

# WCIRB Actuarial Committee Meeting

December 8, 2020



# Agenda

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1. Working Group Meeting Summaries
2. AC20-12-09: 2021 Schedule of Meetings
3. AC16-06-05: Update on Medical Severity Trends by Component
4. AC20-04-04: COVID-19 Crisis
5. AC20-12-01: 9/30/2020 Experience Review
6. AC20-12-02: Review of Projections based on 9 Months
7. AC20-12-08: Potential Changes to Collection of Transactional Data
8. AC20-12-05: Special Data Call for COVID-19 Claims
9. AC20-12-07: Potential 2021 Actuarial and Research Projects
10. **AC20-12-04: Experience Rating Eligibility**
11. **AC02-03-03: Experience of Large Deductible Policies**
12. **AC17-12-02: Legislative Cost Monitoring**
13. **AC19-12-02: Review of ULAE Projection Methods**
14. **AC20-12-03: Classification Ratemaking Loss Development**
15. **AC20-12-06: Potential Applications of Indemnity Transaction Data**



# 01

## Working Group Meeting Summaries





# 02

## 2021 Schedule of Meetings



# Proposed 2021 Schedule of Meetings

Tuesday, February 16, 2021

Tuesday, March 16, 2021

Thursday, April 15, 2021

Tuesday, June 22, 2021

Tuesday, September 14, 2021

Tuesday, December 7, 2021

# 03

## Update on Medical Severity Trends by Component



# Summary of the Medical Severity Trends through 1H2020

As of October 7, 2020

- **Pre-COVID-19** (before 3/15):
  - Overall medical severity increased slightly (+3%)
  - Physician services, inpatient care and medical-legal costs per claim increased despite a downward trend in prior years
  - Pharmaceutical cost per claim continued to decline but at a slower rate (-14%) than prior years
  - Telemedicine services per claim increased by >100%
- **COVID-19 pandemic period** (3/15 – 6/30):
  - Overall medical severity dropped (-7%)
    - Decline in both service utilization and paid per transaction
  - Significant declines in the utilization of inpatient and outpatient care, which drove down the medical severities
    - Inpatient cost per claim (-20%)
    - Outpatient cost per claim (-34%)
  - Pharmaceutical cost per claim increased sharply (+14%)
    - Costs and utilization of non-opioids went up
  - Telemedicine services per claim increased by 70-fold



