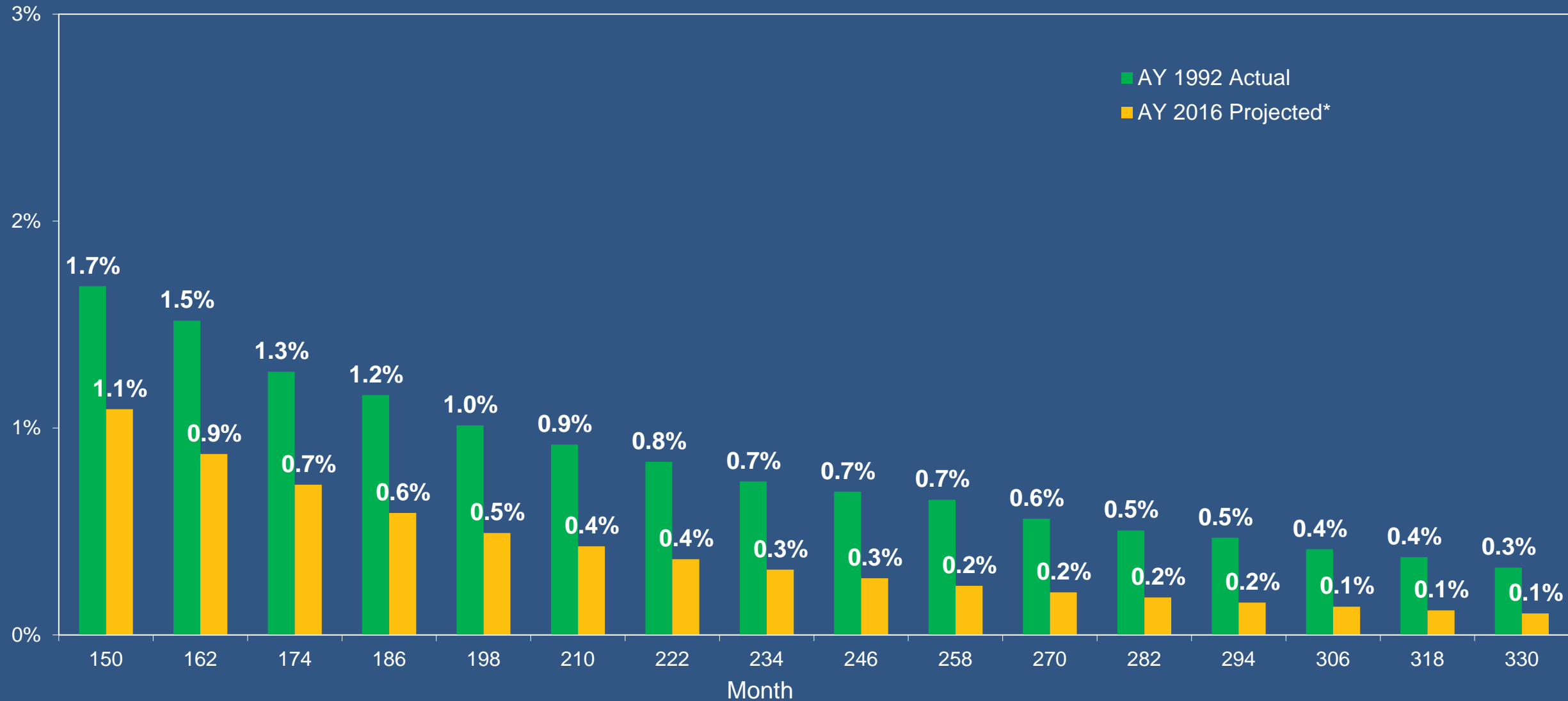
As of June 30, 2019



* Projected open claim rates are based on the projected closed indemnity counts divided by the ultimate indemnity claim counts. The projected closed indemnity counts are based on the latest year number of indemnity claims closed as a ratio to prior number of open claims.

Proportion of Ultimate Indemnity Claims Open

As of June 30, 2019

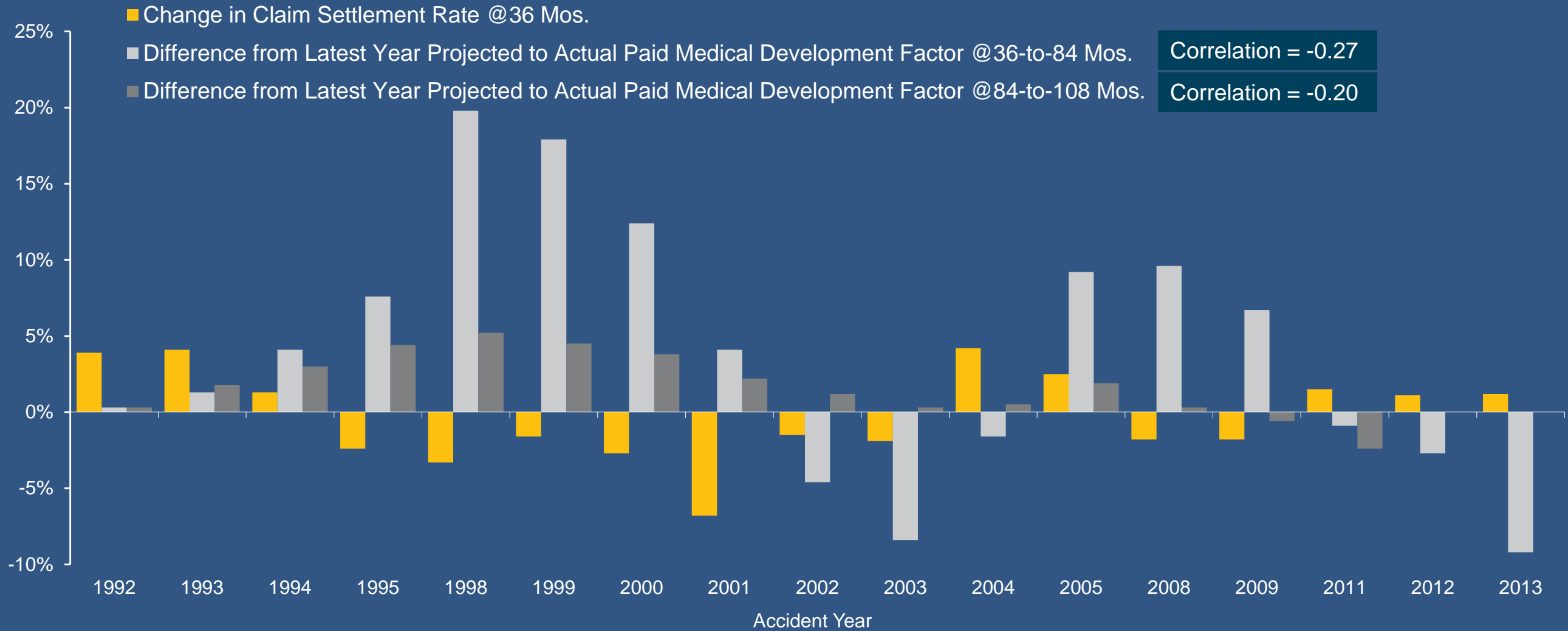


* Projected open claim rates are based on the projected closed indemnity counts divided by the ultimate indemnity claim counts. The projected closed indemnity counts are based on the latest year number of indemnity claims closed as a ratio to prior number of open claims.

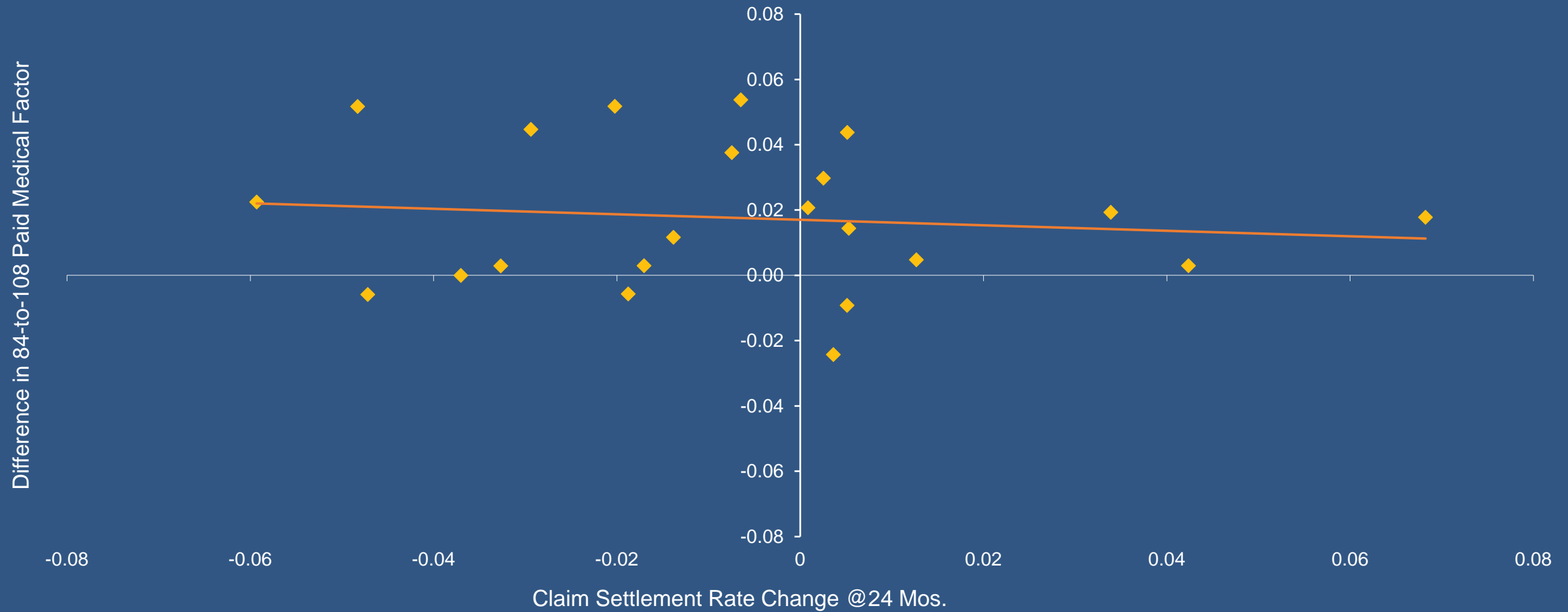
Review of Claim Settlement Rate Impact on Later Development

- Berquist-Sherman adjustment addresses claim settlement rate impact within settlement period but does not address impact on later periods
- 2017 study of paid medical did not show consistent relationship between settlement rate change and later period development
- 2019 study of paid ALAE showed statistical relationship between settlement rate change and later period ALAE development
 - Adjustment to paid ALAE was reflected in 1/1/2020 Filing

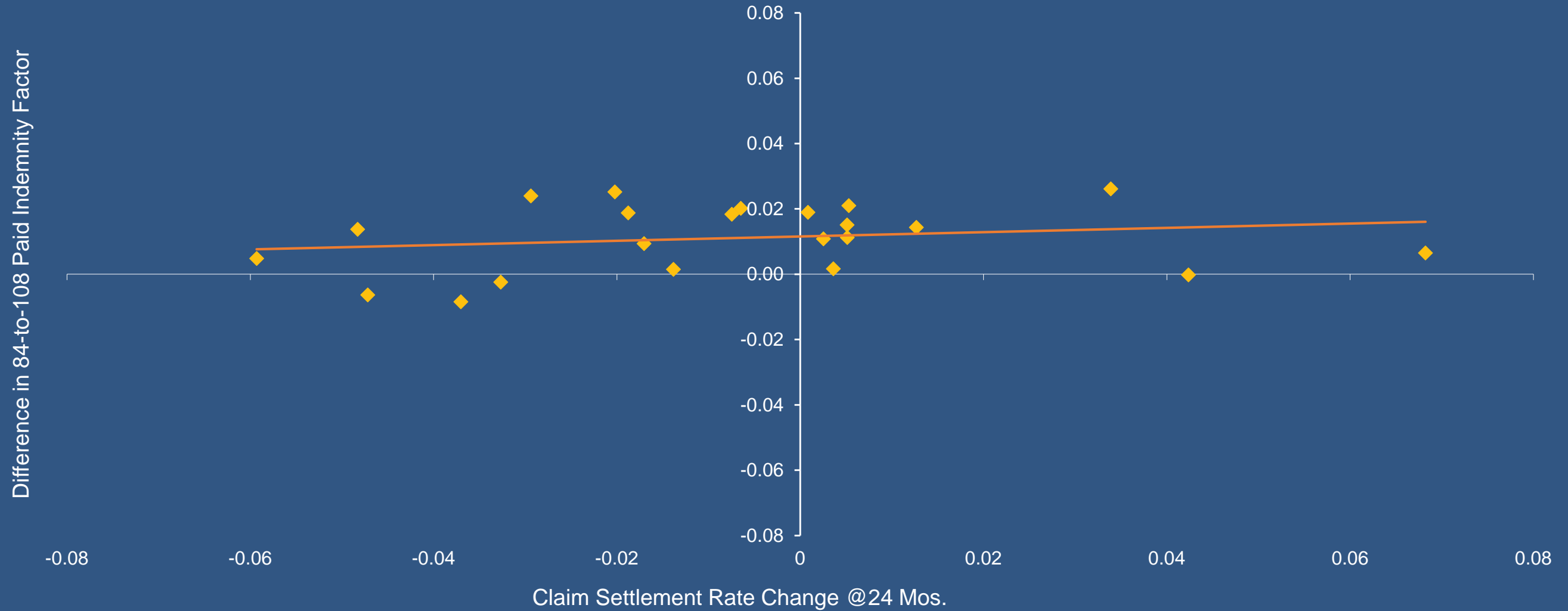
Comparison of Claim Settlement Rate Change to Future Period Paid Medical Development (Exhibits 5 and 7.2)



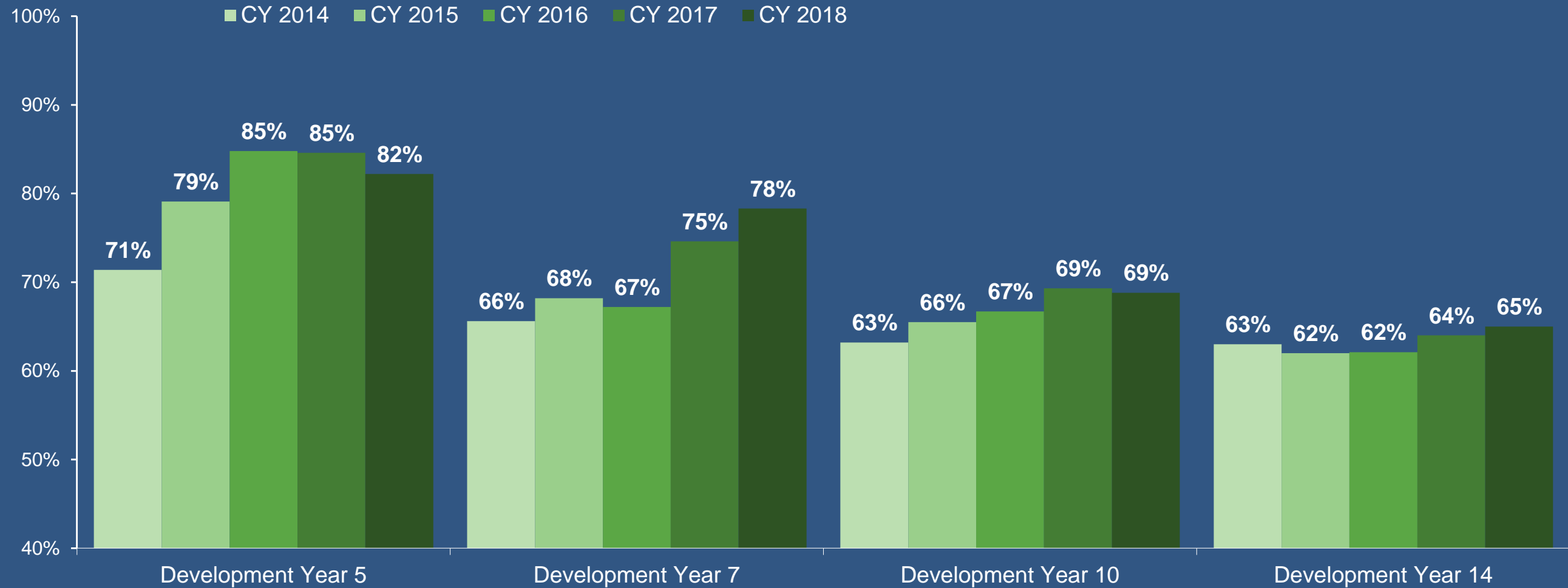
Comparison of Claim Settlement Rate Change to Future Period Paid Medical Development (Exhibits 5 and 7.2)



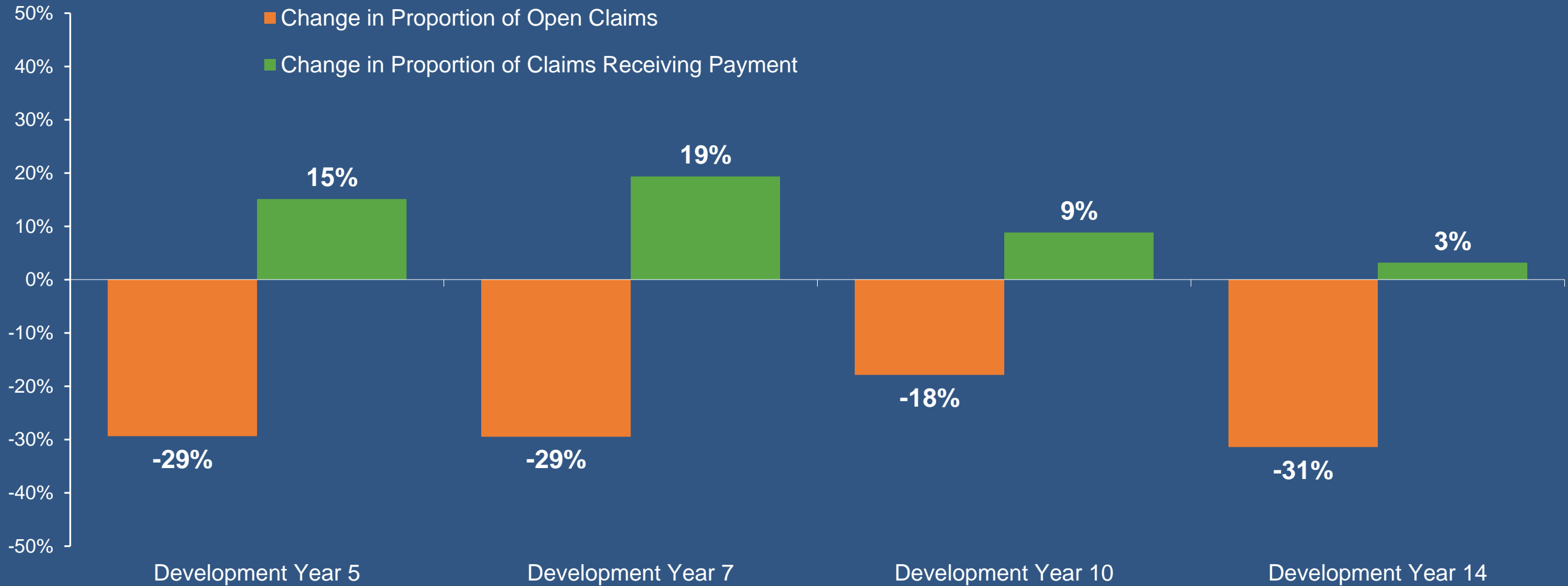
Comparison of Claim Settlement Rate Change to Future Period Paid Indemnity Development (Exhibits 5 and 7.1)



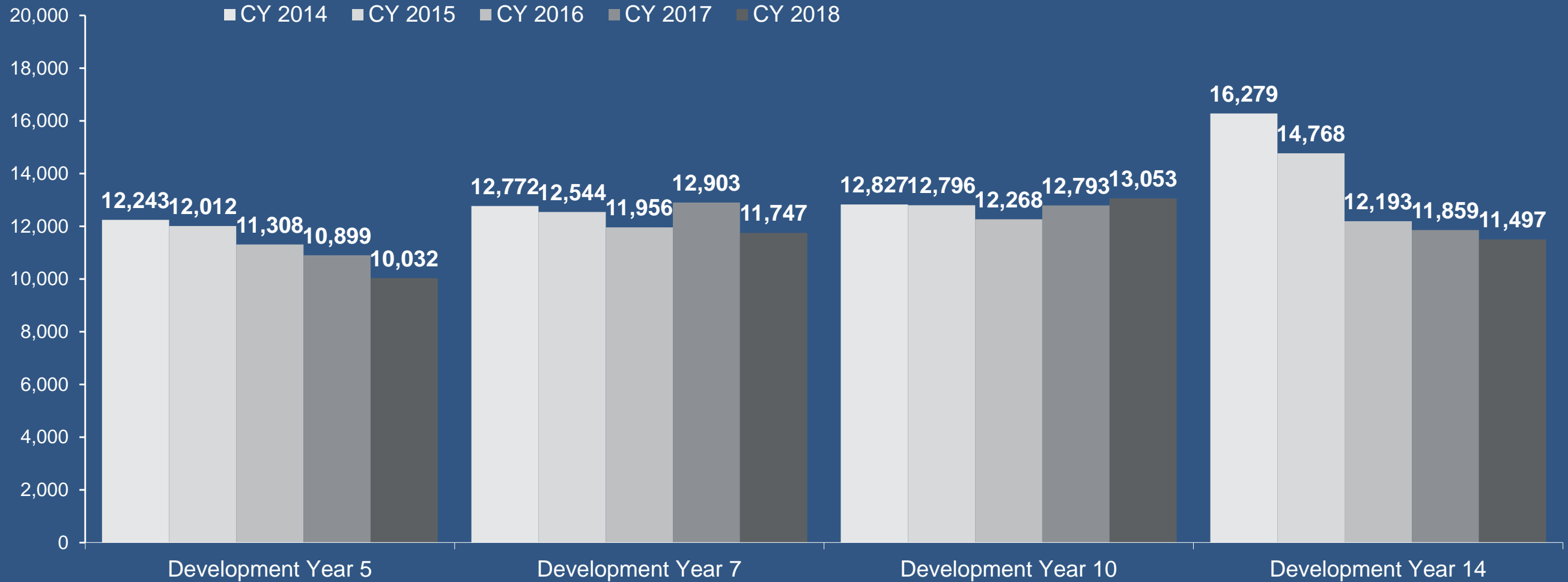
Percentage of Open Claims Receiving Medical Transactions (Exhibit 8.2)