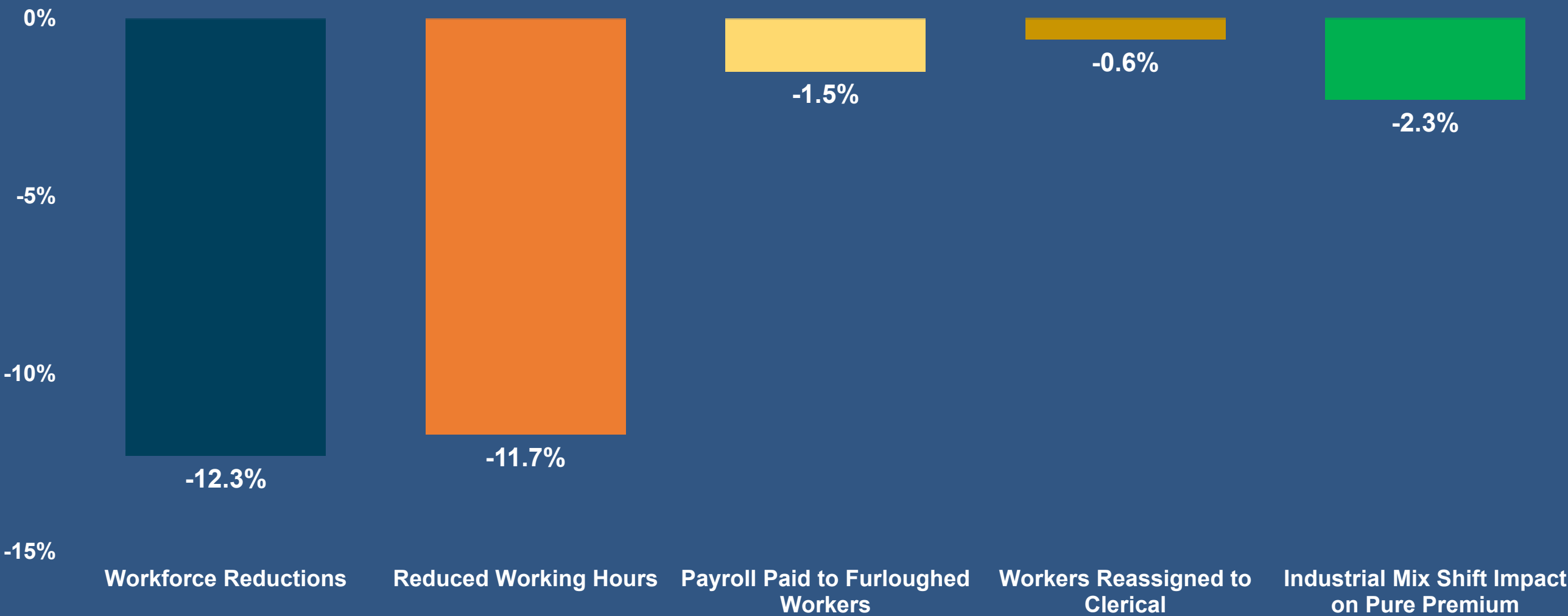
# 04

## COVID-19 Crisis



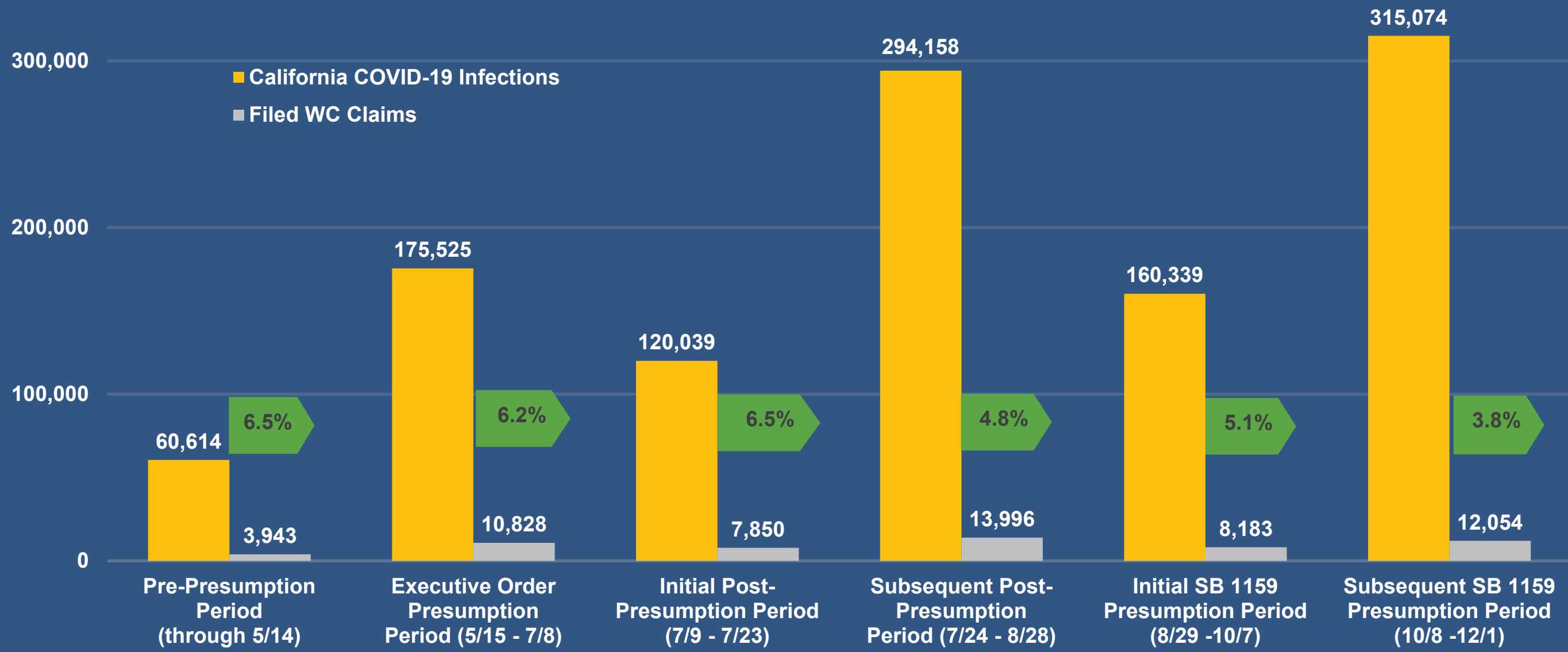


# California Workers' Compensation Potential Premium Impacts



# California Workers' Compensation COVID-19 Claims

## Filed Workers' Compensation Claims Relative to California Infections



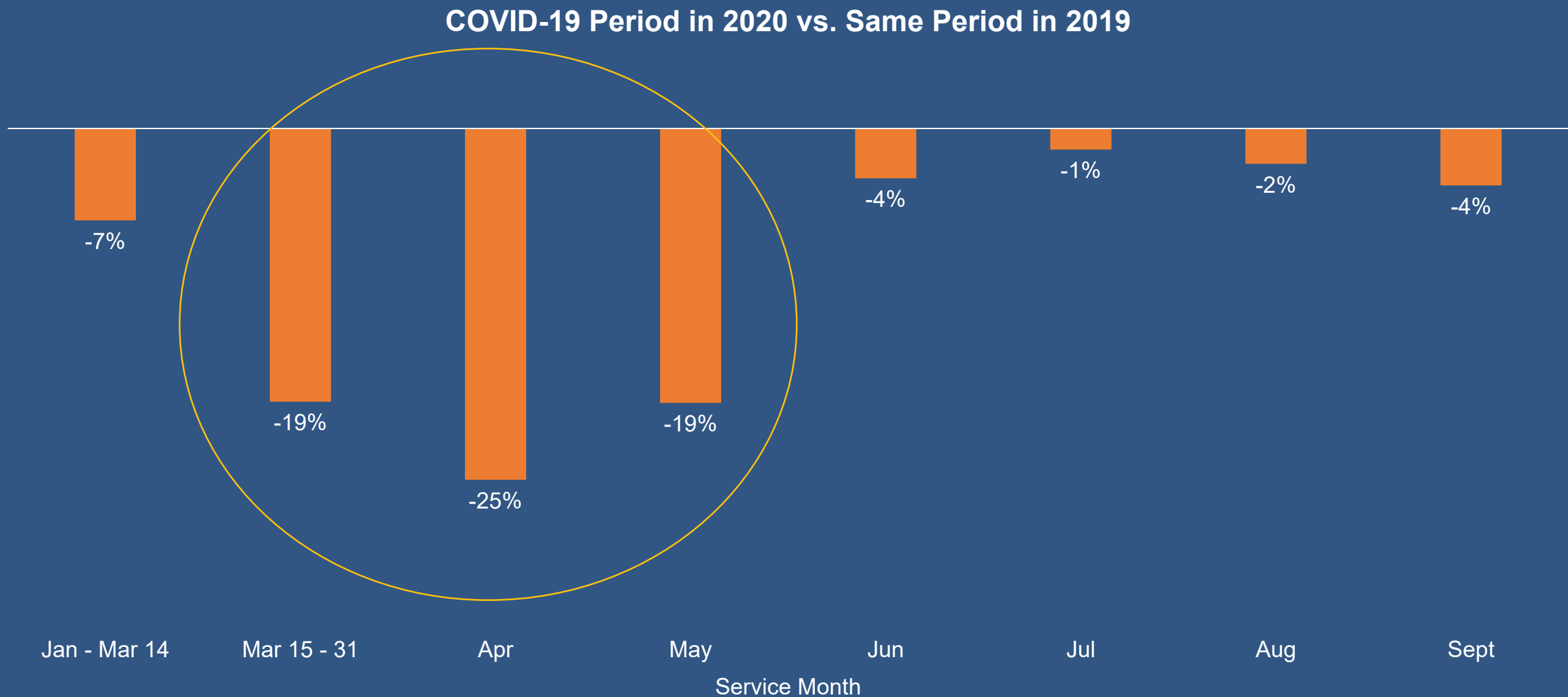


# Summary of the COVID-19 Pandemic Impact on Medical Treatment Patterns (Updated through November 2020)

- Overall medical services:
  - Late March-May: slowdown in service utilization and medical cost per claim
  - June-Sept: service utilization rebounded
- Pharmaceutical use and costs continued to increase throughout the pandemic
  - Mostly non-opioids
- Use of telemedicine services started to stabilize in third quarter 2020
- 2020 medical severity compared to 2019 severity by claim age (through June)
  - Average medical severity is higher for newer claims and lower for other claims
  - Higher average pharmaceutical costs for claims of all ages

# Impact of COVID-19 Pandemic on Number of Active Claims

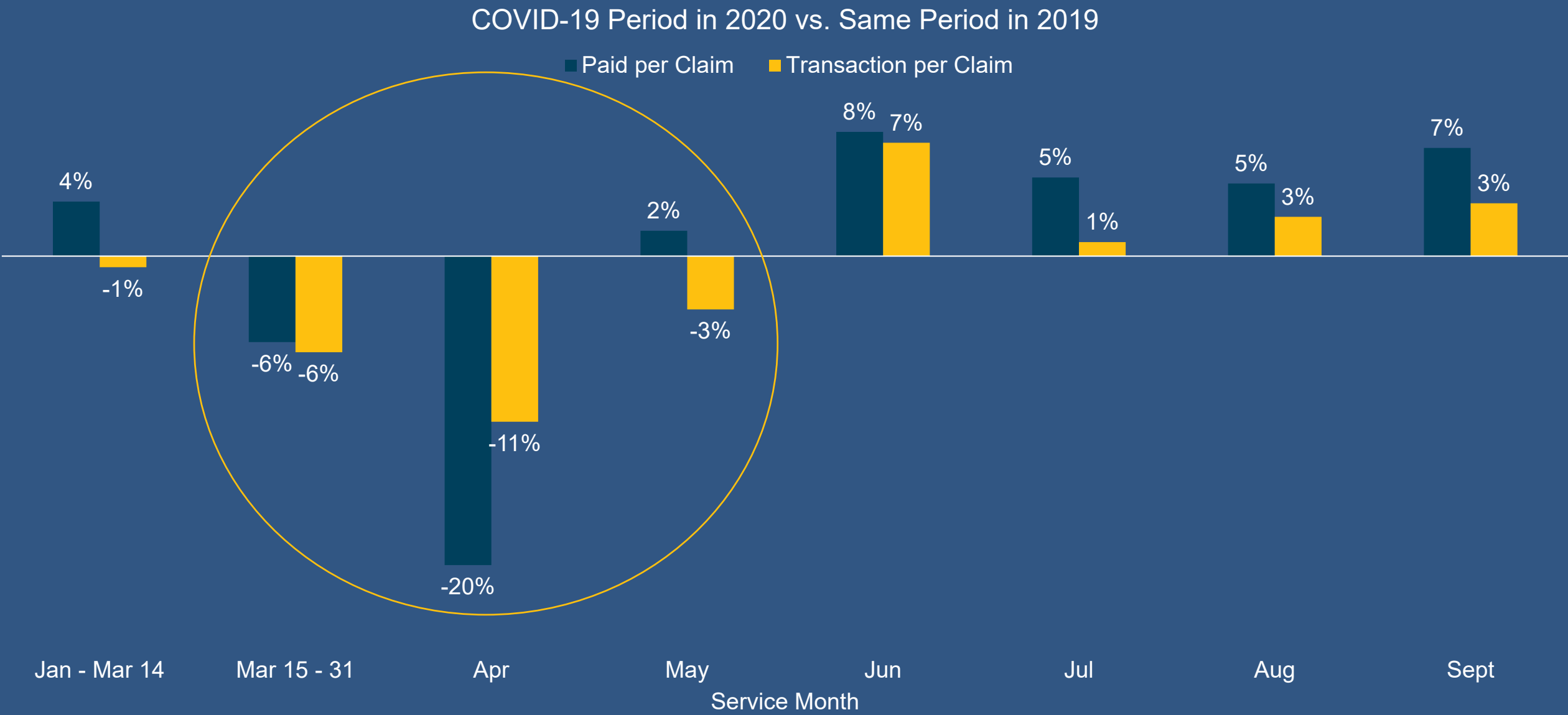
As of November 30, 2020





# Impact of COVID-19 Pandemic on Overall Medical Services

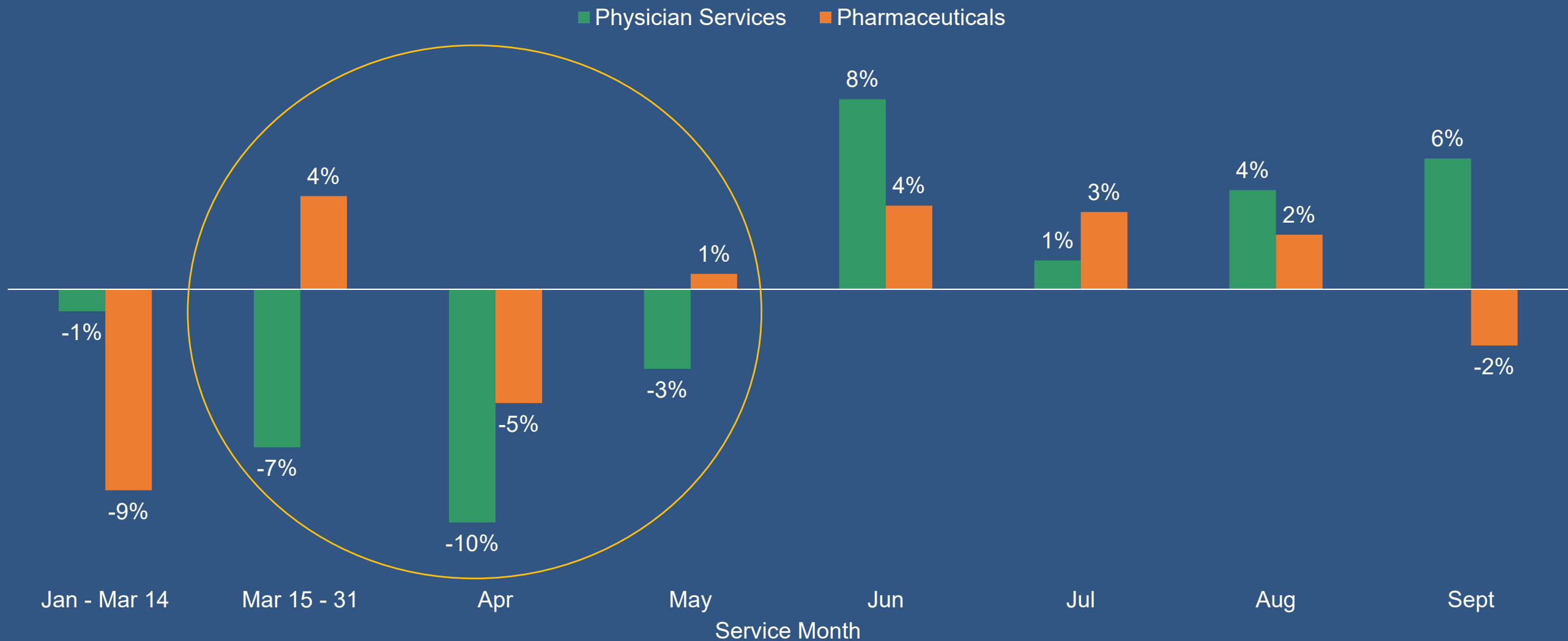
As of November 30, 2020