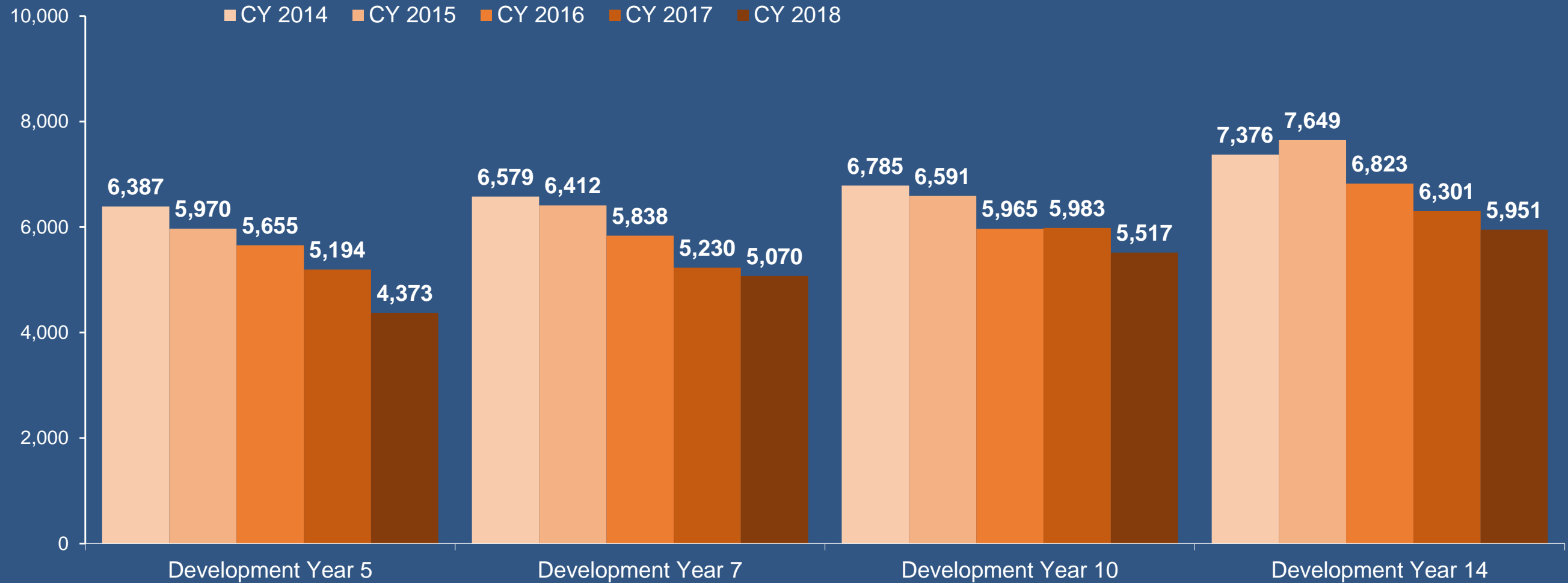
Comparison of Payment Rate and Open Claim Rate – 2014 to 2018



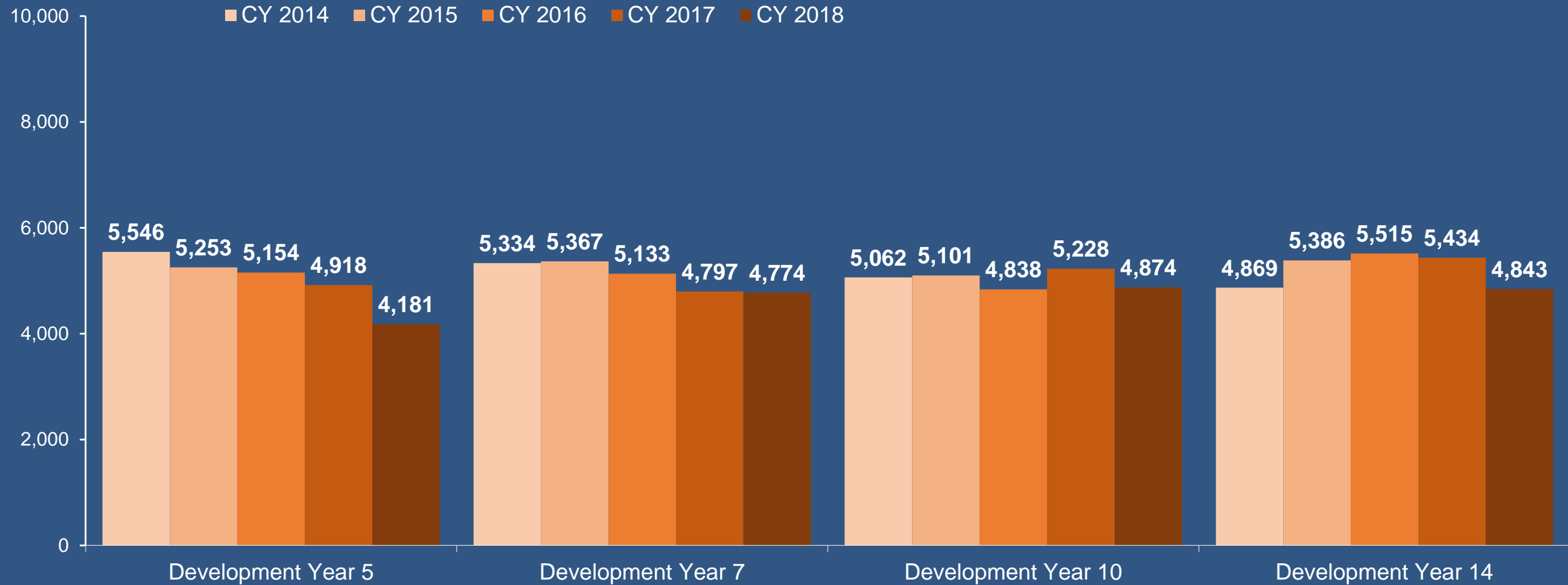
Incremental Paid Medical per Open Indemnity Claim (Exhibit 9.1)



Incremental Paid Medical per Claim with Transactions (Exhibit 9.2)



Incremental Paid Medical per Claim with Transactions – Excluding Pharmaceuticals



Tail Development – Next Steps

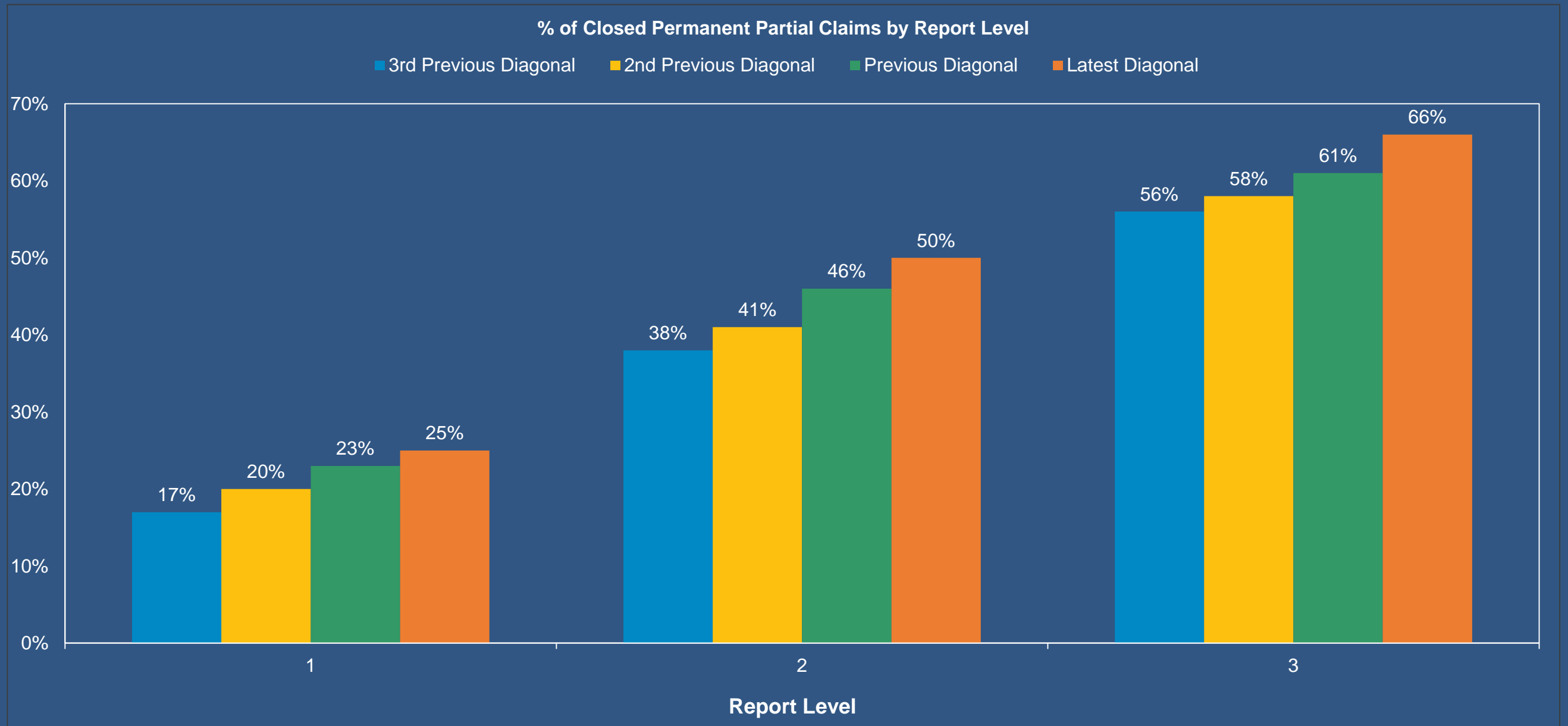
- Statistical relationship between settlement change and future loss development change not strong in historical data
- Intuitively, fewer claims open at later periods should reduce tail development
- Review of medical transaction data shows decreases in medical services paid as more claims close
- Staff to review potential alternative approaches to late-term paid development when claim settlement rates change
- Plan to review alternative approaches (including inverse power curve fit to paid) with Committee prior to 1/1/2021 Filing

03

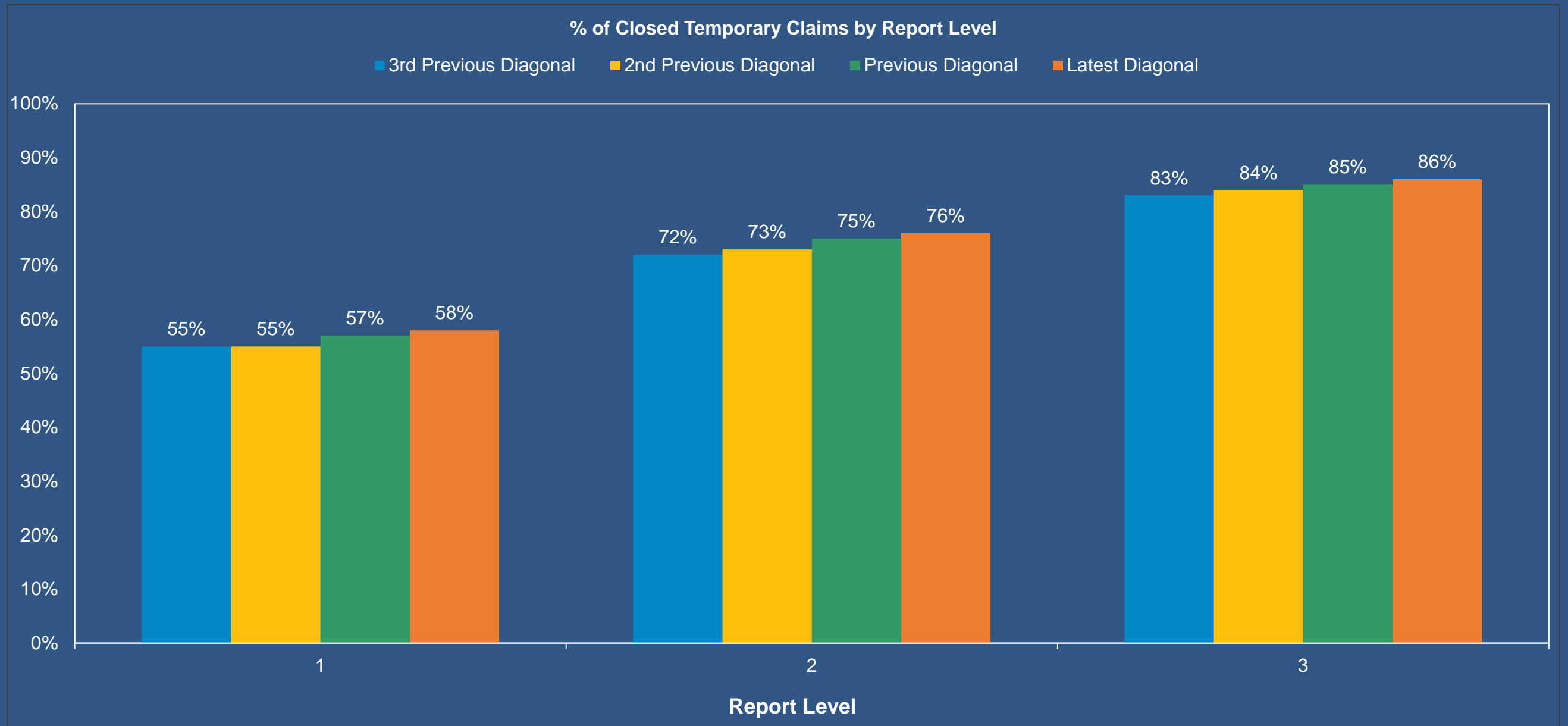
First Quarter 2020 Review of Diagnostics



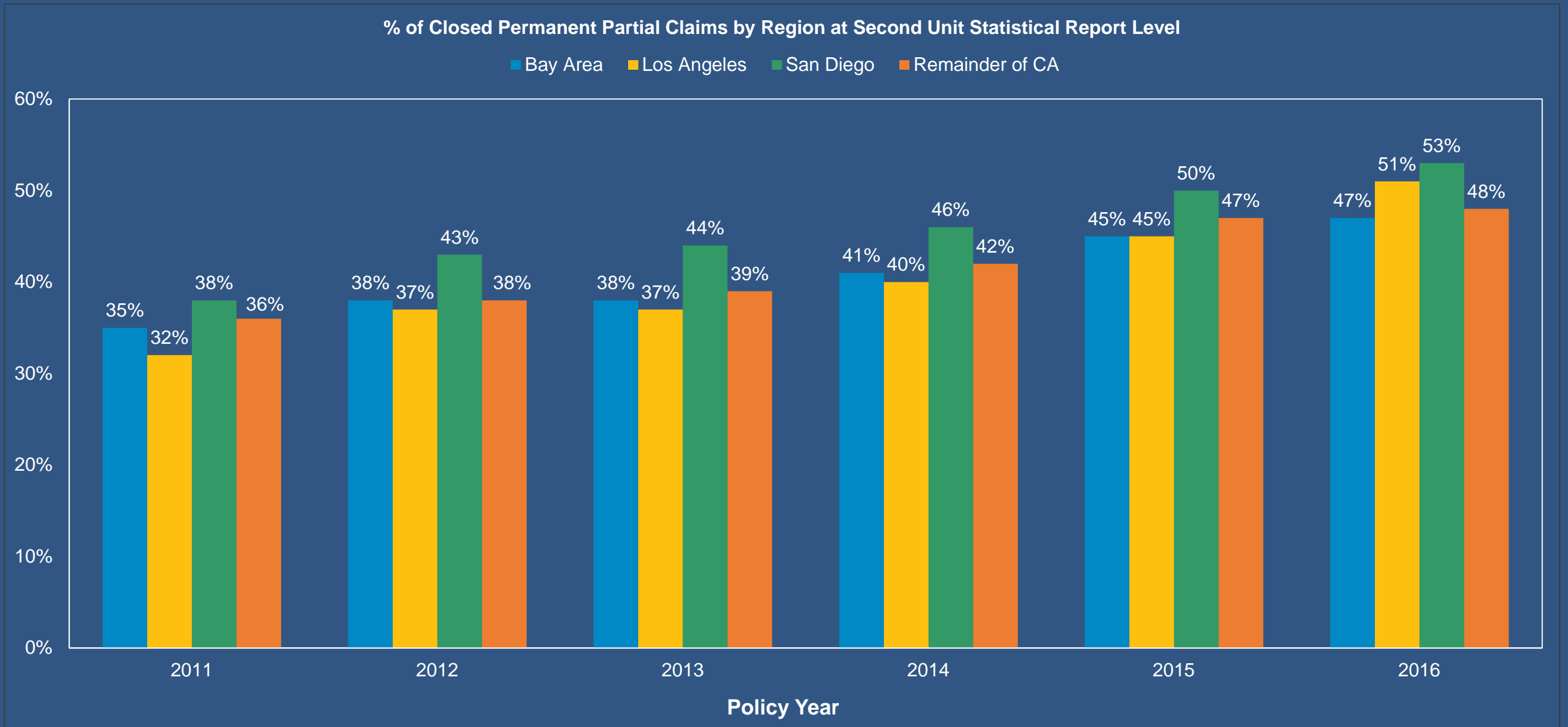
Percentage of PPD Claims Closed by Report Level (Exhibit M5)



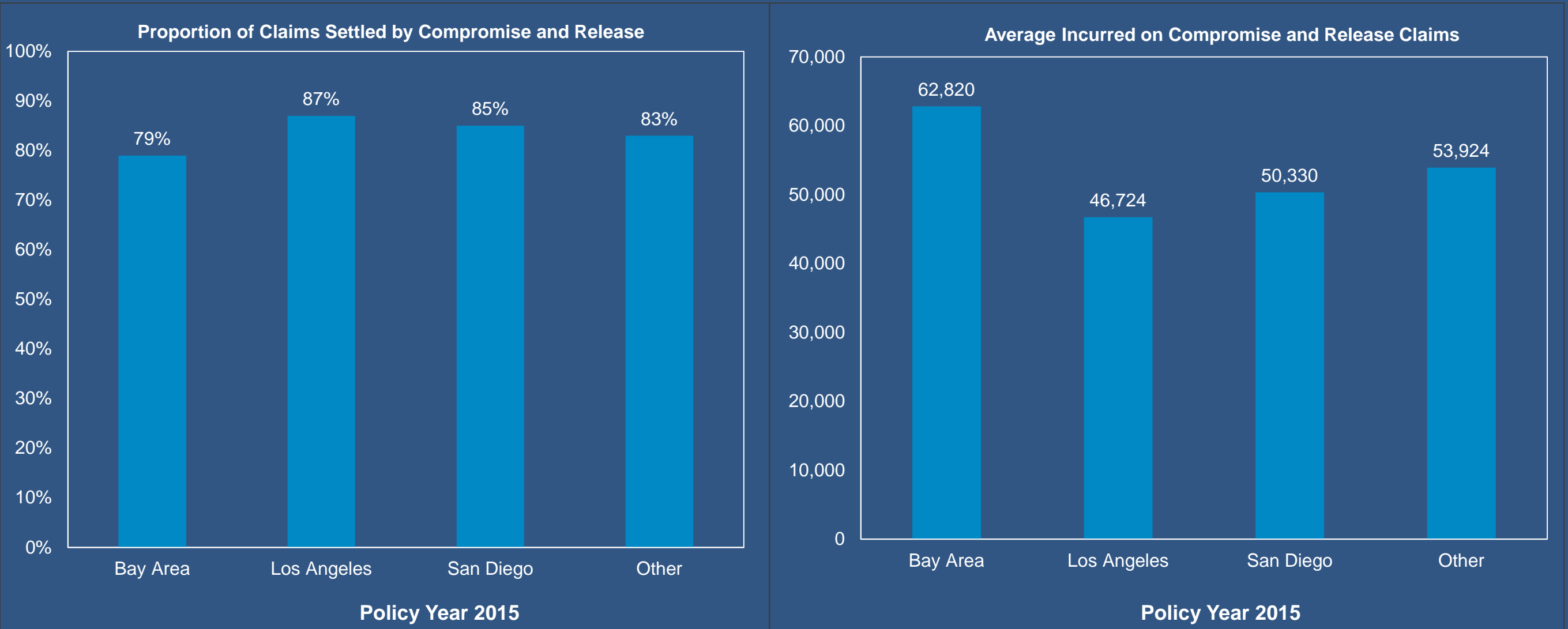
Percentage of Temporary Claims Closed by Report Level (Exhibit M5)



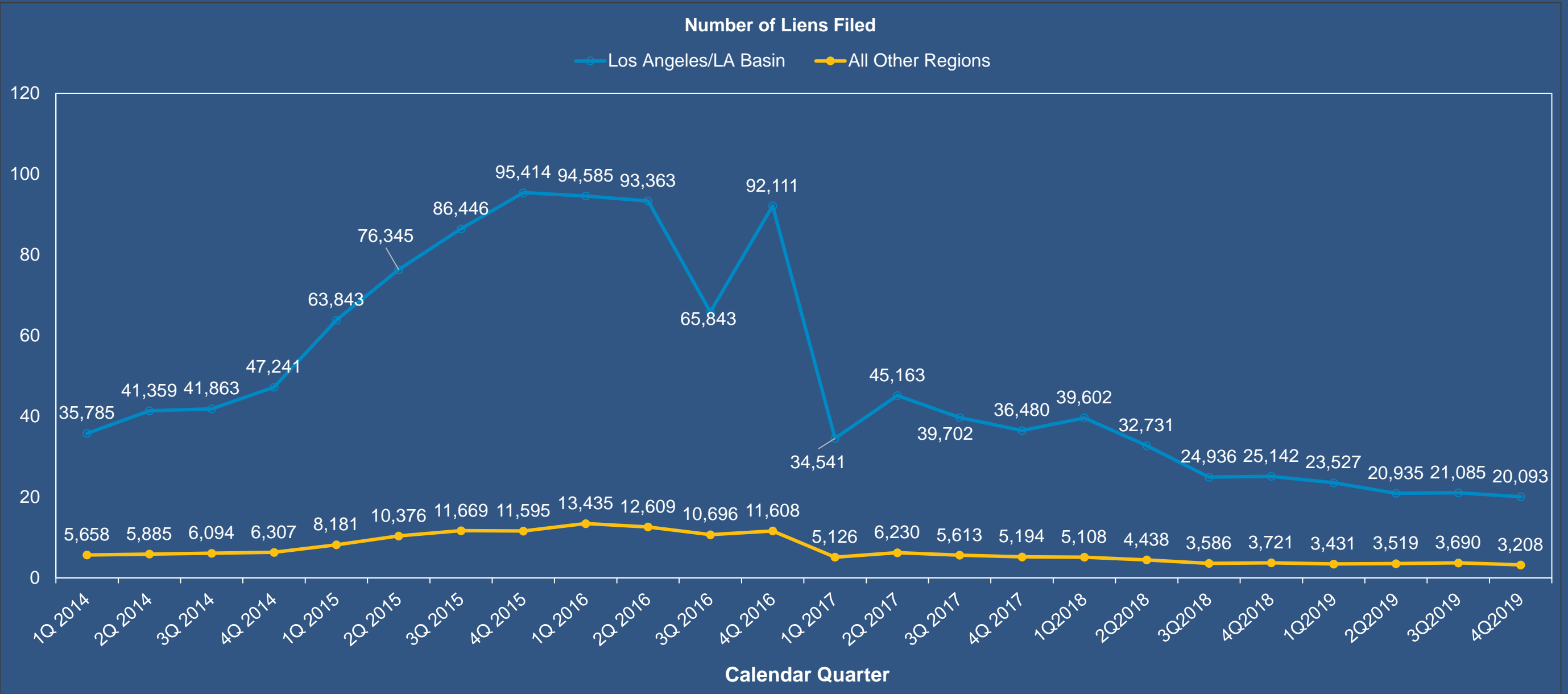
Percentage of PPD Claims Closed by Region (Exhibit M5)