# Leading Types of Medical Services – Service Utilization

As of November 30, 2020

Transactions per Claim - COVID-19 Period in 2020 vs. Same Period in 2019

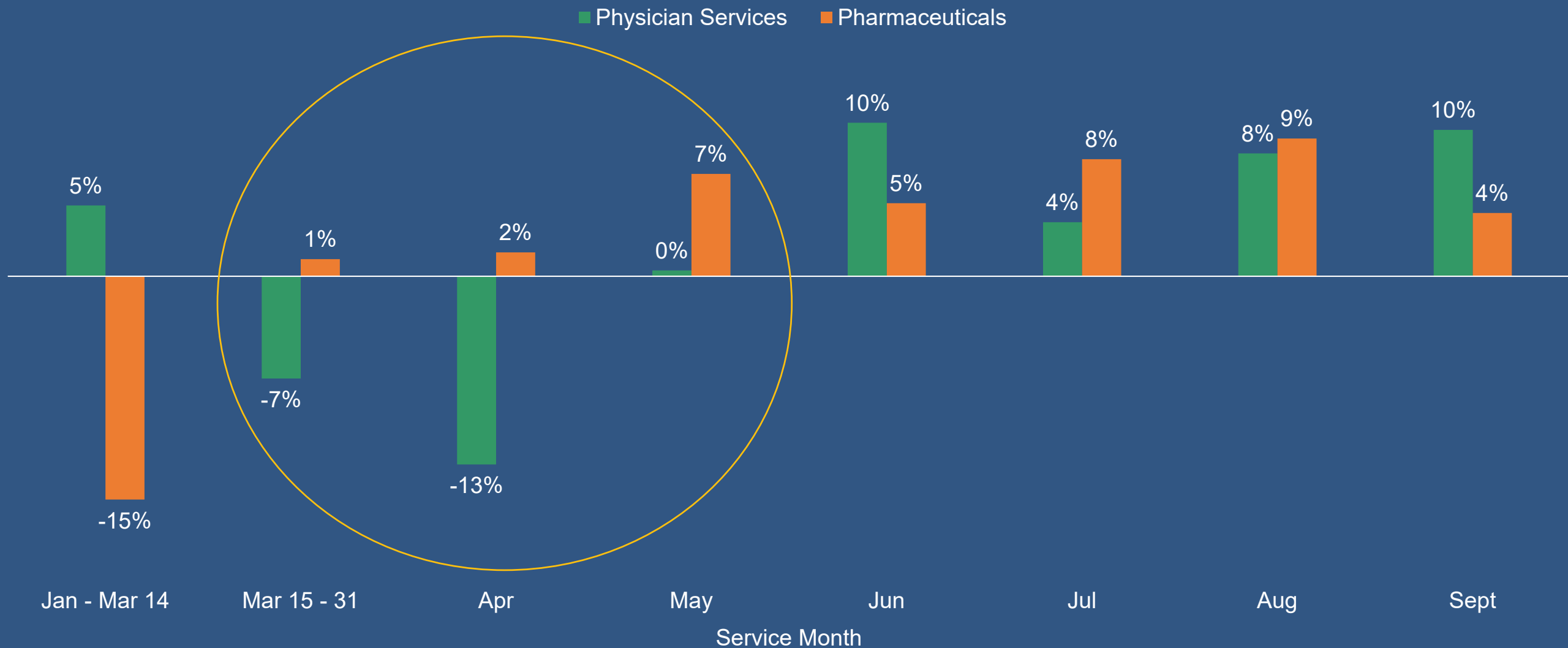




# Leading Types of Medical Services – Medical Severity

As of November 30, 2020

Paid per Claim - COVID-19 Period in 2020 vs. Same Period in 2019