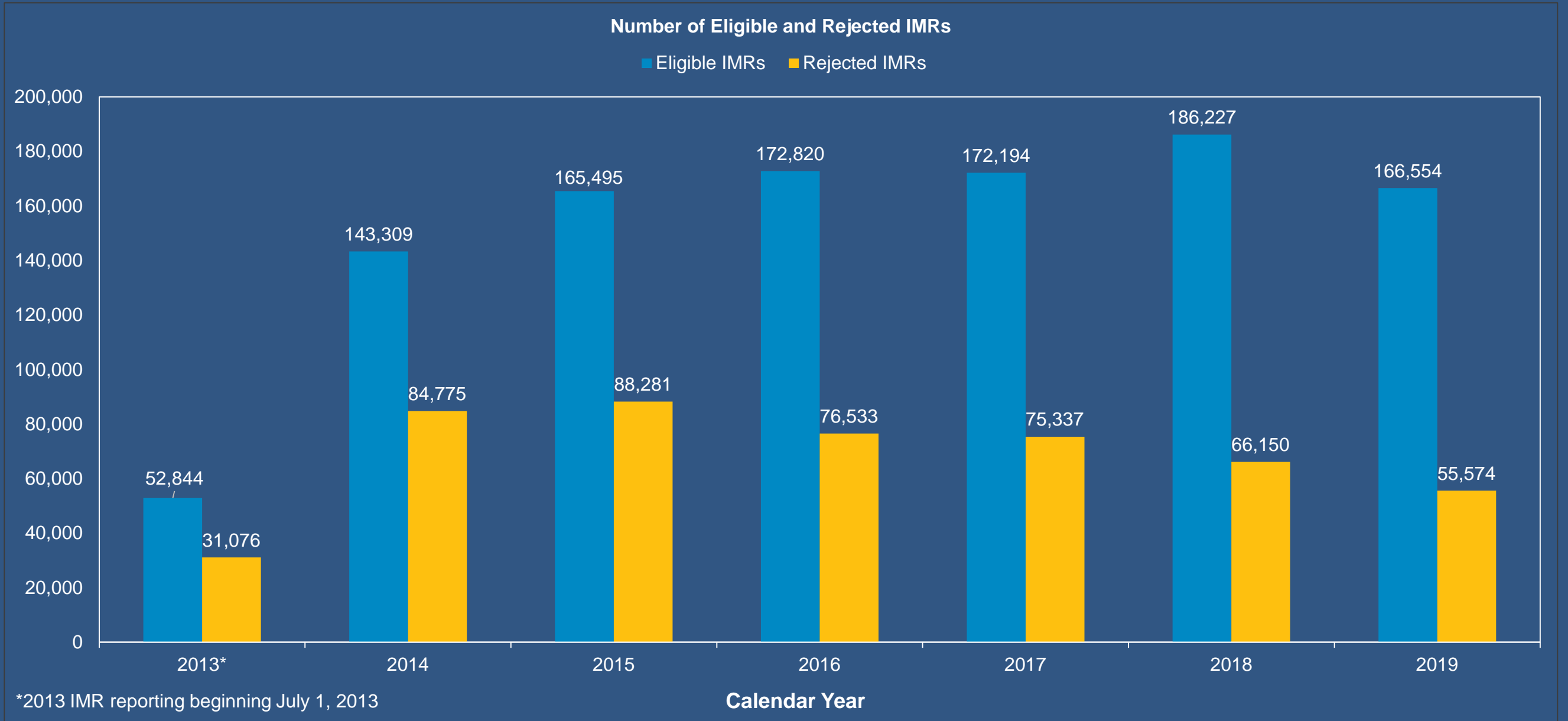
Claims Settled by Compromise & Release and Stipulated Award (Exhibit M6.1 - M6.5)



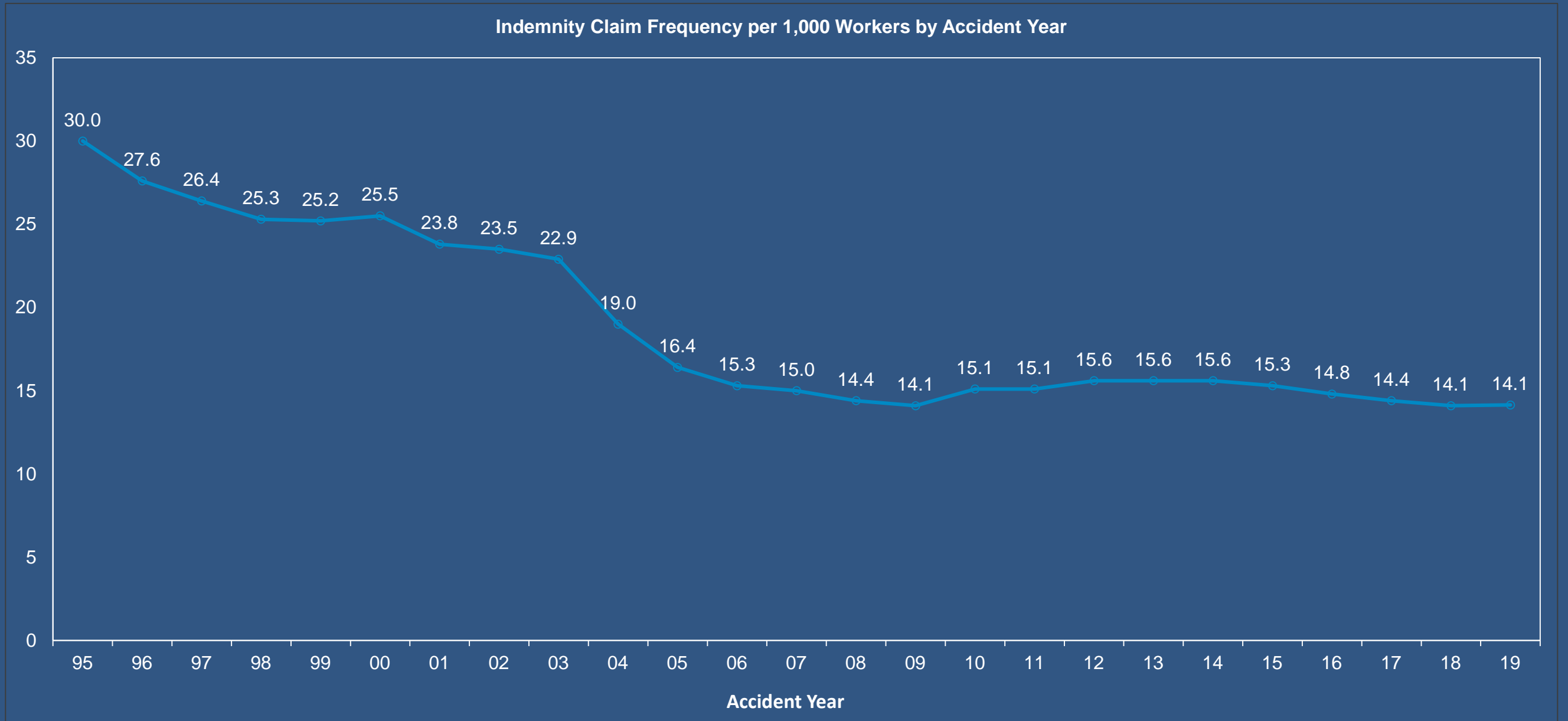
Filed Lien Counts (Exhibit M9.2)



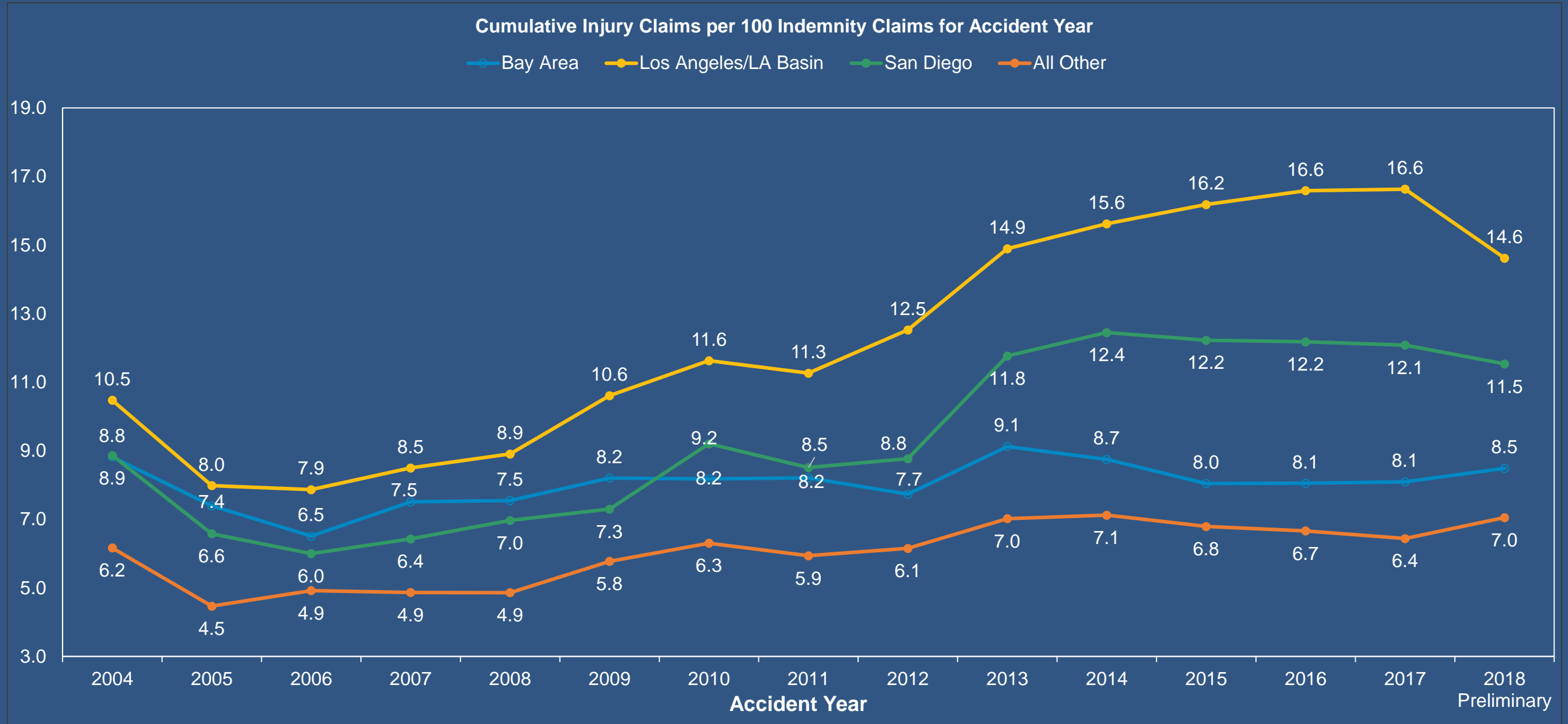
Independent Medical Review (Exhibit M14)



Indemnity Claim Frequency (Exhibit C6)



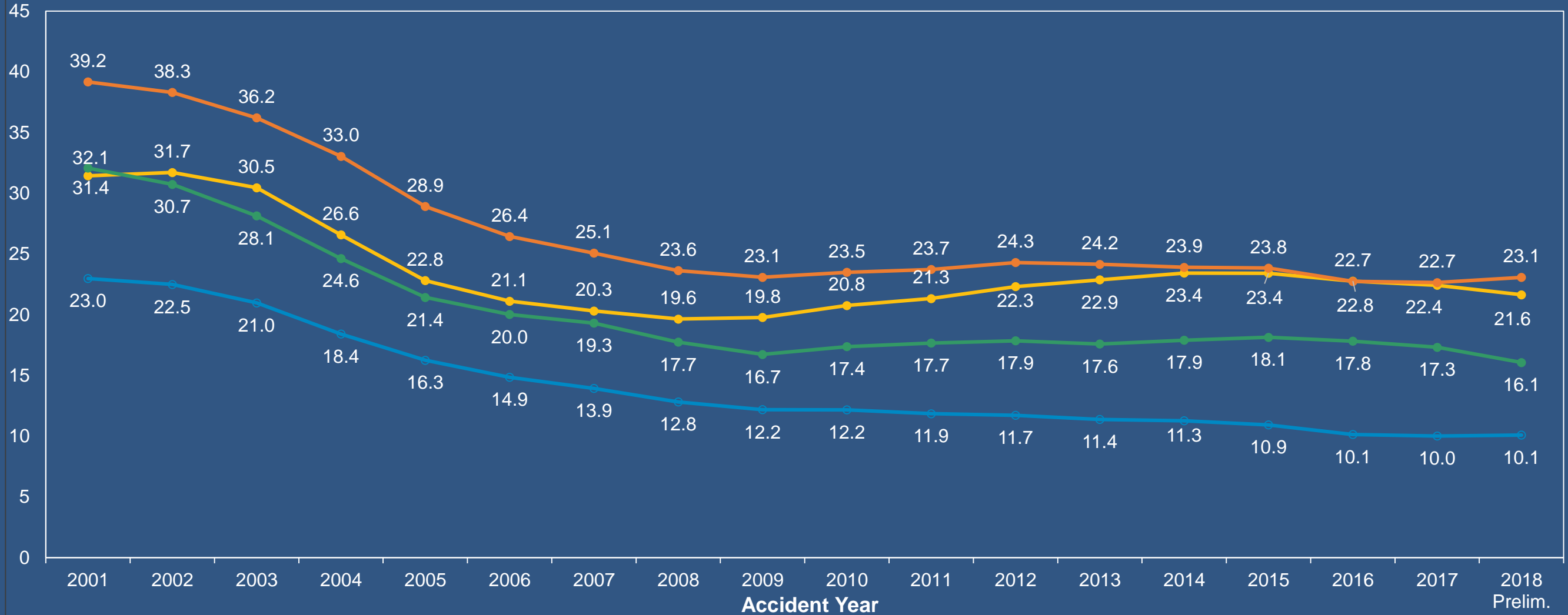
Claim Count Ratio by Region Based on USR at 1st Report Level (Exhibit C17)



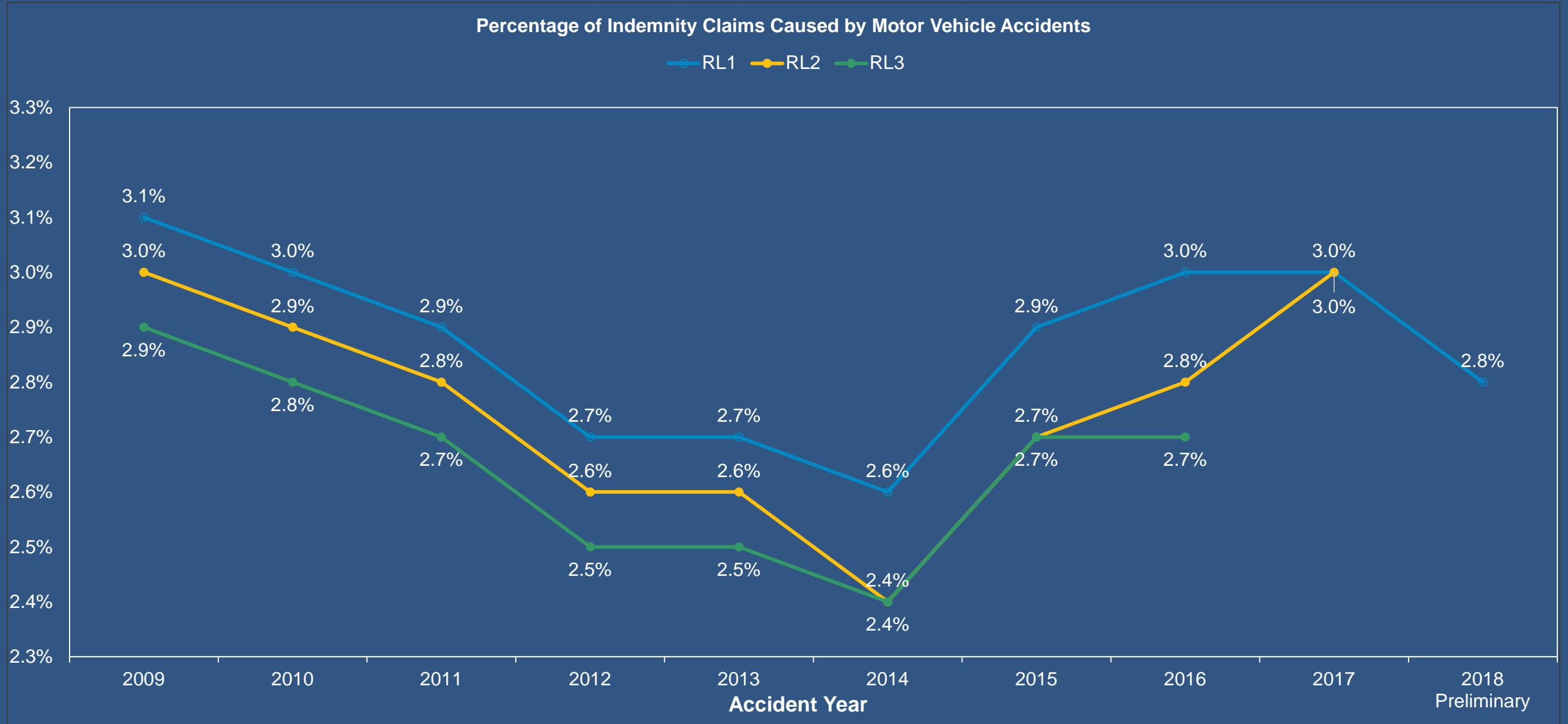
Indemnity Claim Frequency (Exhibit C21)

Indemnity Claim Frequency per \$100M of Exposure at First Report Level

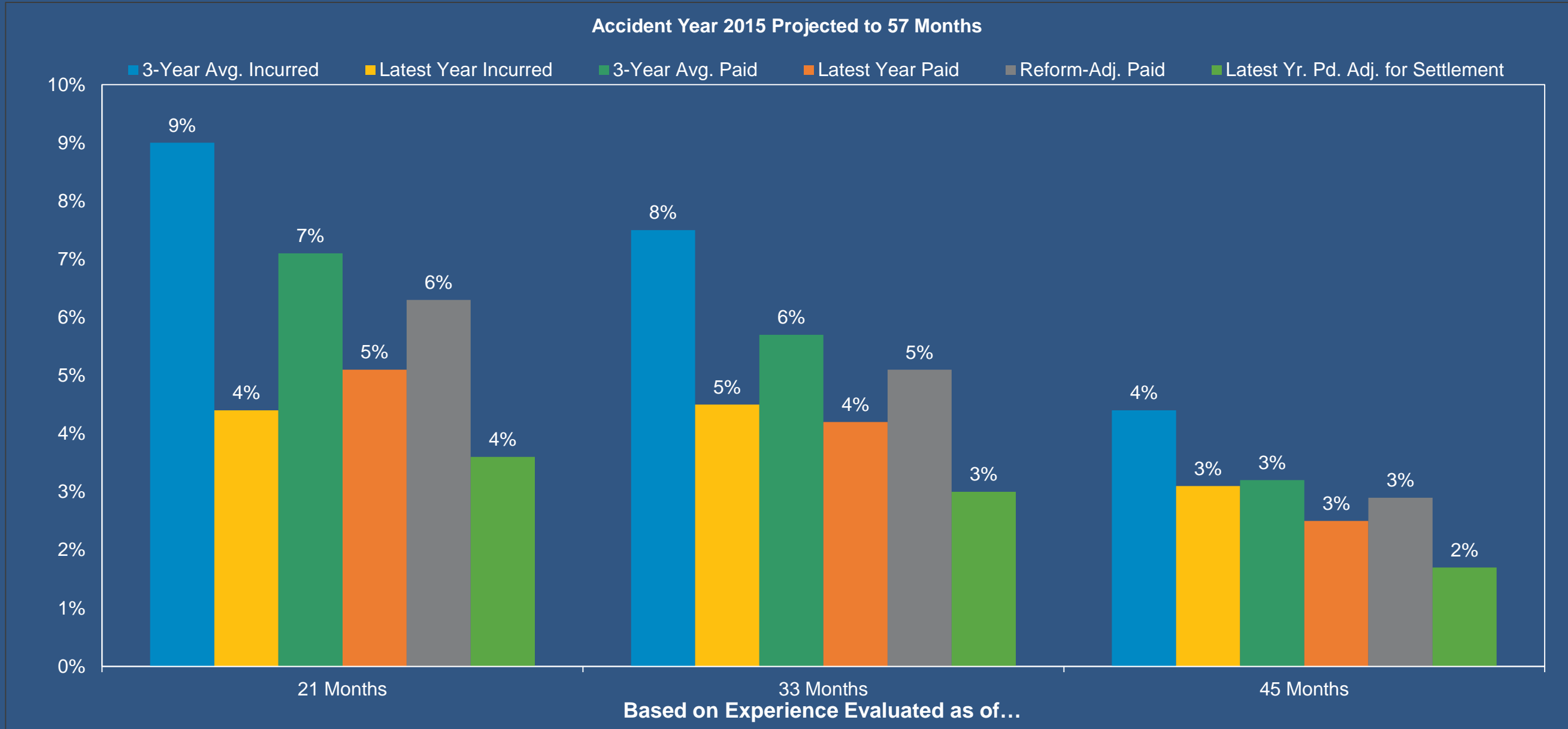
Bay Area Los Angeles/LA Basin San Diego All Other