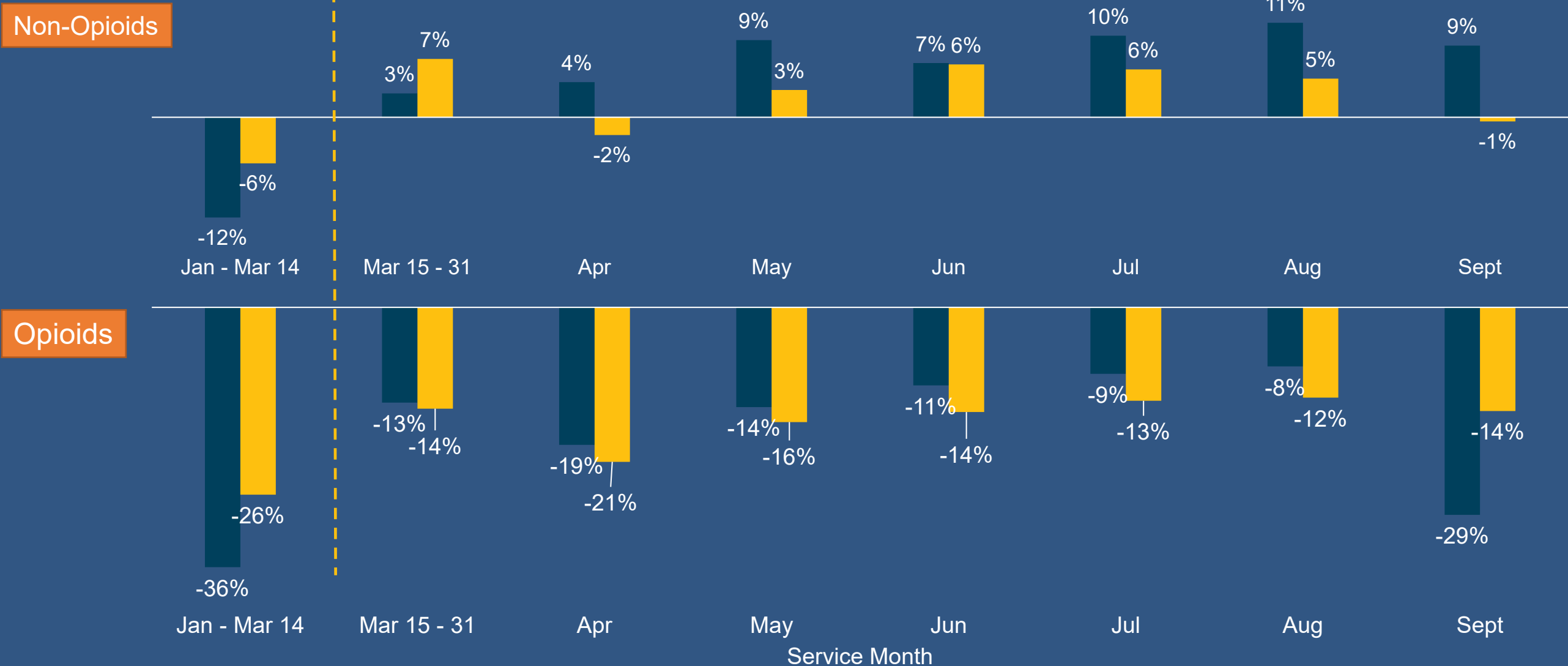


# Impact on Opioid and Non-Opioid Cost and Utilization

As of November 30, 2020

COVID-19 Period in 2020 vs. Same Period in 2019

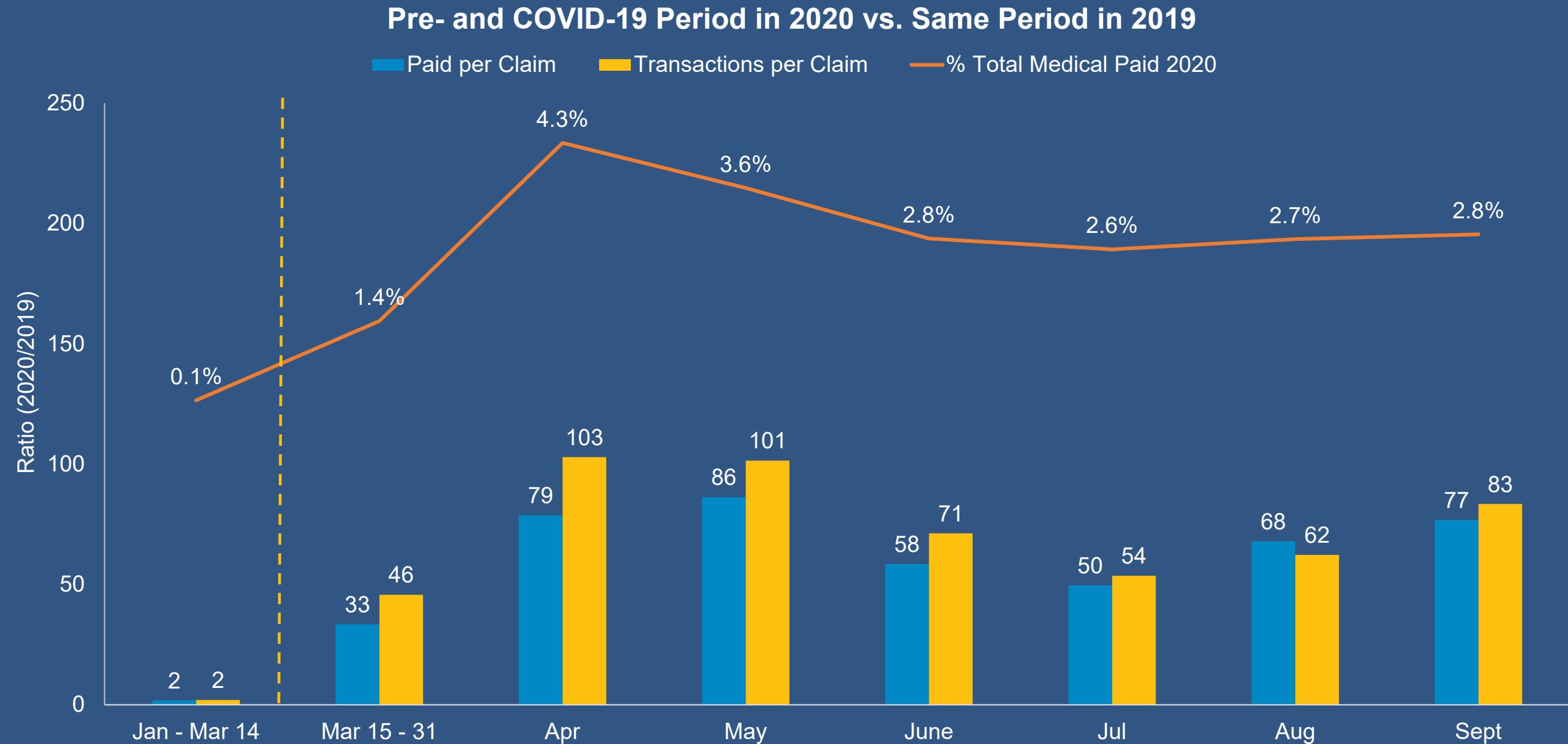
■ Paid per Claim   ■ Transactions per Claim