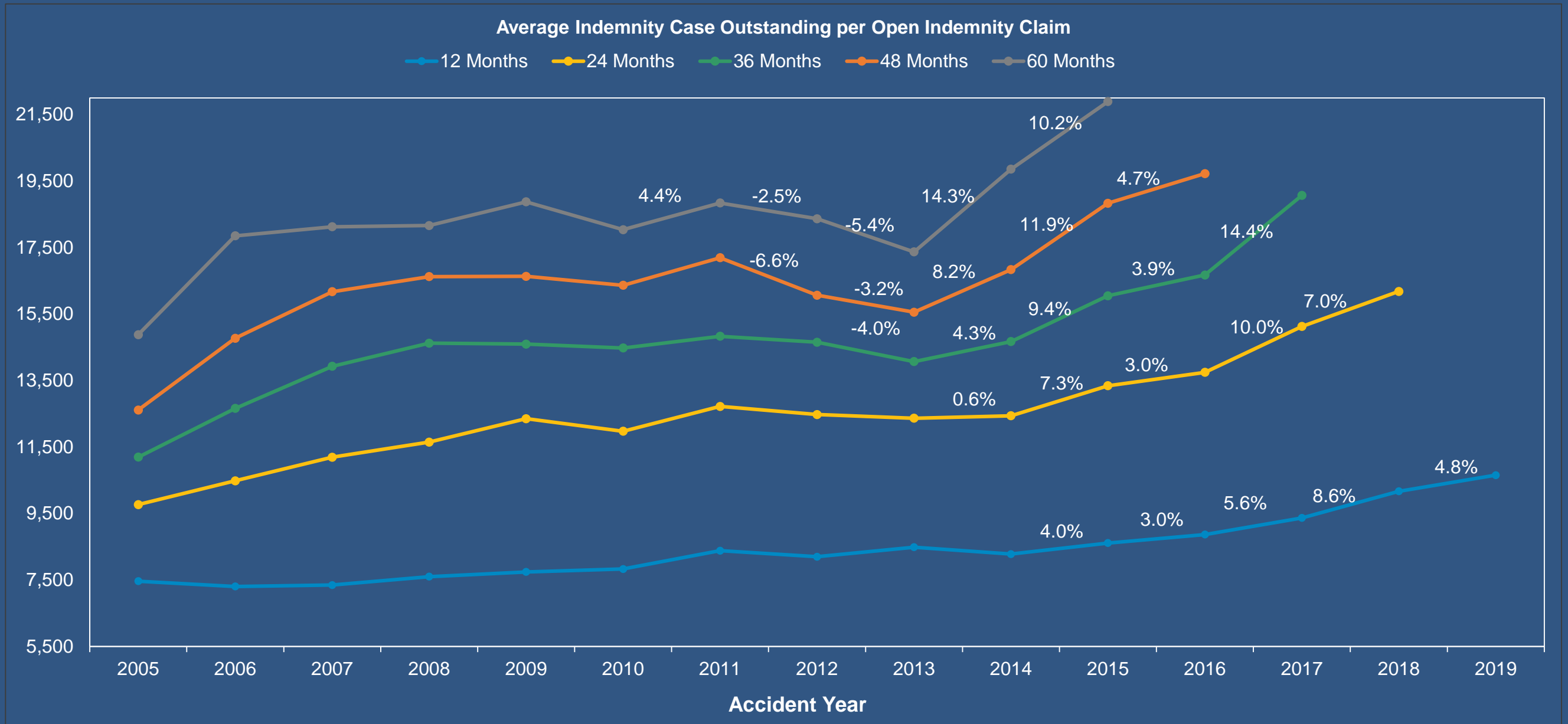
Frequency of Indemnity Claims Caused by Motor Vehicle Accidents (Exhibit C25)



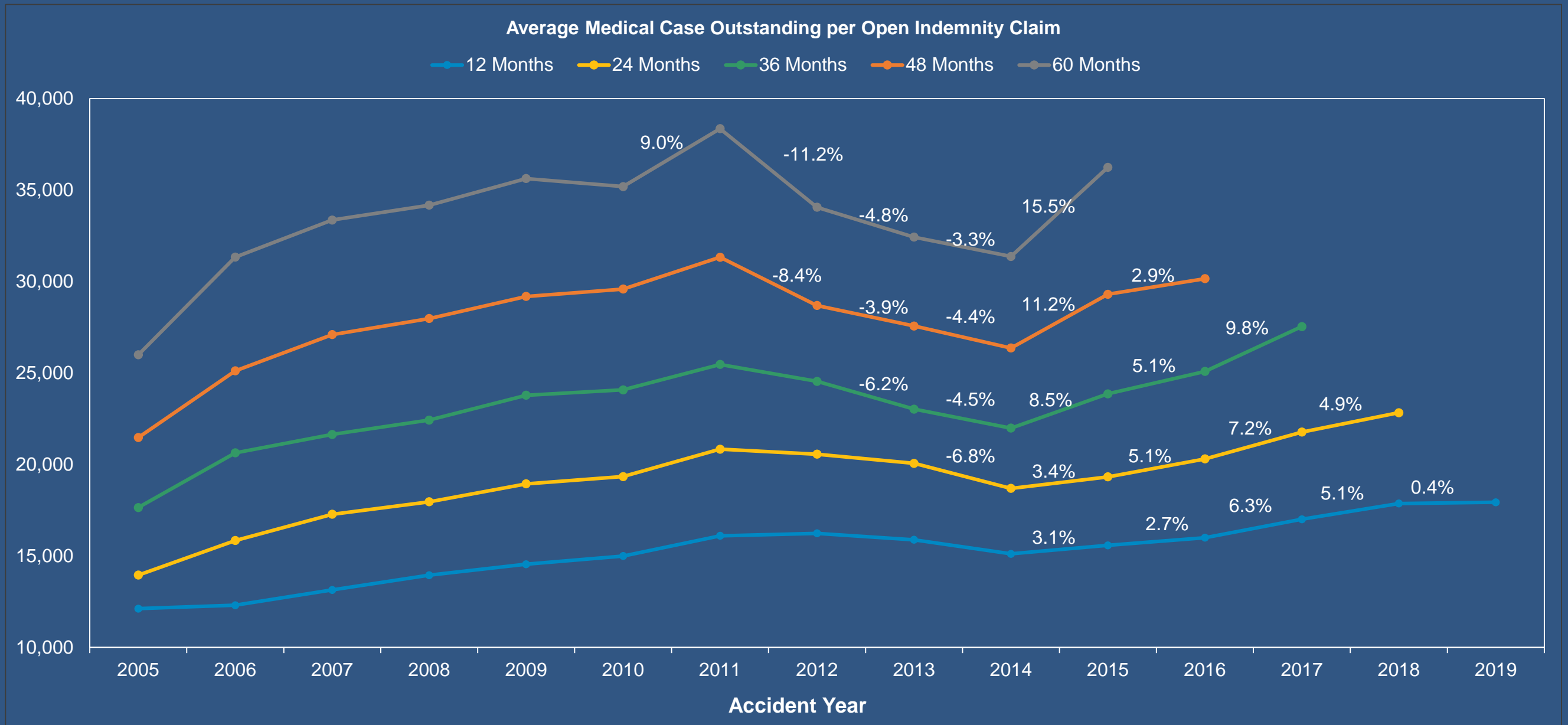
Comparison of Projected Loss Ratios and September 30, 2019 Experience – Medical (Exhibit D6.3)



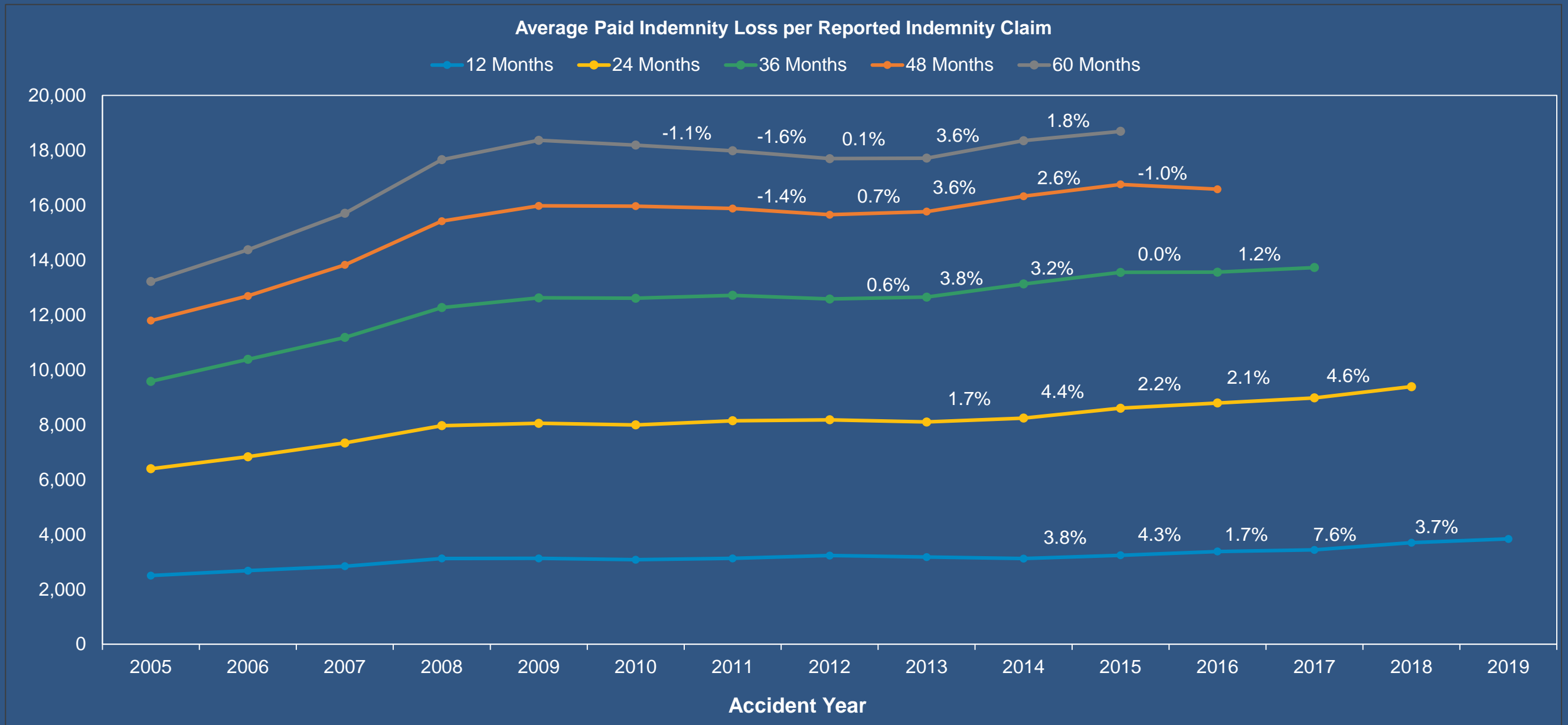
Severity – Indemnity Case Outstanding per Open Indemnity Claim (Exhibit S3.1 Updated)



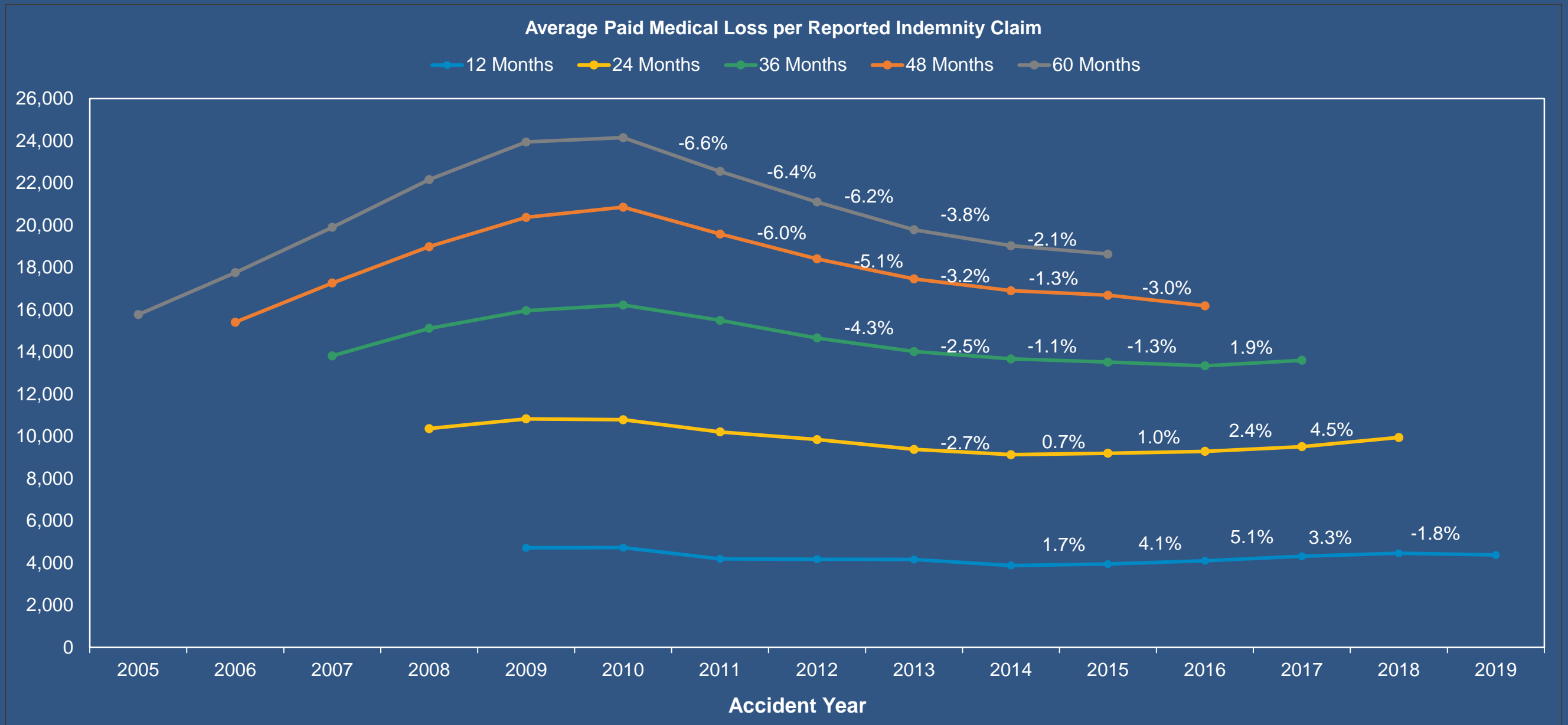
Severity – Medical Case Outstanding per Open Indemnity Claim (Exhibit S3.2 Updated)



Severity – Paid Indemnity per Indemnity Claim (Exhibit S4.1 Updated)



Severity – Paid Medical per Indemnity Claim (Exhibit S4.2 Updated)

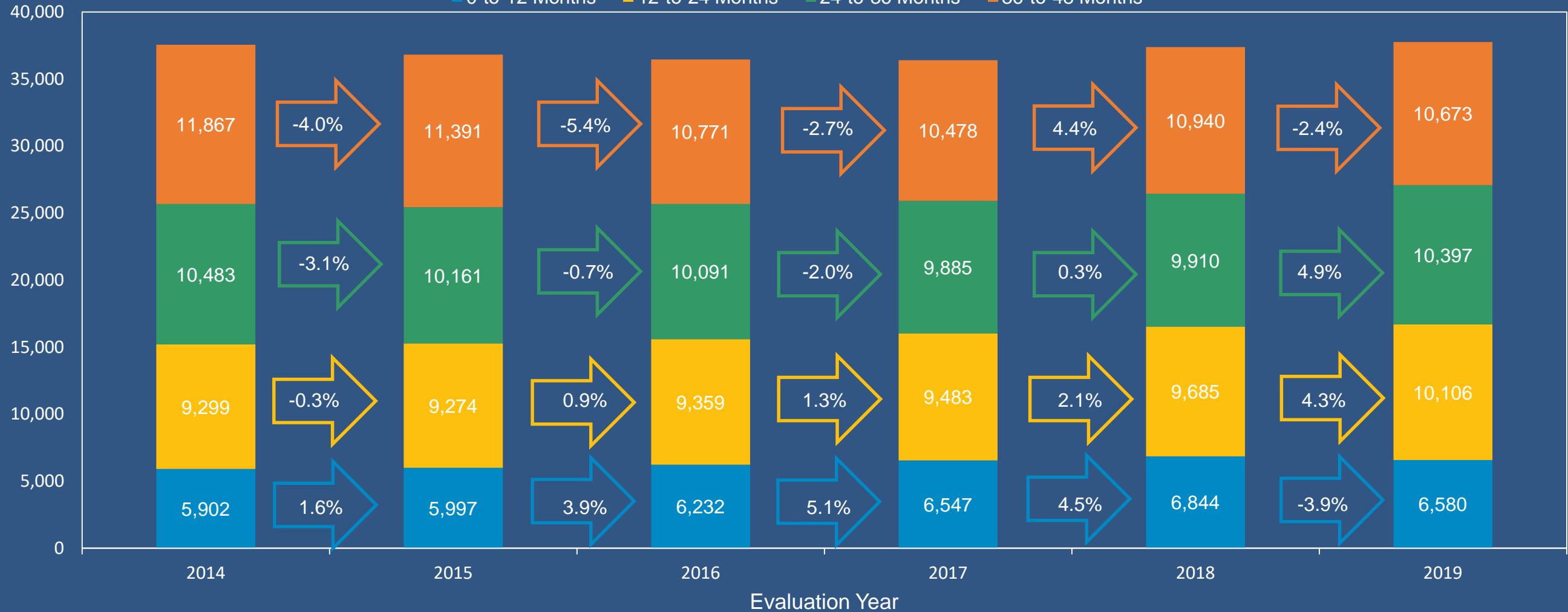


Severity – Incremental Paid Medical per Open Indemnity Claim During the Development Period (Exhibit S7 Updated)

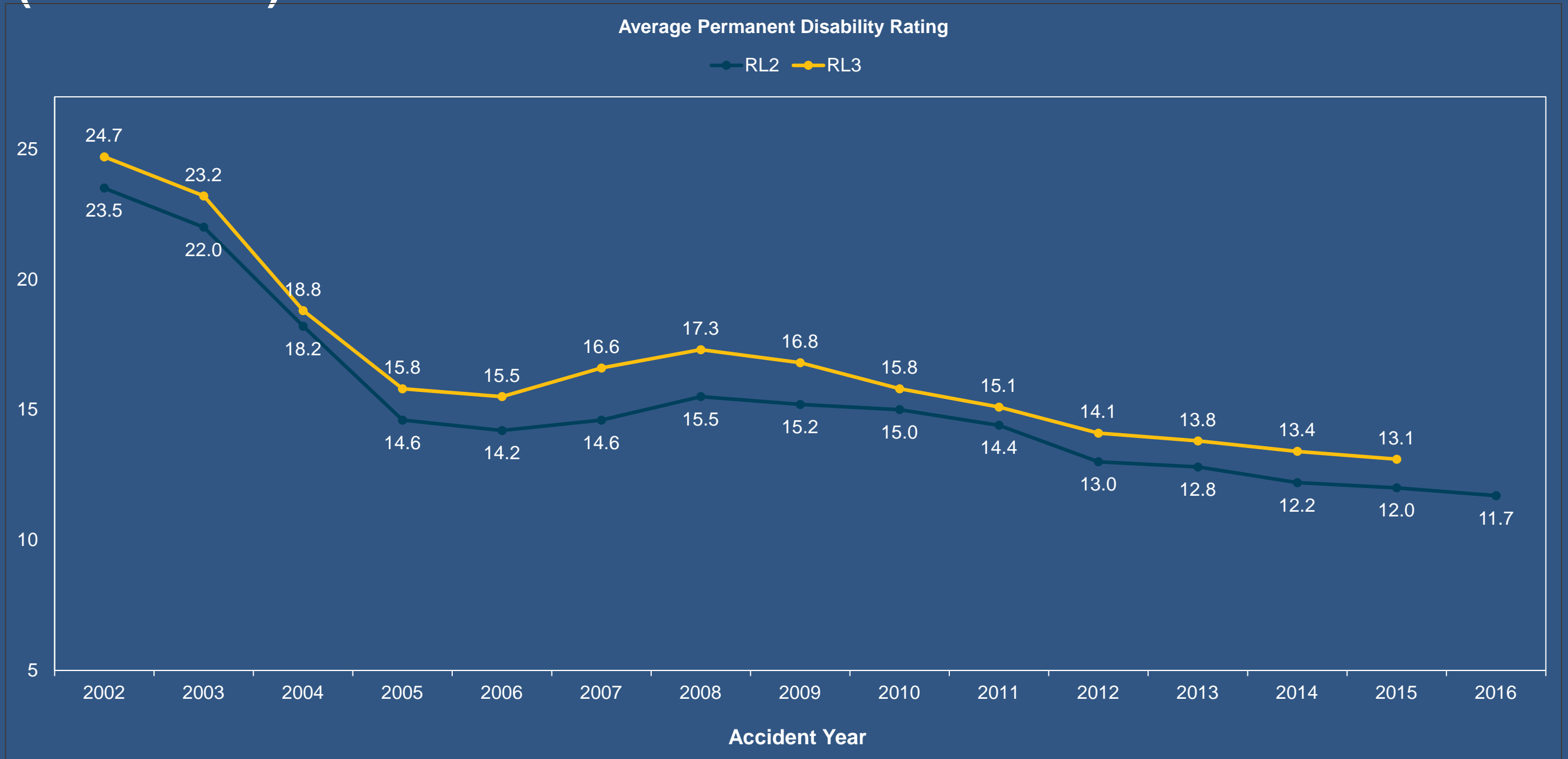
As of December 31, 2019

Average Paid Medical per Open Indemnity Claim during the Development Period

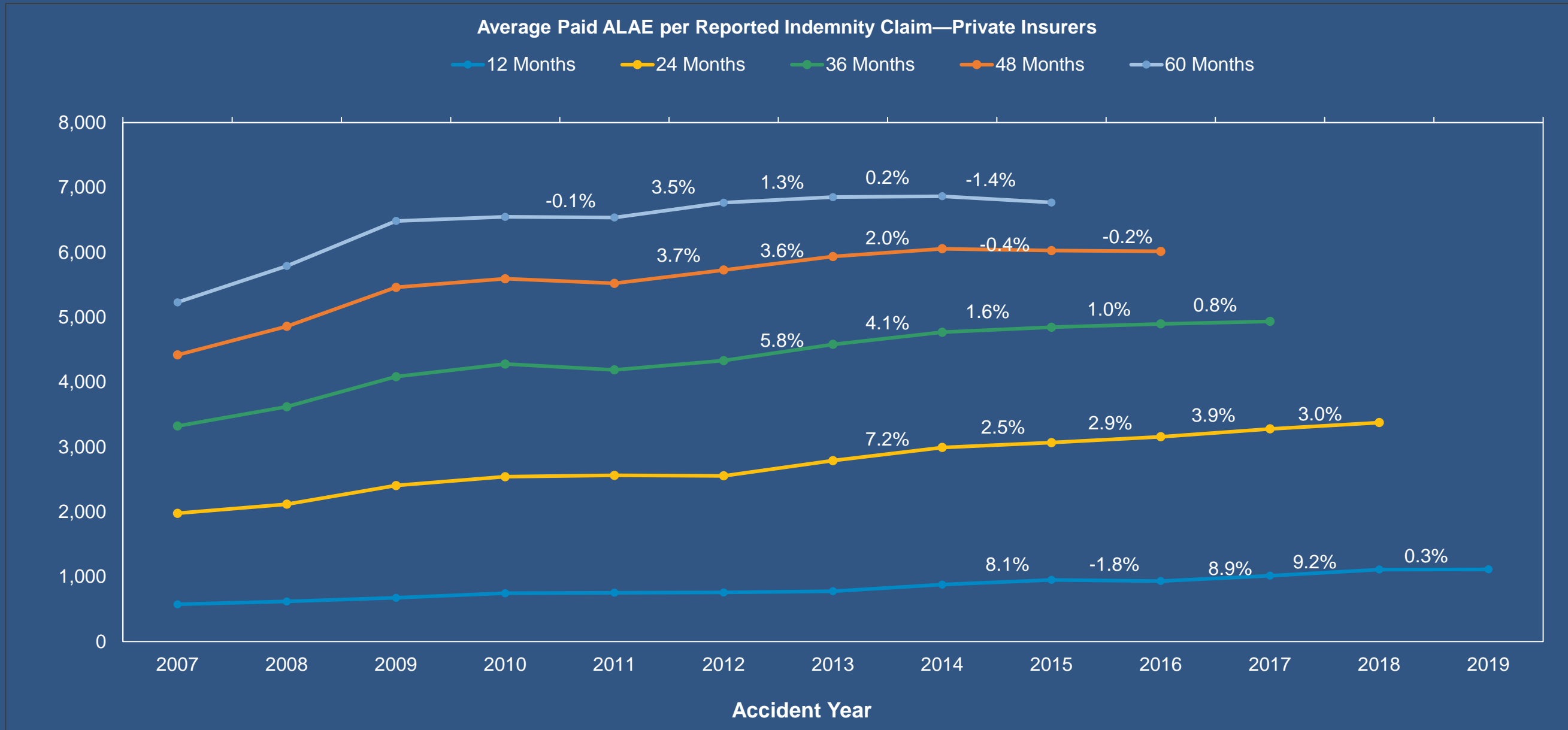
0-to-12 Months 12-to-24 Months 24-to-36 Months 36-to-48 Months



Average Permanent Disability Rating (Exhibit S11)

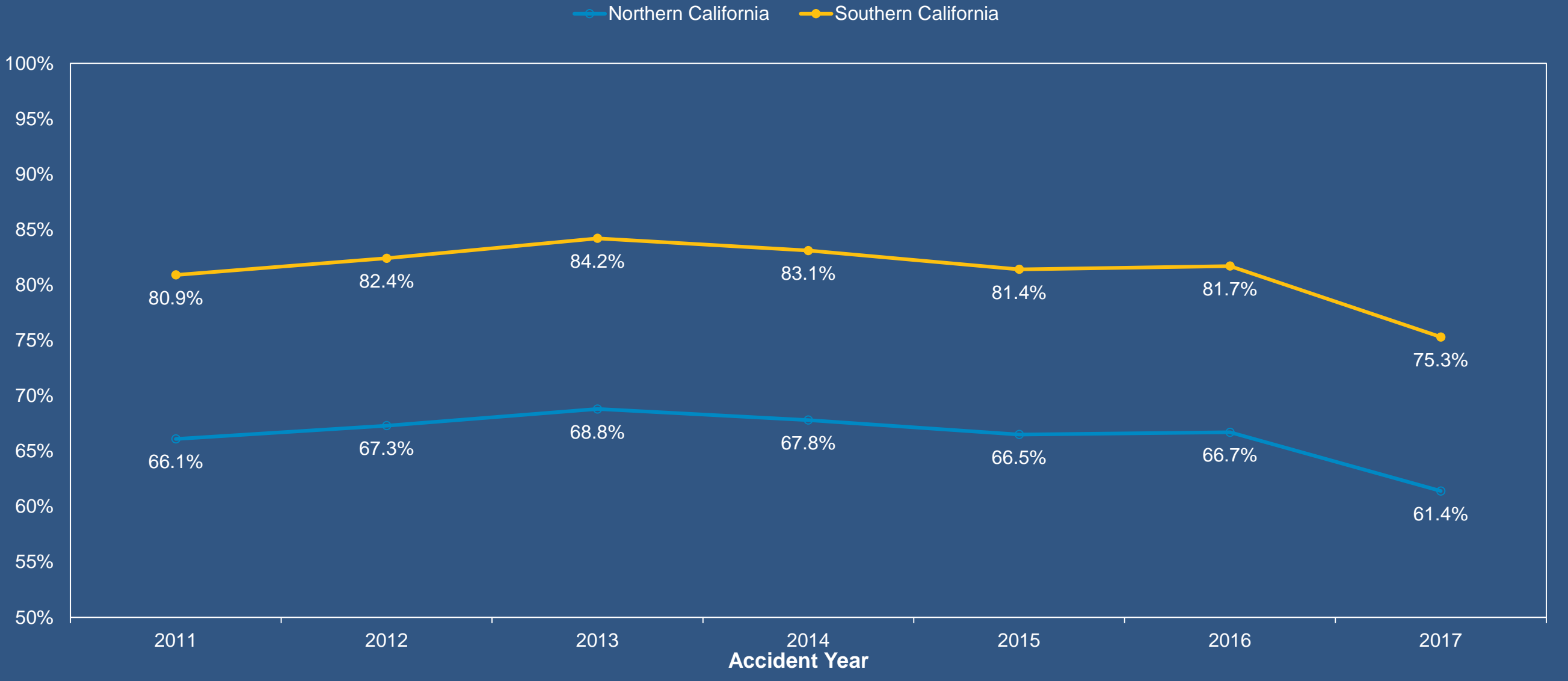


Paid ALAE per Indemnity Claim – Private Insurers (Exhibit E5 updated)

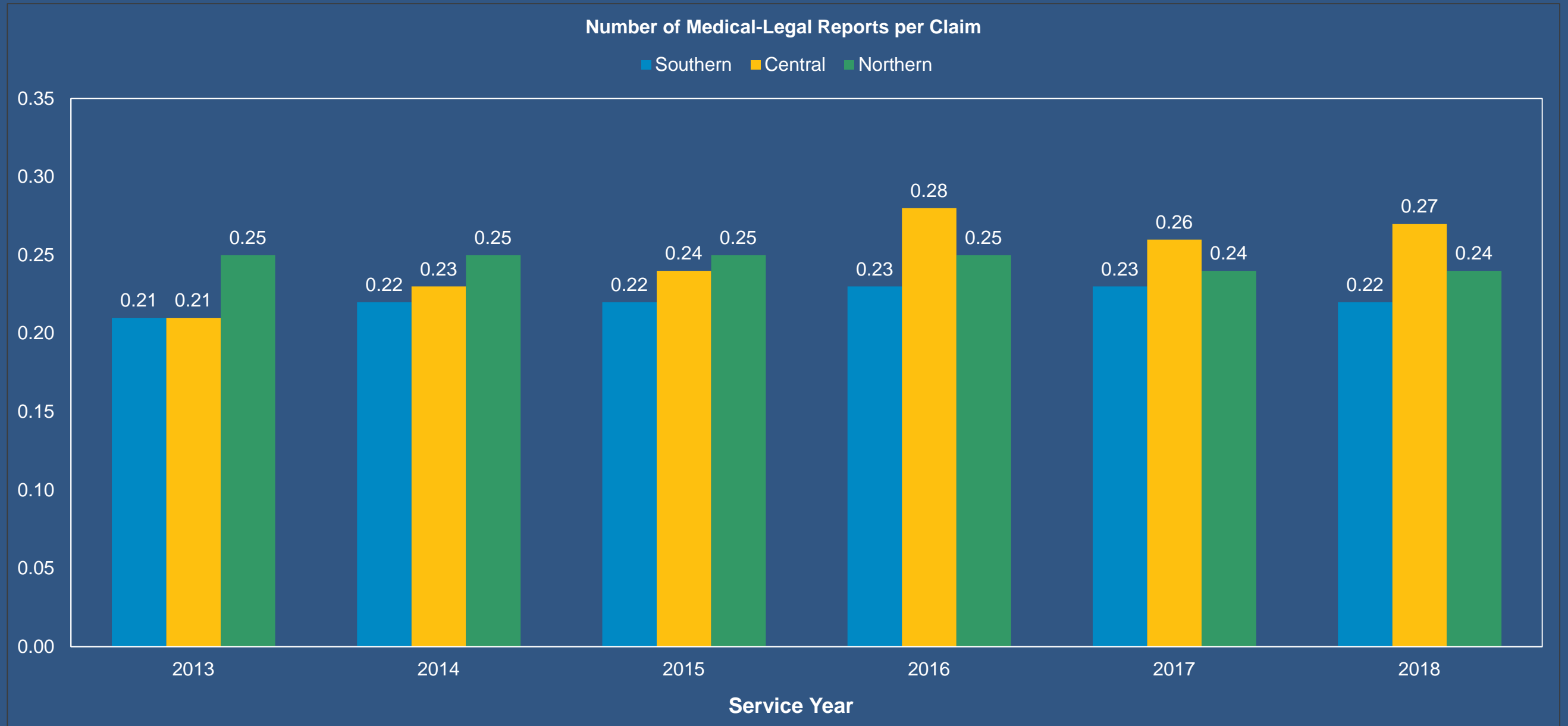


Represented Permanent Disability Claims (Exhibit E7)

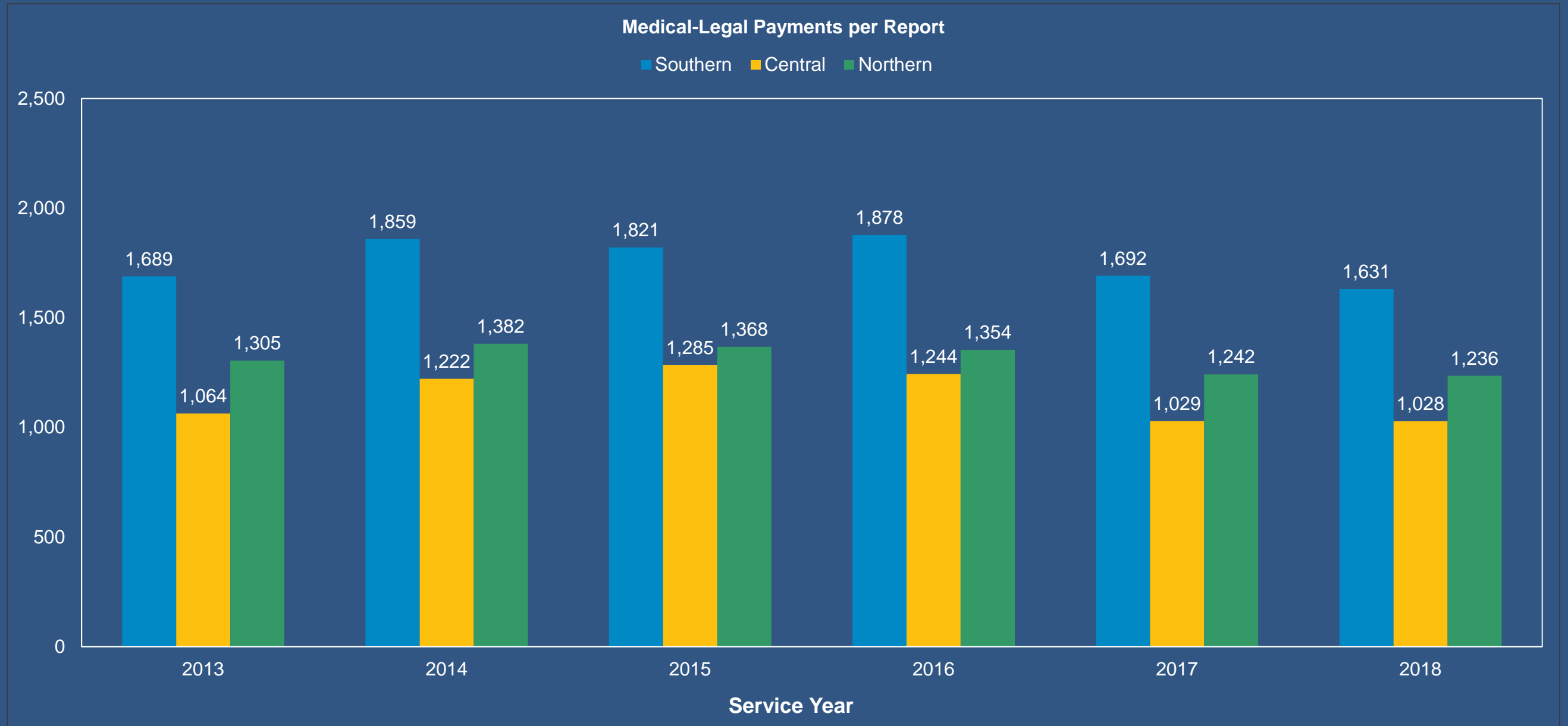
Percentage of Represented Permanent Disability Claims at First Survey Level



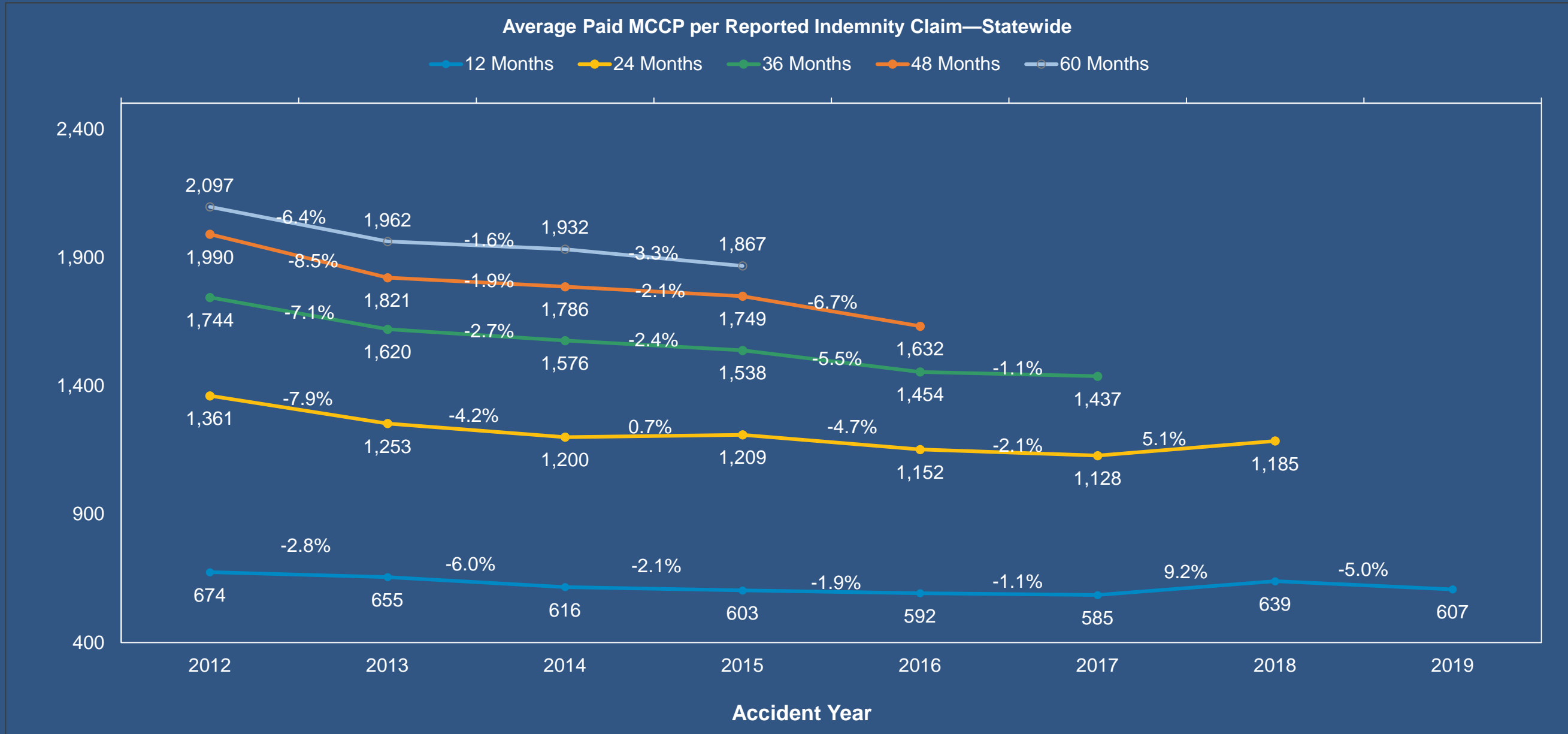
Medical-Legal Reports – Number of Reports per Claim (Exhibit E13)



Medical-Legal Reports – Payments per Report (Exhibit E13)



Paid MCCP per Indemnity Claim – Statewide (Exhibit E15 Updated)



04

12/31/2019
Experience –
Review of
Methodologies



Summary of 12/31/2019 Experience

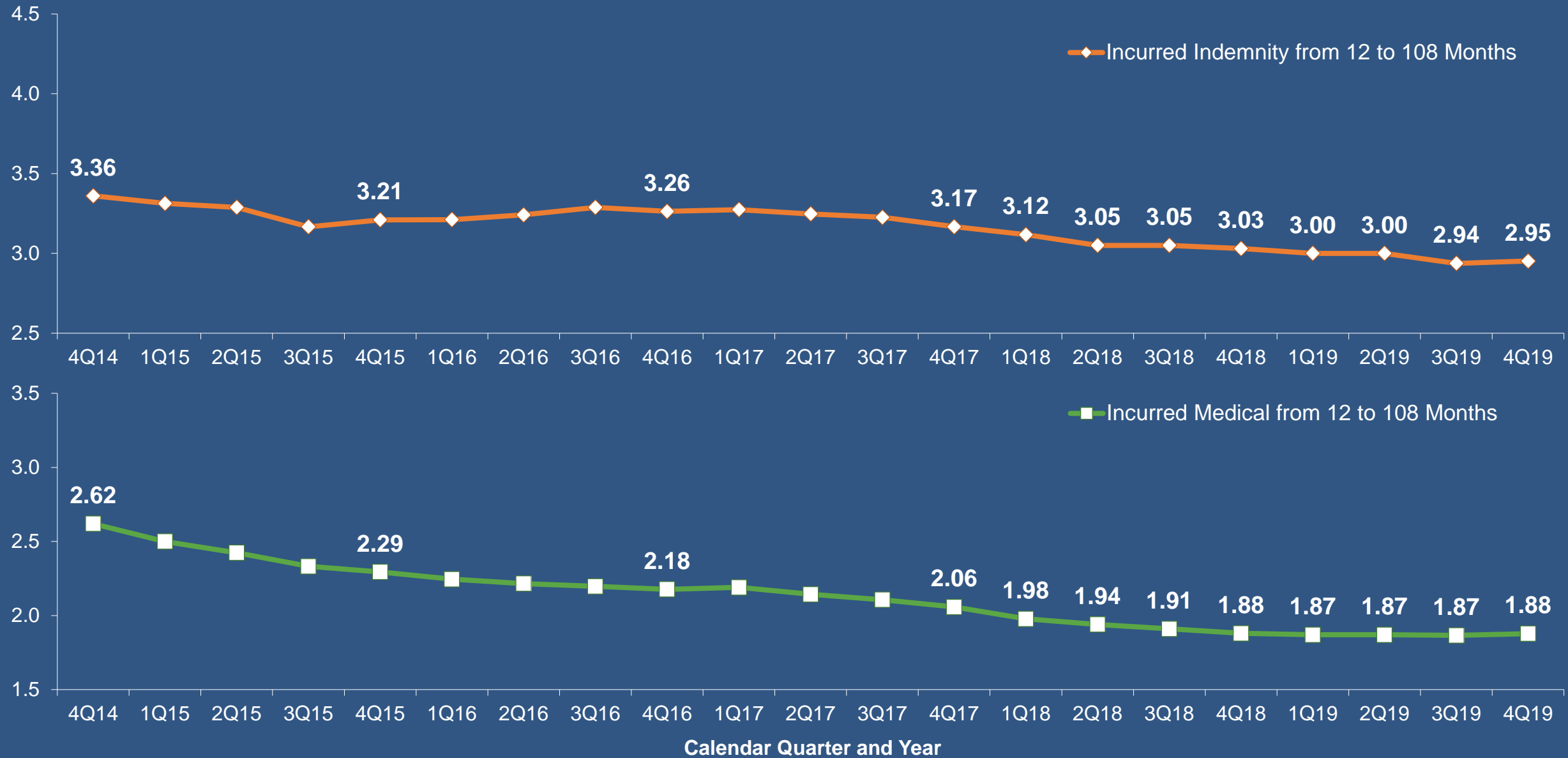
- Approximately 100% of market reflected
- Methodologies consistent with 1/1/2020 Filing
- Projected loss ratio for July 1, 2020 to December 31, 2020 policies: 0.557
- 2.5 point decrease from 1/1/2020 Filing projection based on 3/31/2019 experience (0.583)
- 1.0 point decrease from projection based on 9/30/2019 experience (0.567)

Approximate Change in Loss Ratio Projection

Factor	Approx. Change in Percentage Points	
	From 1/1/2020 Filing	From 12/5/2019 Agenda
Loss Development Emergence	-2.0	-0.5
Inclusion of 2019 Accident Year	-0.5	-0.5
Updated Wage Forecast	0.0	0.0
Updated Frequency Trends	+0.5	+0.5
Trend to July 1, 2020 Policy Period	-0.5	-0.5
Total (to 3/16/2020 Agenda)	-2.5	-1.0