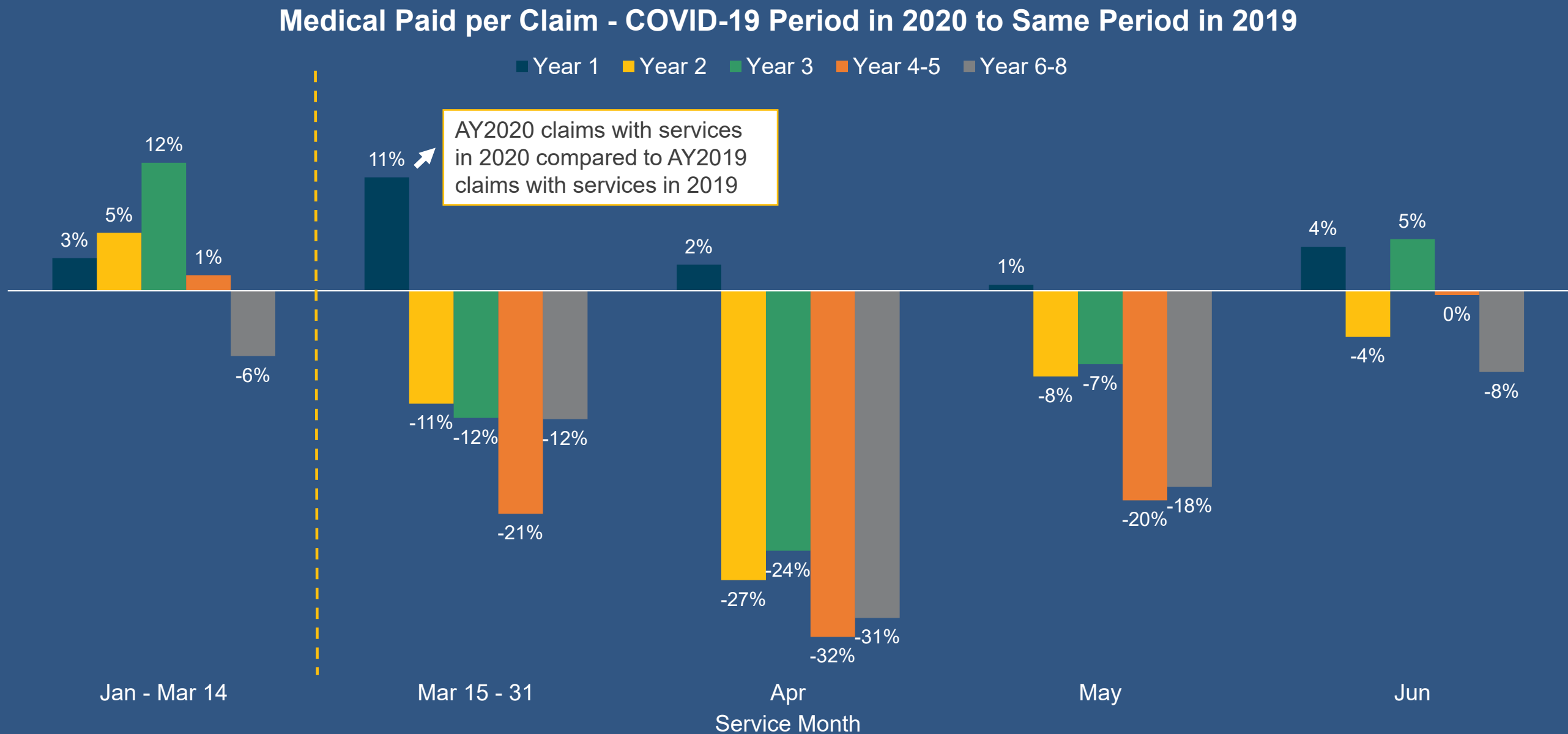
# Changes in Telemedicine Services

As of November 30, 2020



# Impact on Overall Medical Severity by Claim Age

As of November 30, 2020



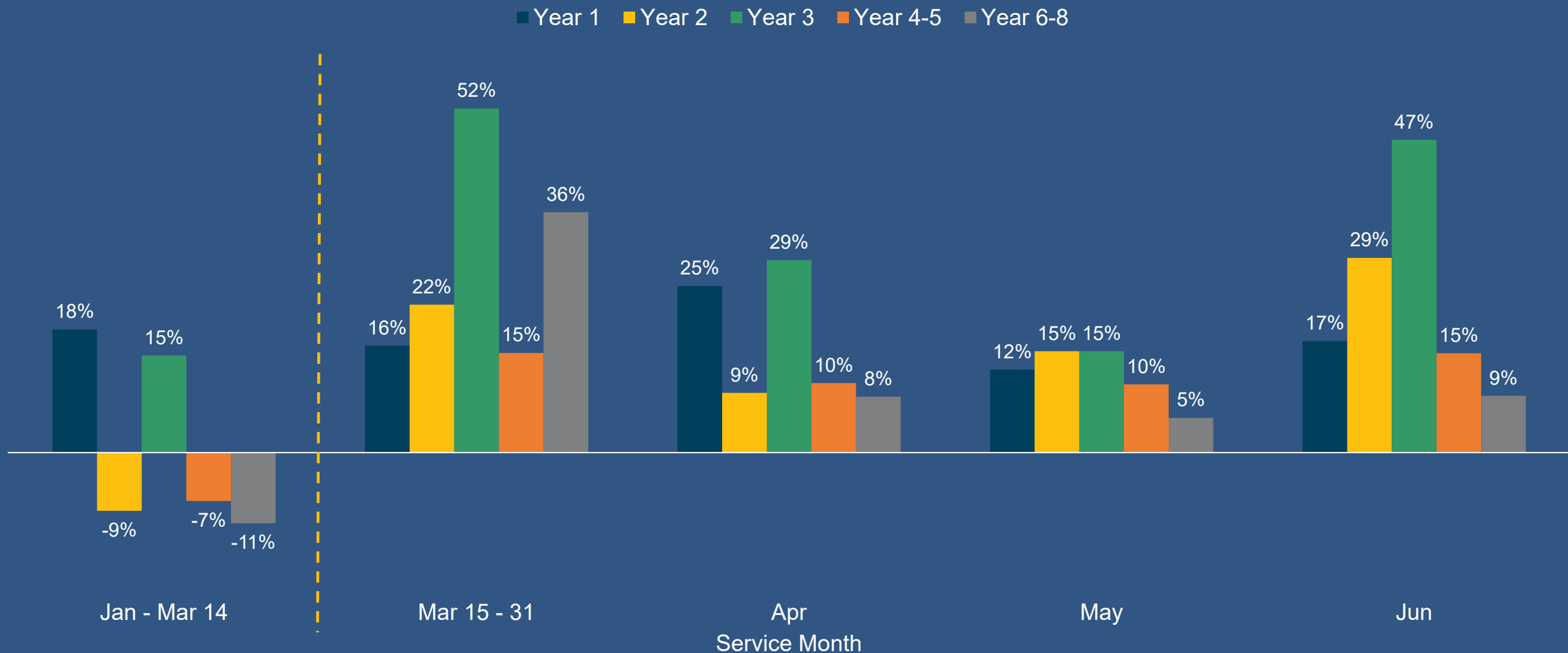
Note: Year 1 compares AY2020 claims with 2020 services to AY2019 claims with 2019 services; year 2 compares AY2019 claims with 2020 services to AY2018 claims with 2019 services; year 3 compares AY2018 claims with 2020 services to AY2017 claims with 2019 services; year 4-5 compares AY2016-AY2017 claims with 2020 services to AY2015-AY2016 claims with 2019 services; year 6-8 compares AY2013-AY2015 claims with 2020 services to AY2012-AY2014 claims with 2019 services.  
Source: WCIRB medical transaction data.