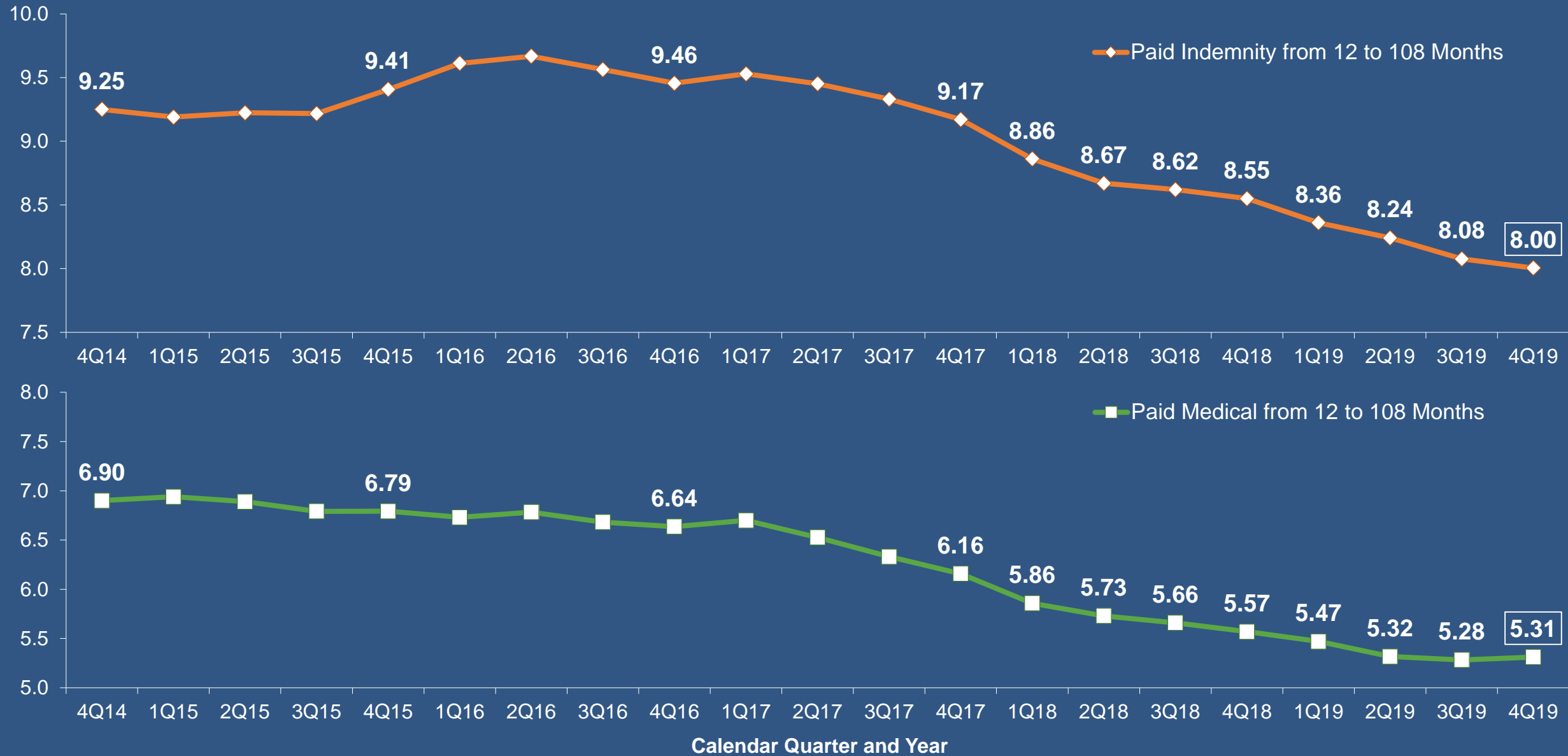
Cumulative Incurred Development from 12 to 108 Months

As of December 31, 2019



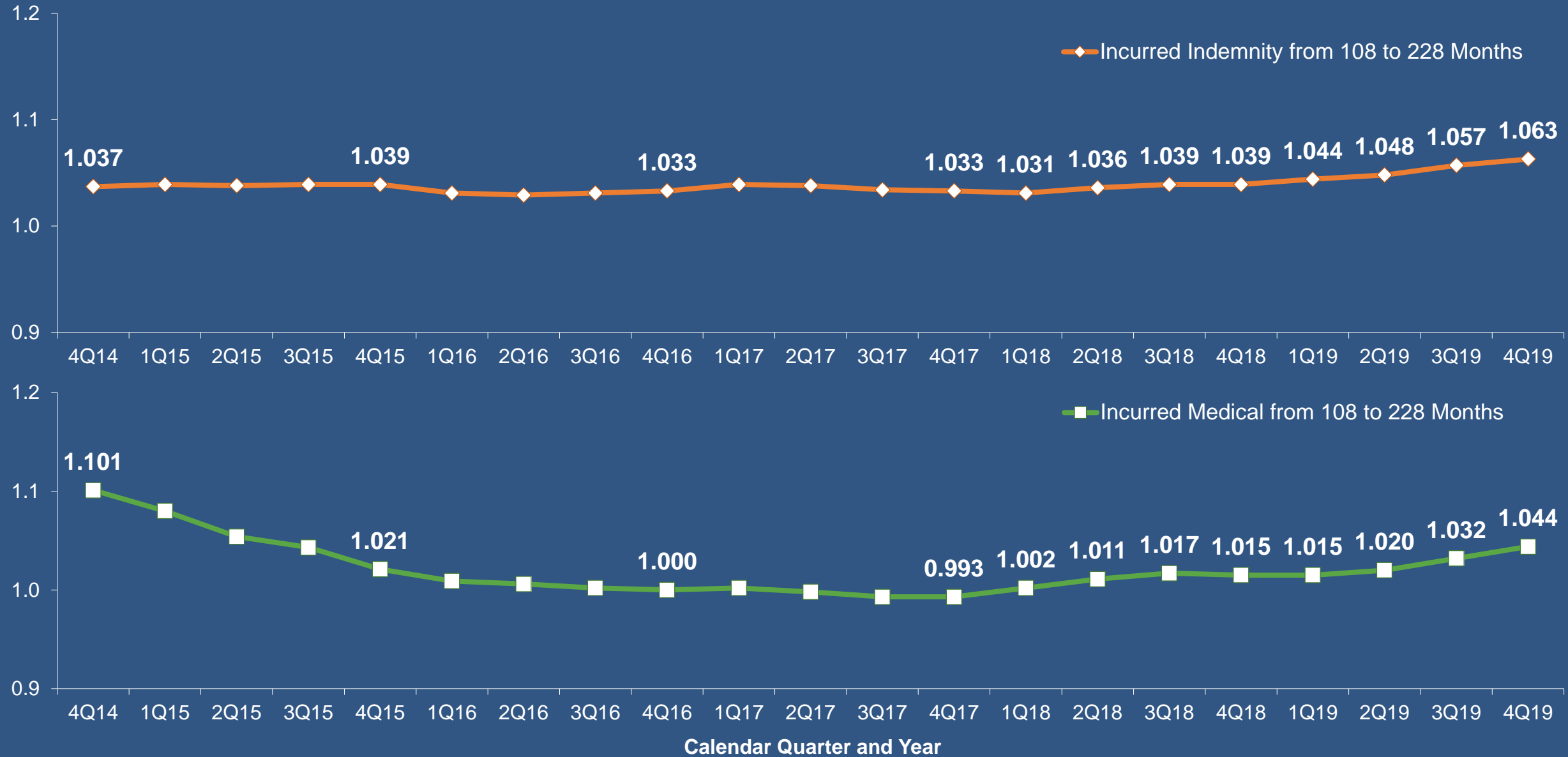
Cumulative Paid Development from 12 to 108 Months

As of December 31, 2019



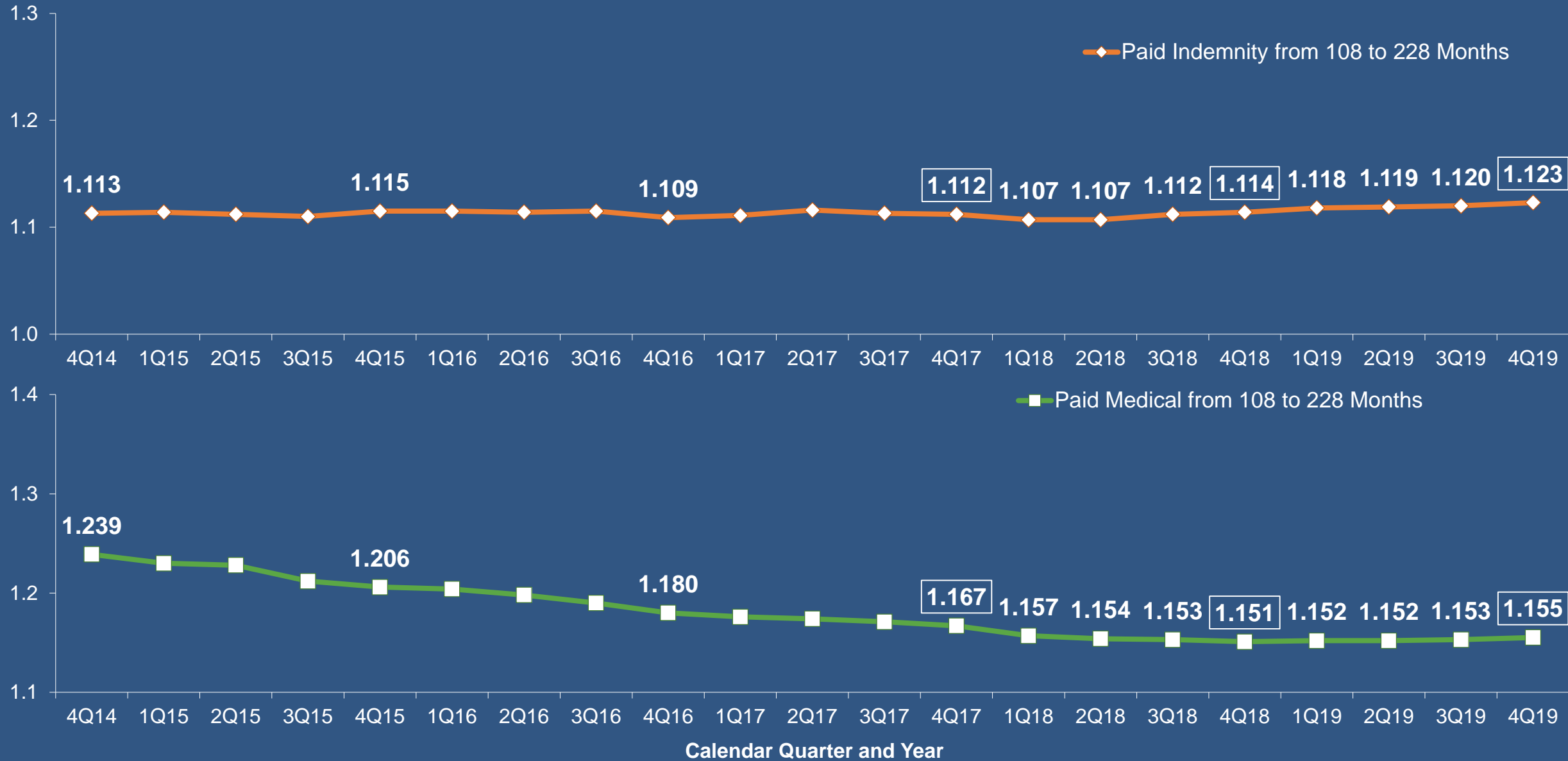
Cumulative Incurred Development from 108 to 228 Months

As of December 31, 2019



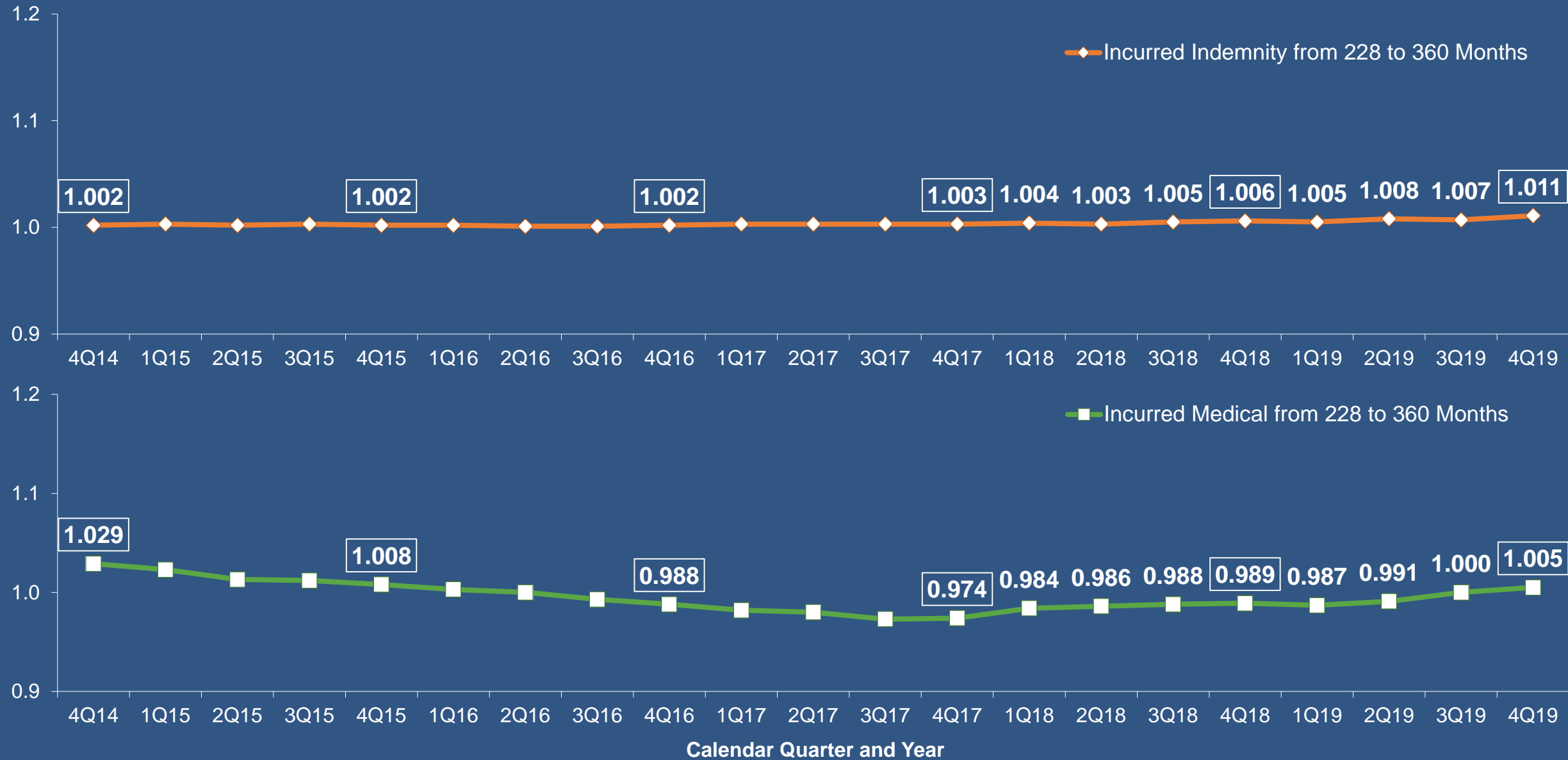
Cumulative Paid Development from 108 to 228 Months

As of December 31, 2019



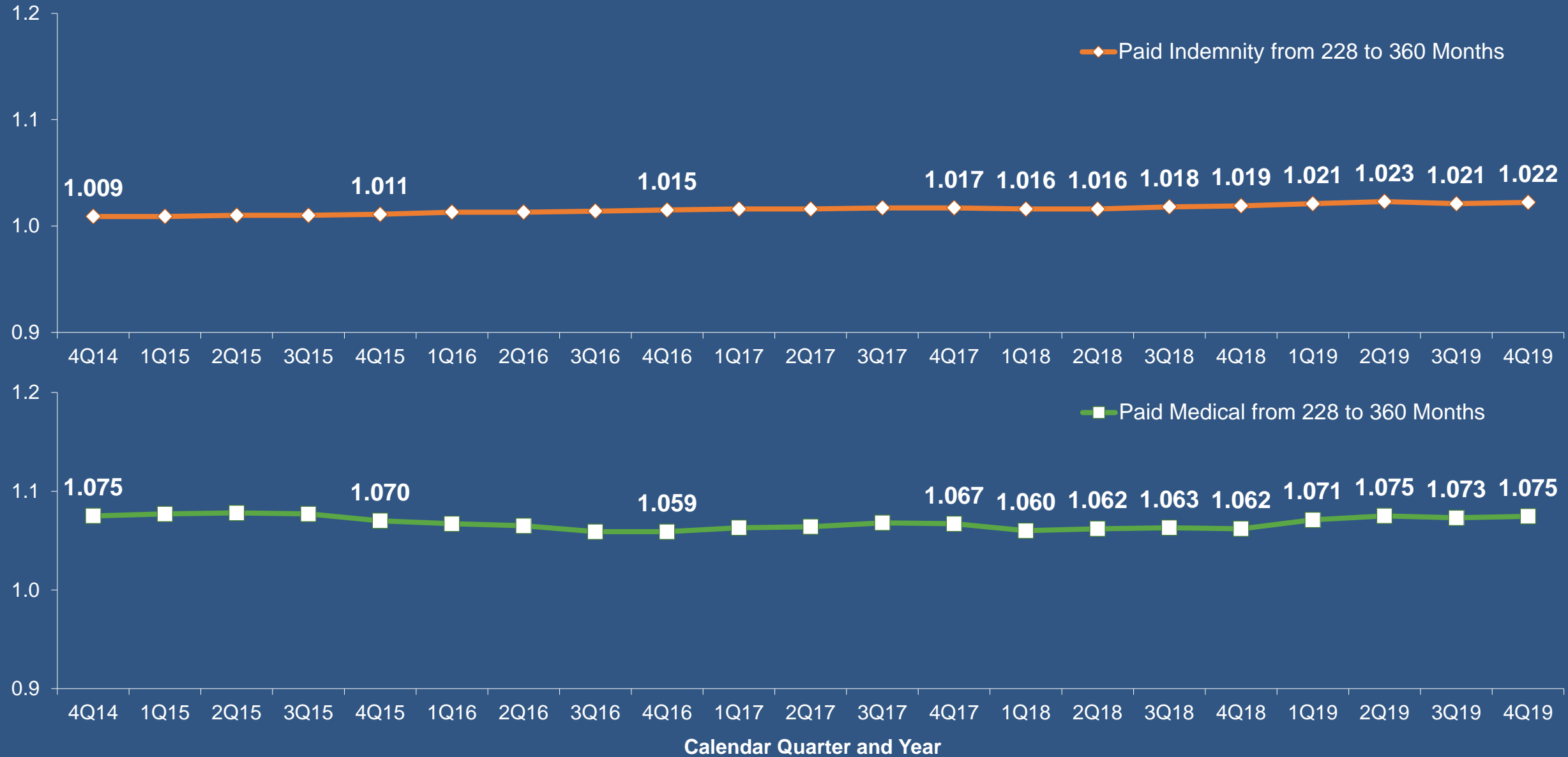
Cumulative Incurred Development from 228 to 360 Months

As of December 31, 2019



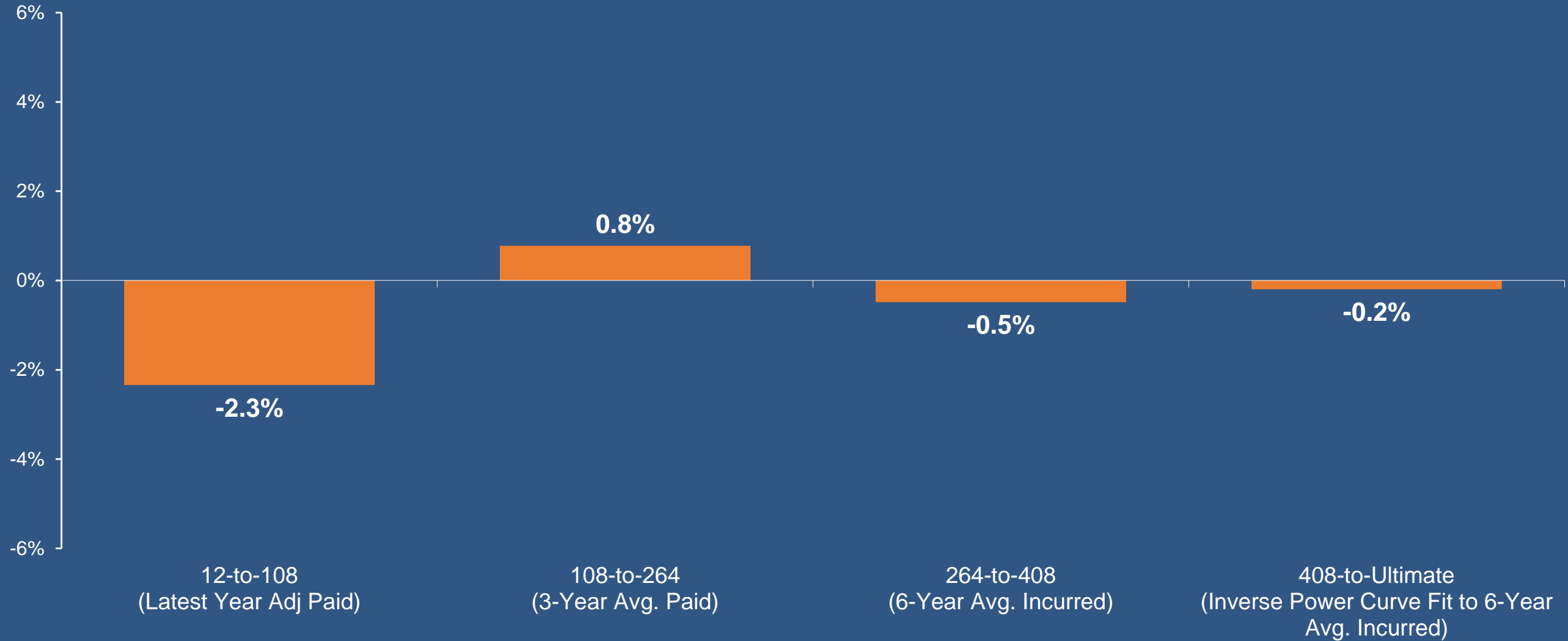
Cumulative Paid Development from 228 to 360 Months

As of December 31, 2019



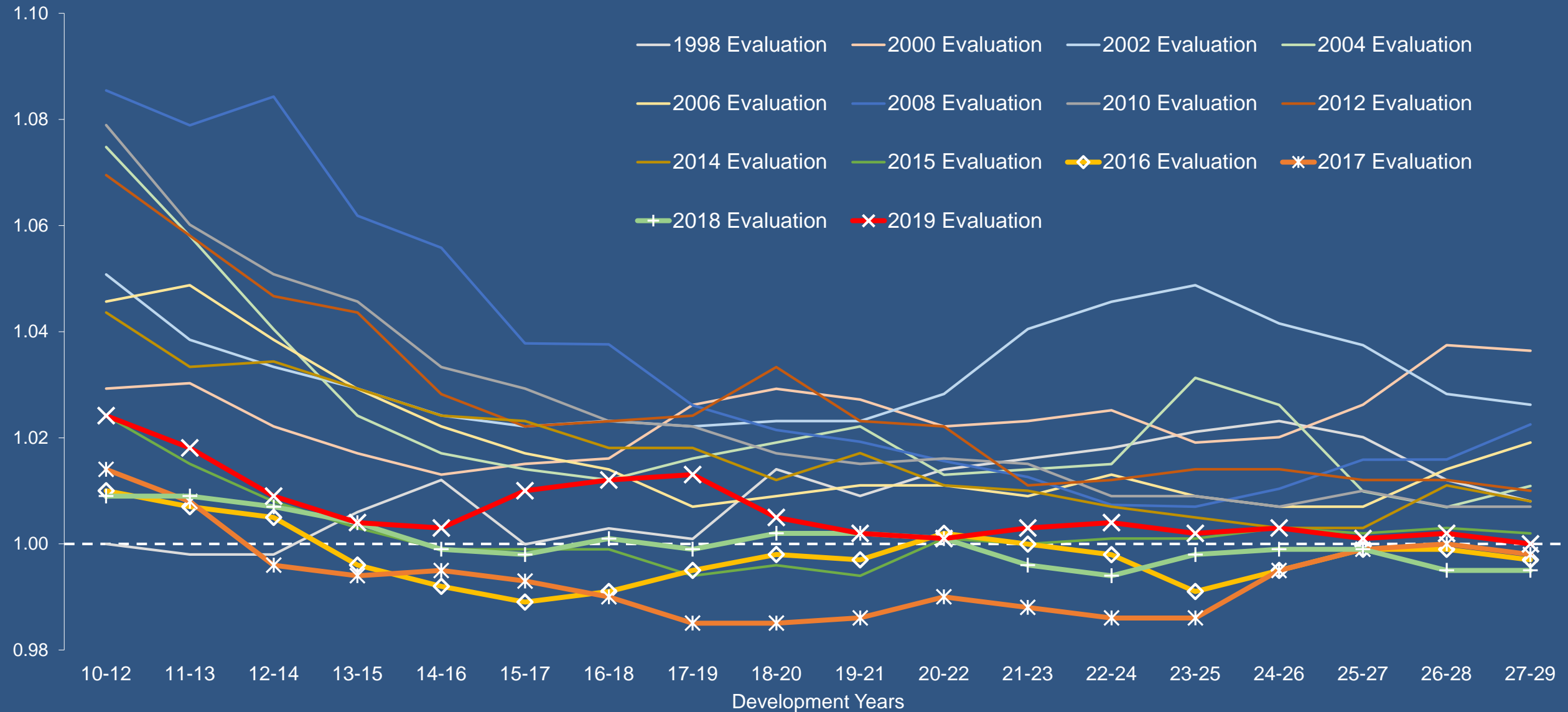
Change in Projected Medical Development Factor