# Impact on Pharmaceutical Severity by Claim Age

As of November 30, 2020

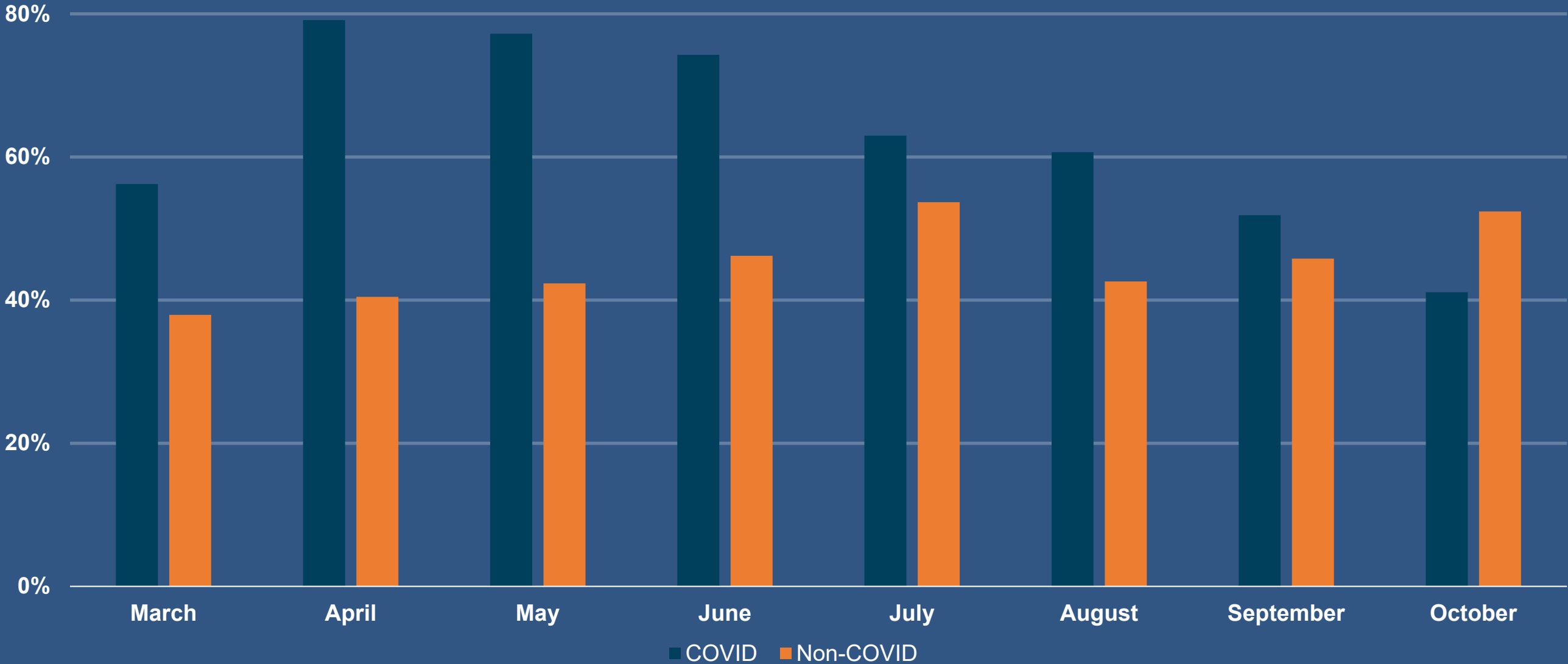
Pharmaceutical Paid per Claim - COVID-19 Period in 2020 to Same Period in 2019



Note: Year 1 compares AY2020 claims with 2020 services to AY2019 claims with 2019 services; year 2 compares AY2019 claims with 2020 services to AY2018 claims with 2019 services; year 3 compares AY2018 claims with 2020 services to AY2017 claims with 2019 services; year 4-5 compares AY2016-AY2017 claims with 2020 services to AY2015-AY2016 claims with 2019 services; year 6-8 compares AY2013-AY2015 claims with 2020 services to AY2012-AY2014 claims with 2019 services.  
Source: WCIRB medical transaction data. Year 1 compares AY2020 claims with 2020 services to AY2019 claims with 2019 services.

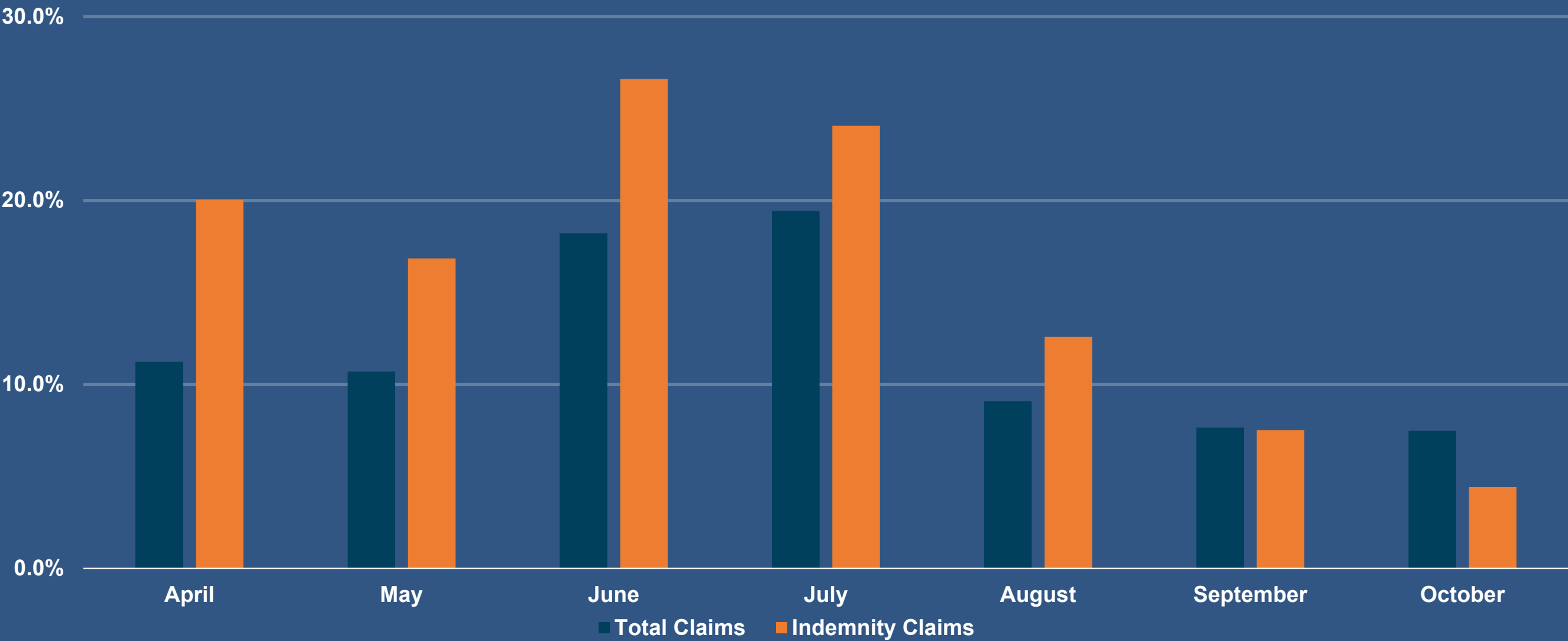
# Share of Claims Classified as Indemnity—COVID-19 vs. Non-COVID-19