3/31/2019 to 12/31/2019 Experience



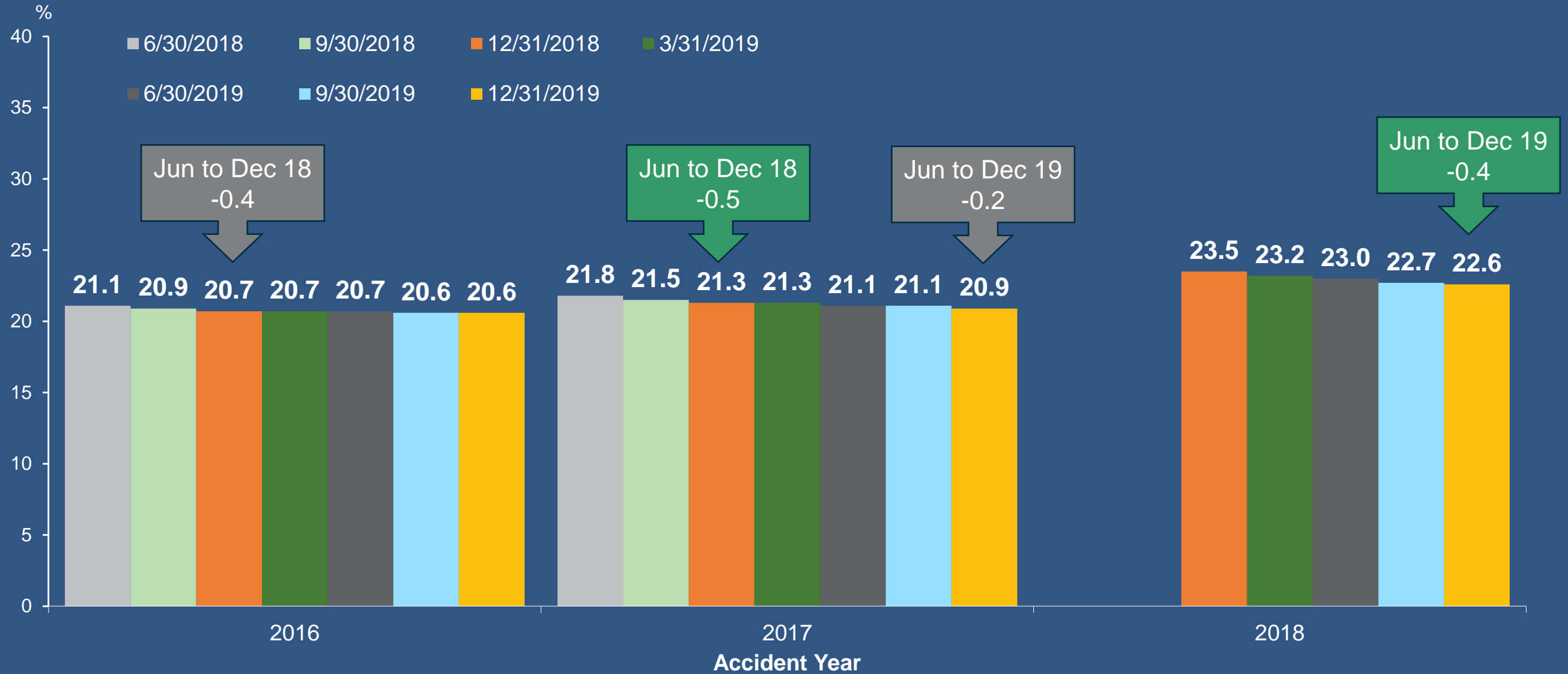
Incurred Medical Age-to-Age Factors at December 31 Evaluations

As of December 31, 2019



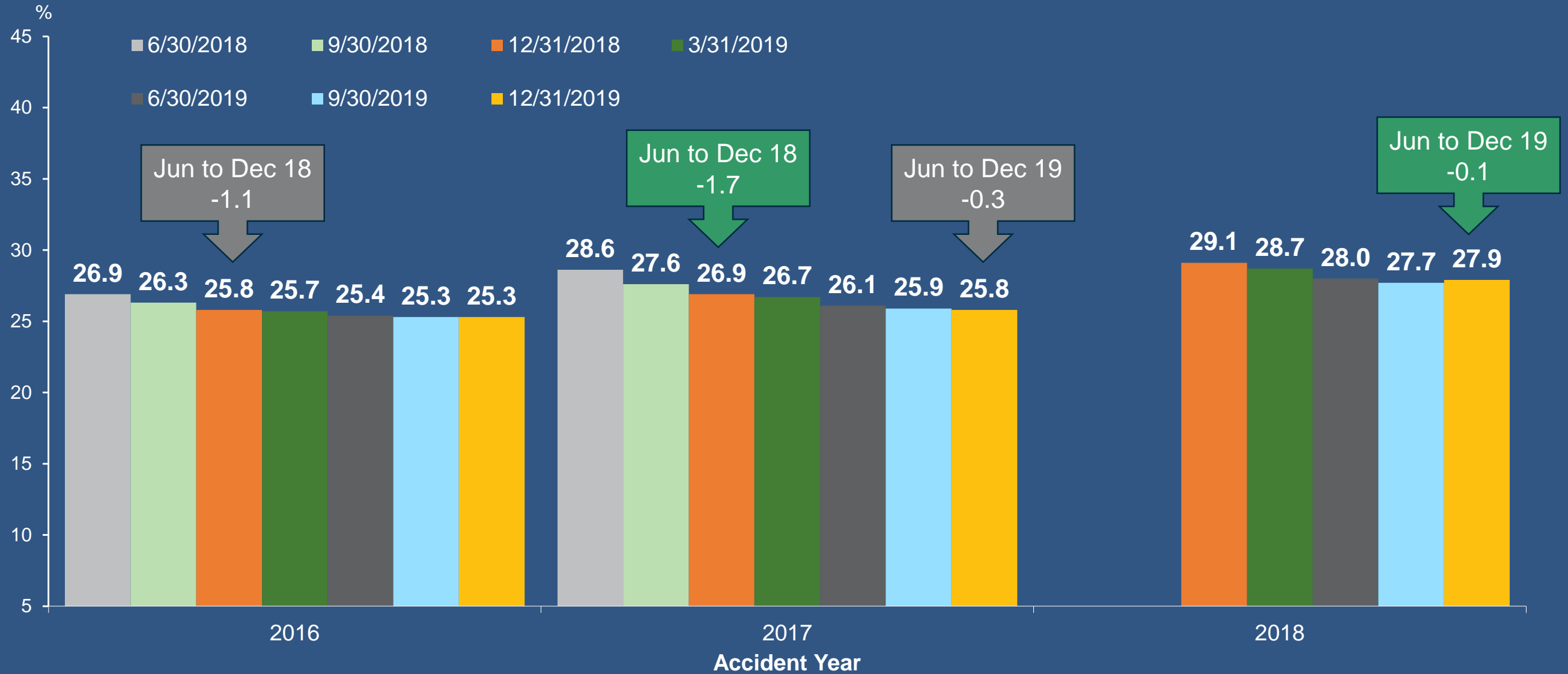
Projected Ultimate Indemnity Loss Ratios (Exhibit 3.1)

As of December 31, 2019



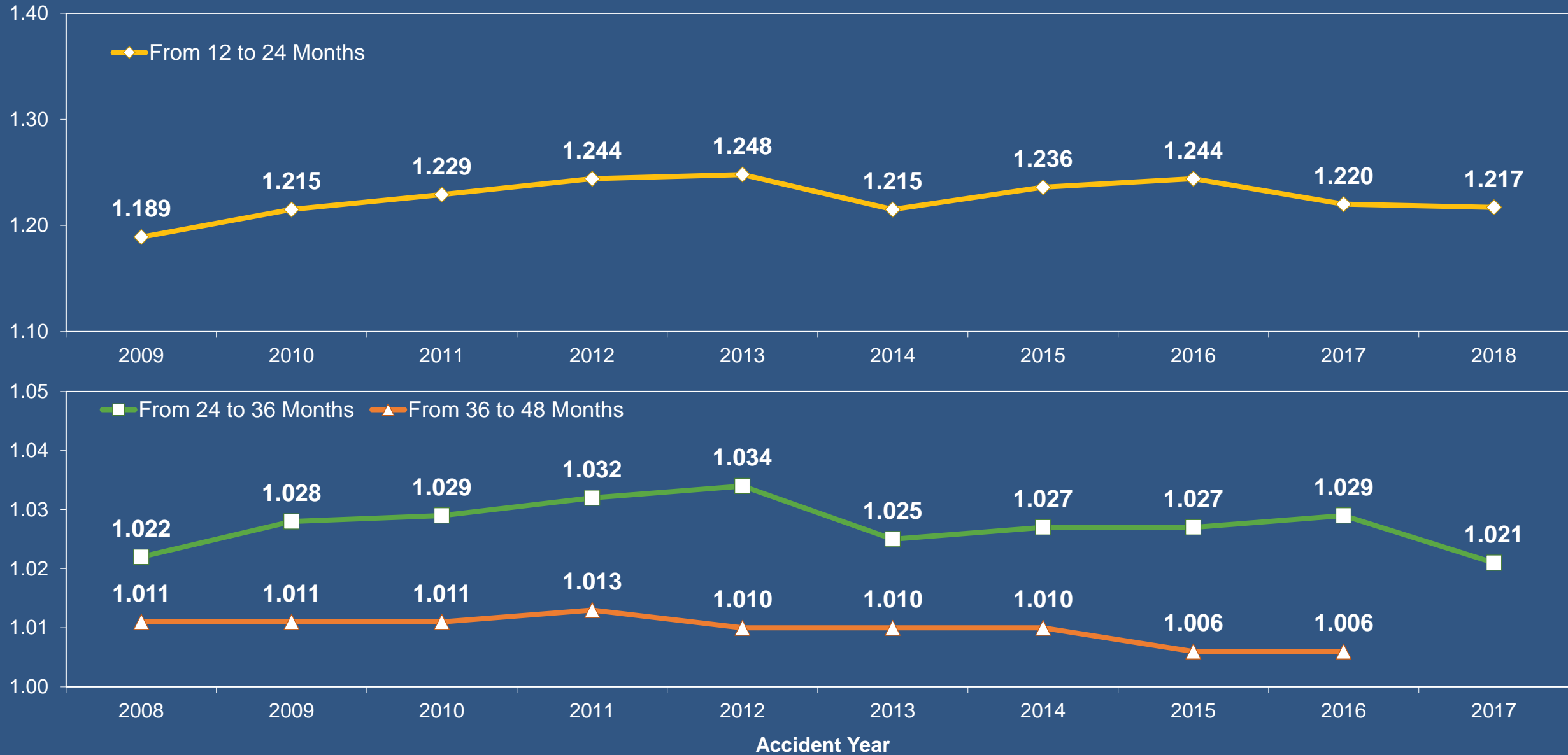
Projected Ultimate Medical Loss Ratios (Exhibit 3.2)

As of December 31, 2019



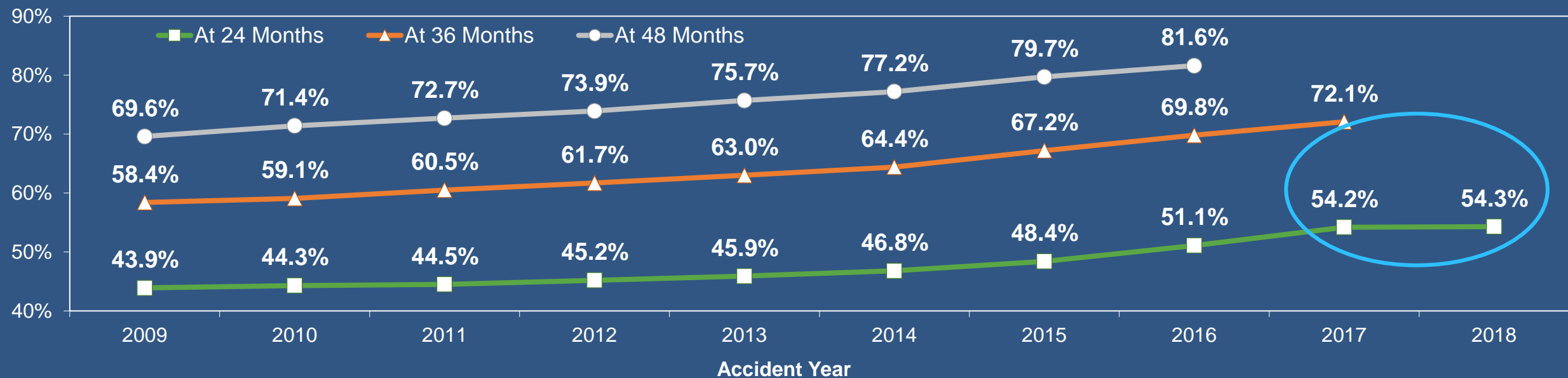
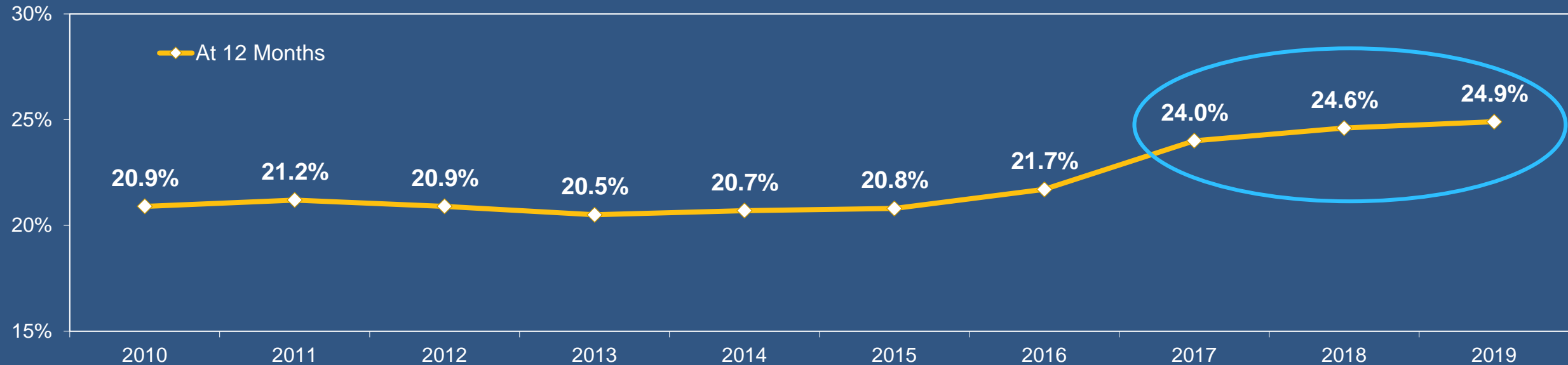
Indemnity Claim Count Development (Exhibit 10.1)

As of December 31, 2019



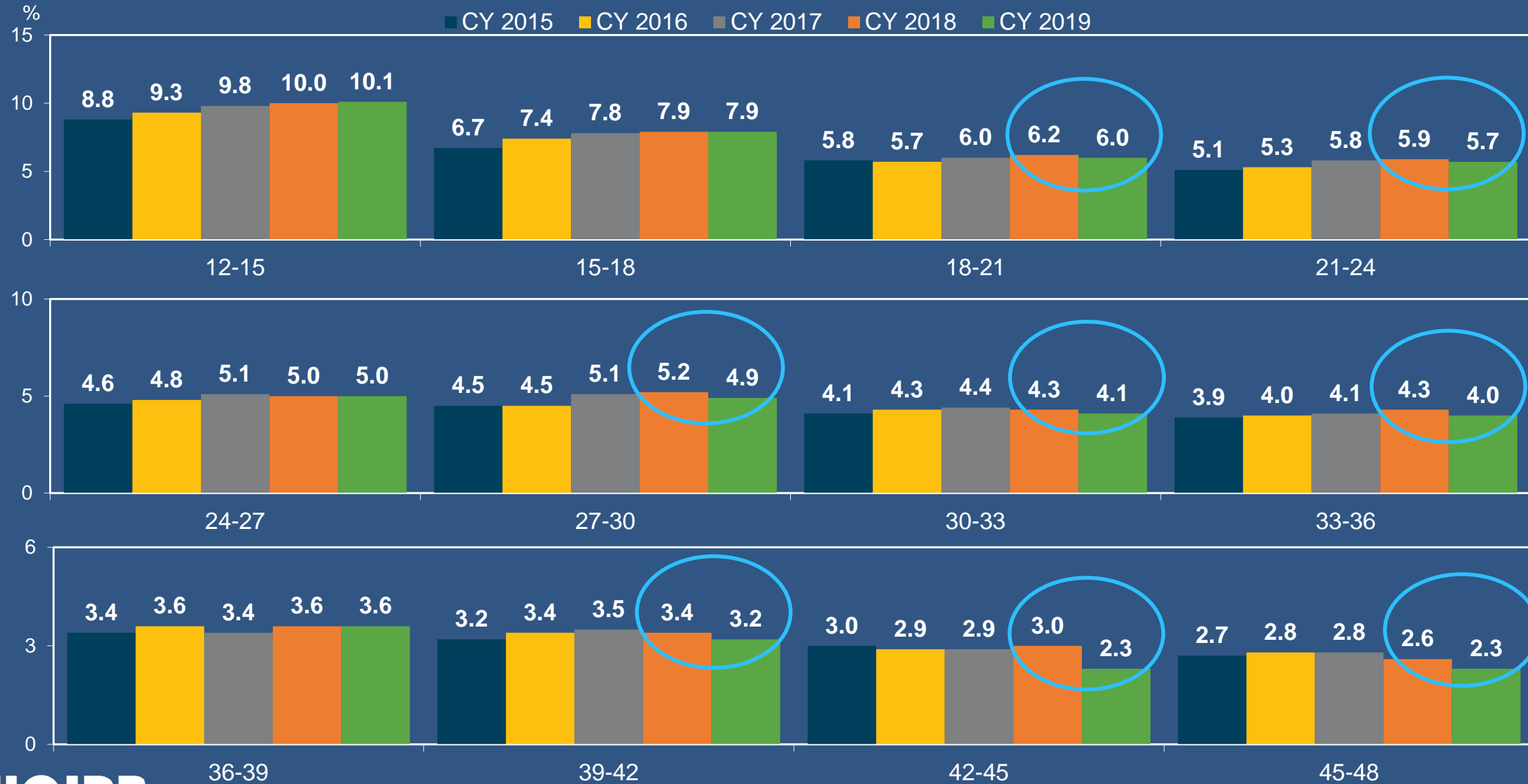
Ultimate Indemnity Claim Settlement Ratios (Exhibit 11.2)

As of December 31, 2019



Incremental Indemnity Claim Settlement Ratios (Exhibit 11.3)

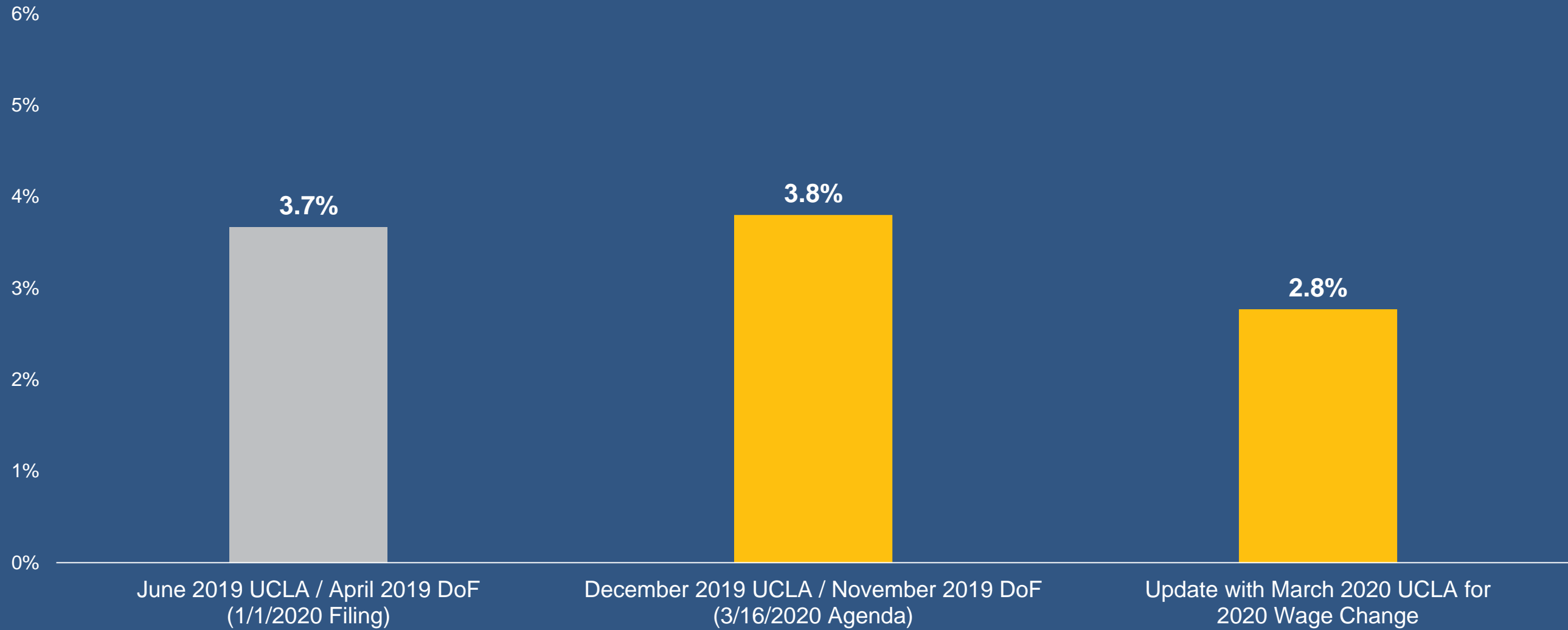
As of December 31, 2019



Average Annual Wage Level Change Forecast (Exhibit 5.1)

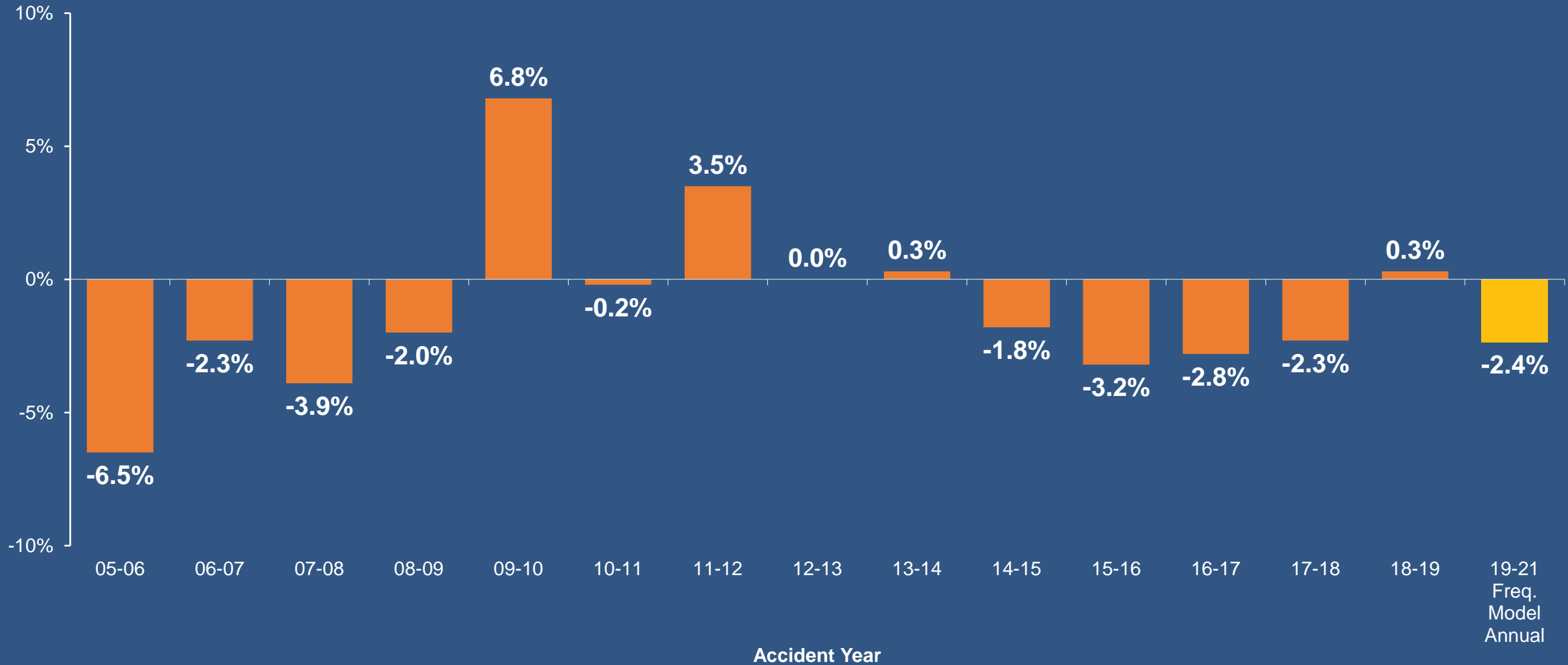
As of December/November 2019

Annualized Wage Level Change from
Average of Latest Two Accident Years to Projected Policy Period



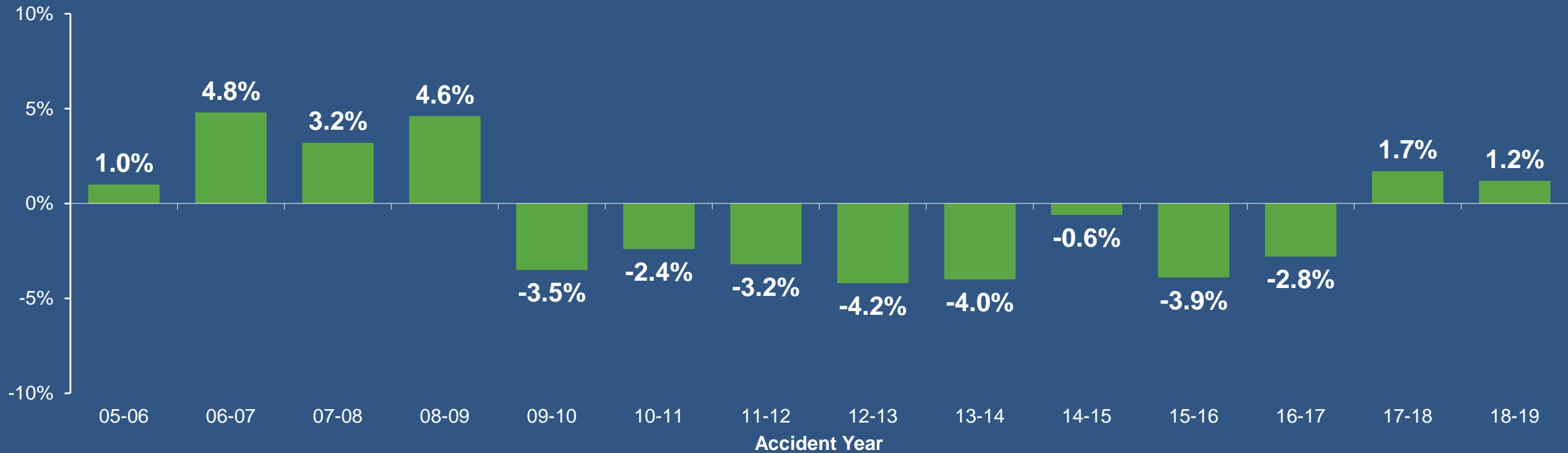
Projected Changes in Indemnity Claim Frequency (Exhibits 6.1 & 12)

As of December 31, 2019



Projected Changes in On-Level Indemnity Severity (Exhibit 6.2)

As of December 31, 2019



Annual Exponential Trend Based on:

1990 to 2019: +1.2%

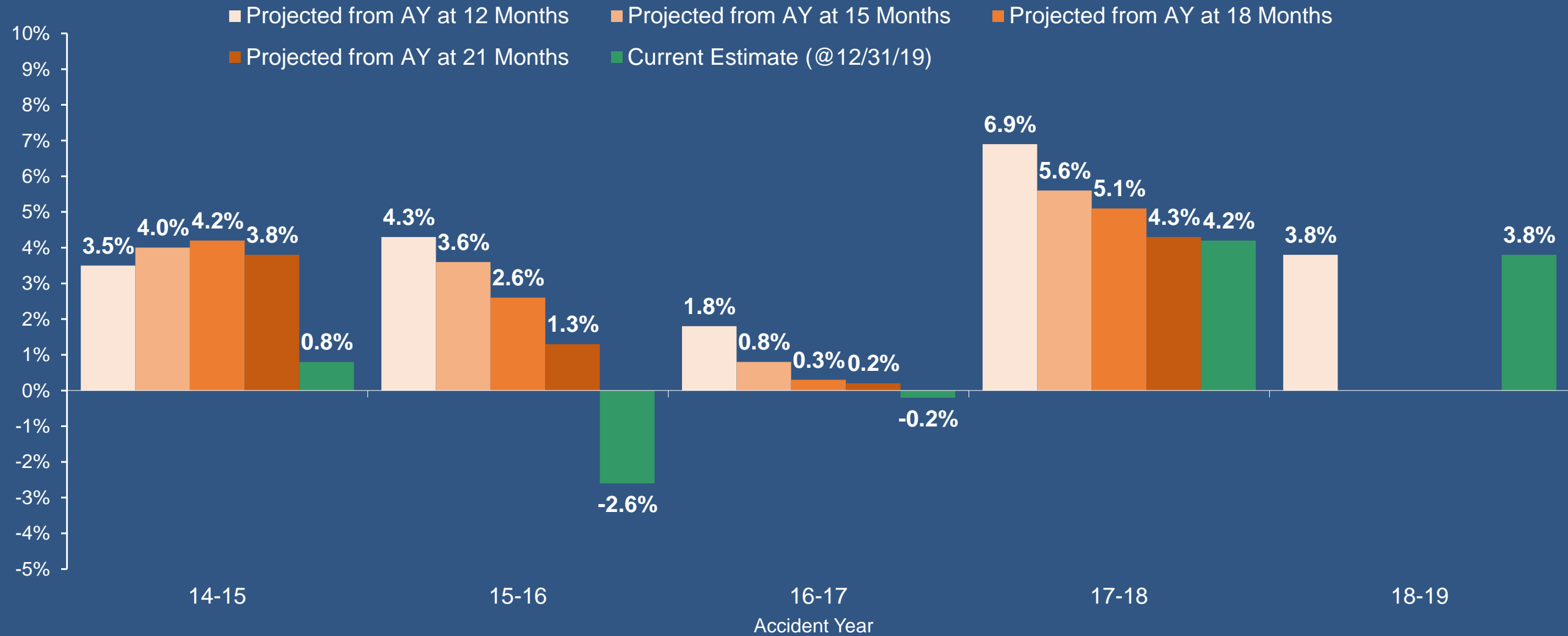
2005 to 2019: -1.3%

2015 to 2019: -0.9%

1/1/2020 Filing Selected: **-0.5%**

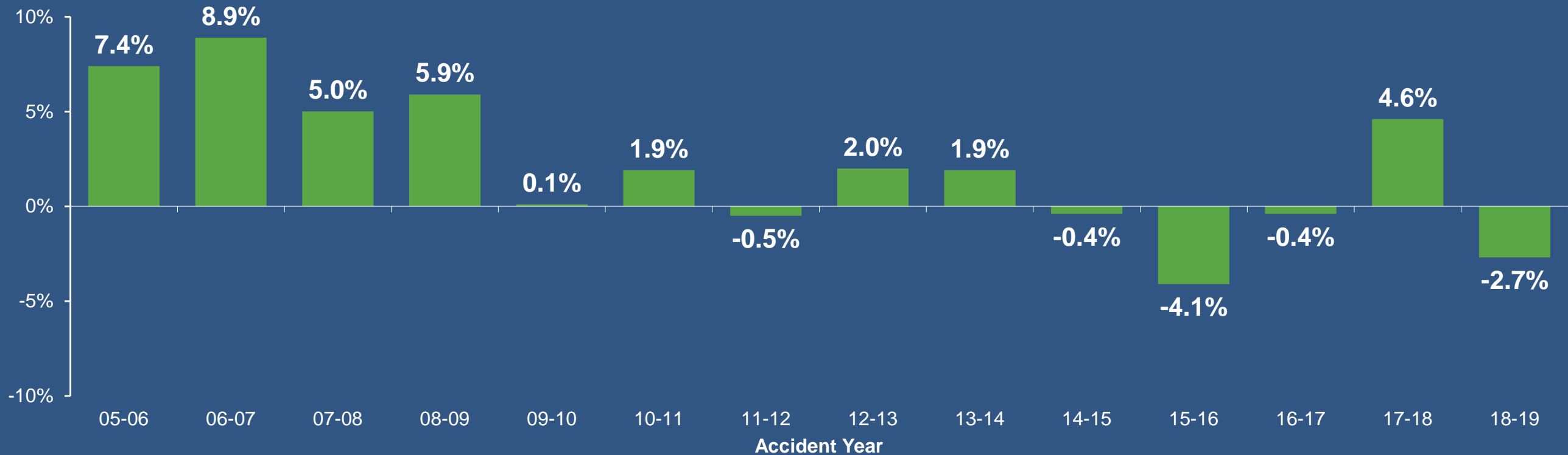
Indemnity Severity Changes Projected from Early Evaluations Compared to Current

As of December 31, 2019



Projected Changes in On-Level Medical Severity (Exhibit 6.4)

As of December 31, 2019



Annual Exponential Trend Based on:

1990 to 2019 (Incl. MCCP): +5.5%

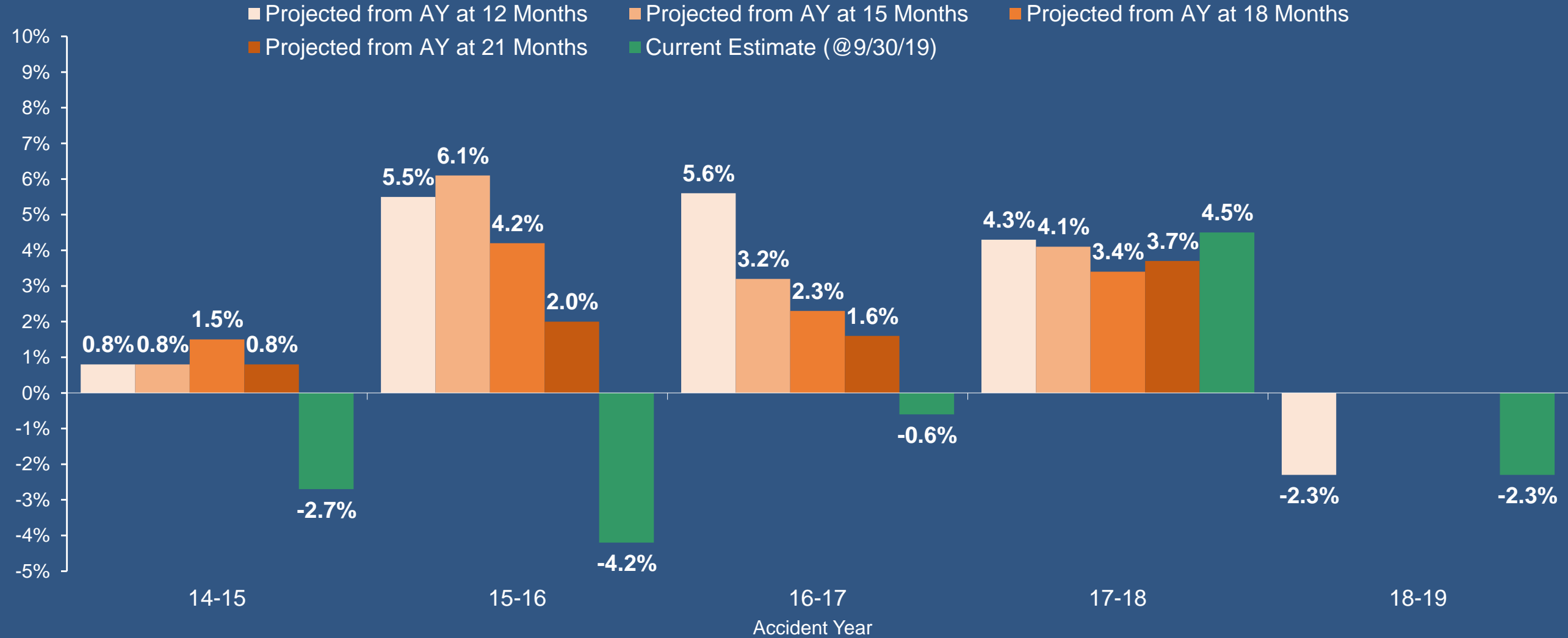
2005 to 2019: +1.6%

2015 to 2019: -0.2%

1/1/2020 Filing Selected: **2.5%**

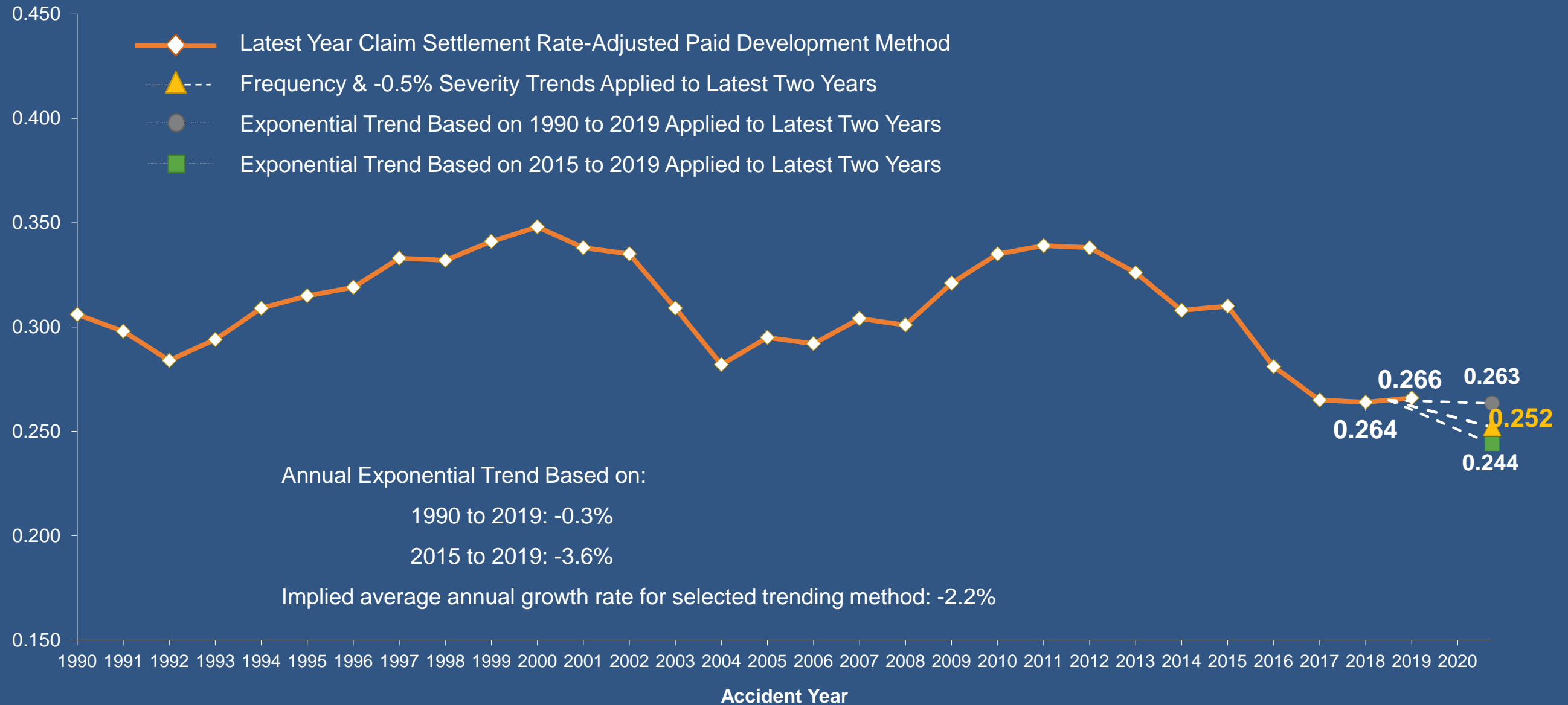
Medical Severity Changes Projected from Early Evaluations Compared to Current

As of December 31, 2019



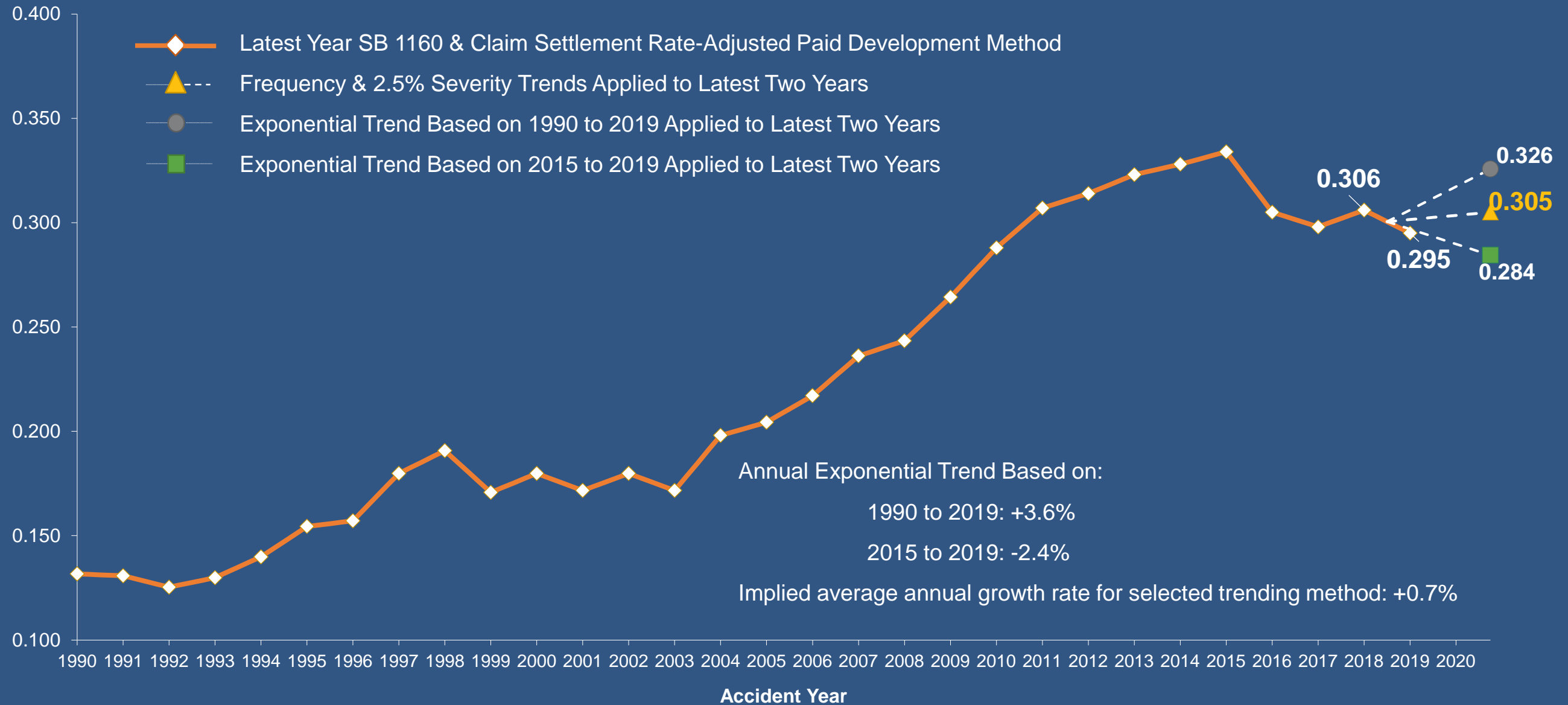
Projected On-Level Indemnity Loss Ratios (Exhibit 7.1)

As of December 31, 2019



Projected On-Level Medical Loss Ratios (Exhibit 7.3)

As of December 31, 2019



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