As of Nov 30, 2020



# Reported COVID-19 Claims as a Share of Total and Indemnity Claims

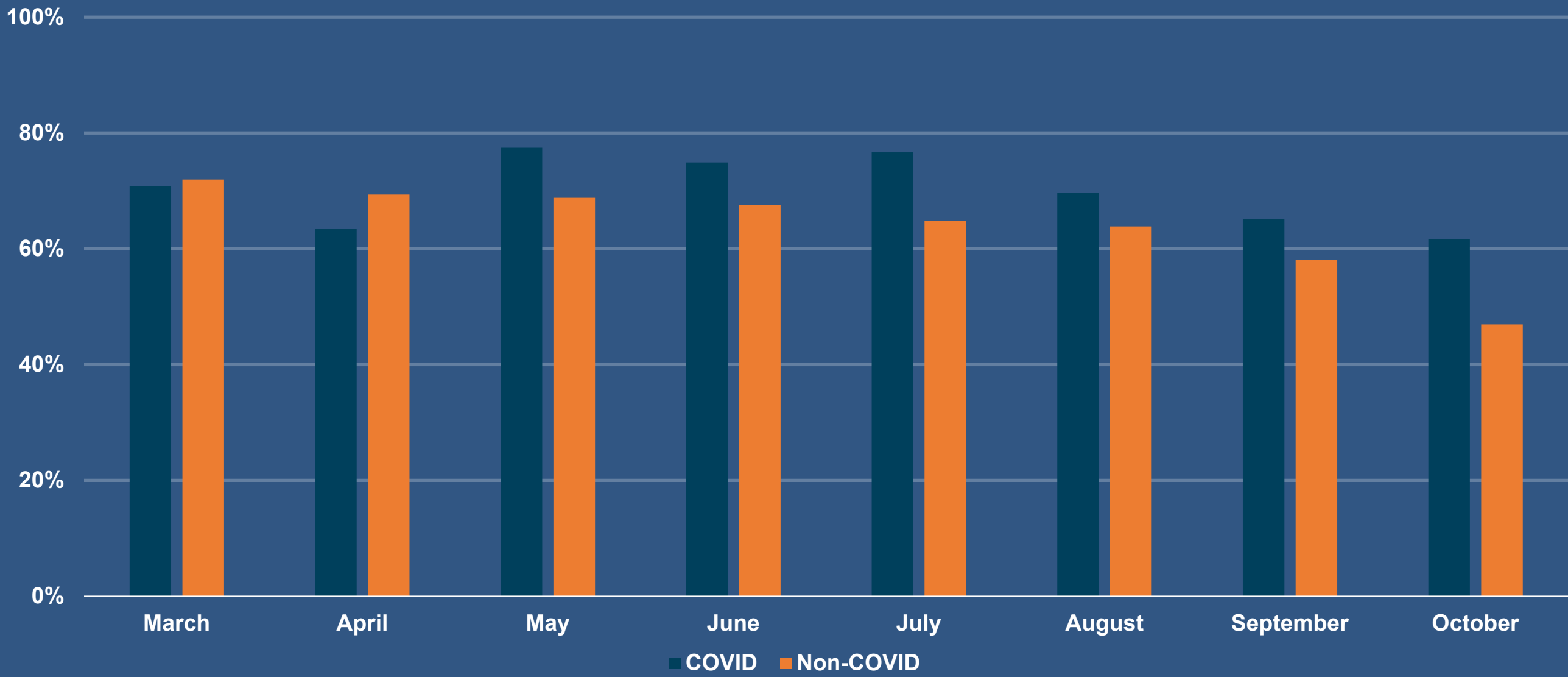
As of Nov. 30, 2020





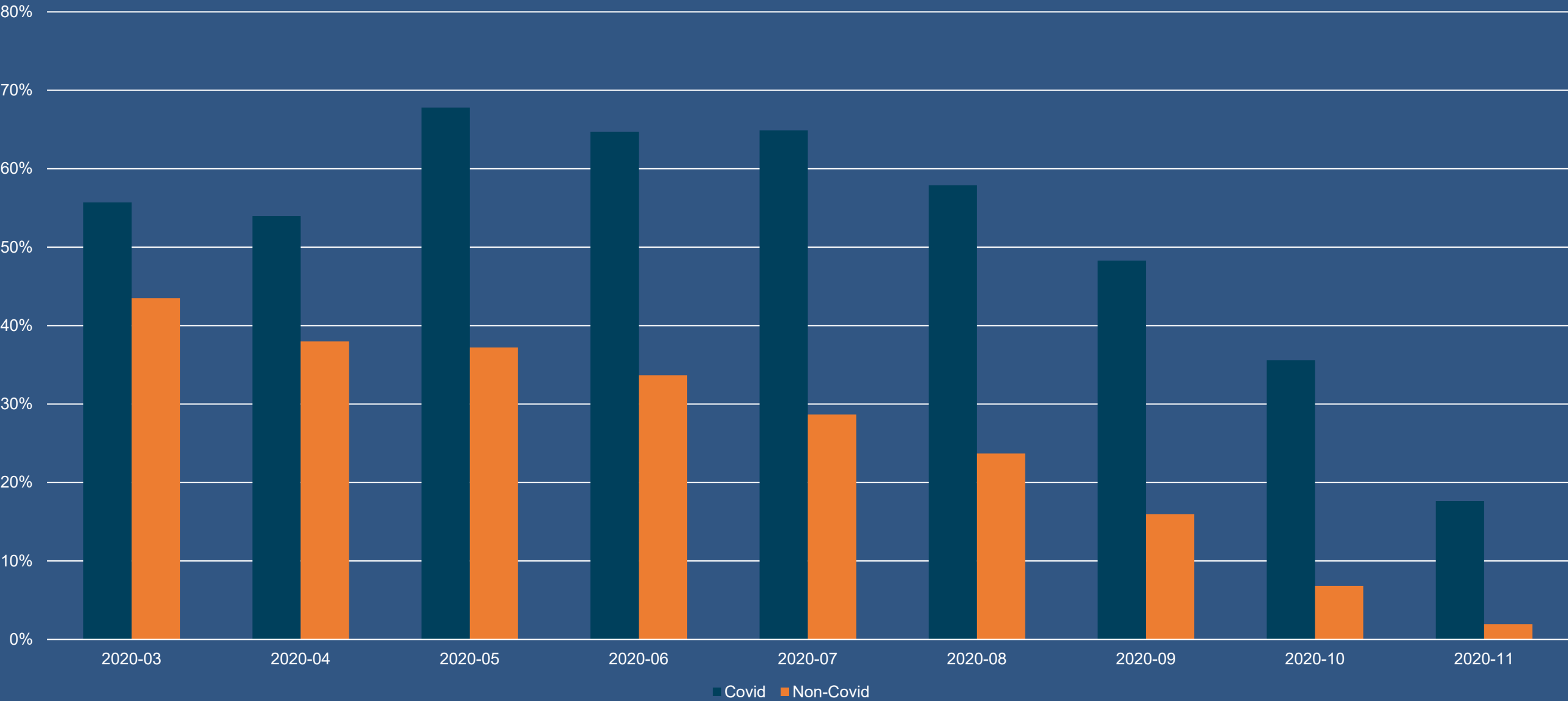
# Claim Closing Rate by Accident Month — COVID-19 vs. Non-COVID-19 Claims

As of Nov. 30, 2020



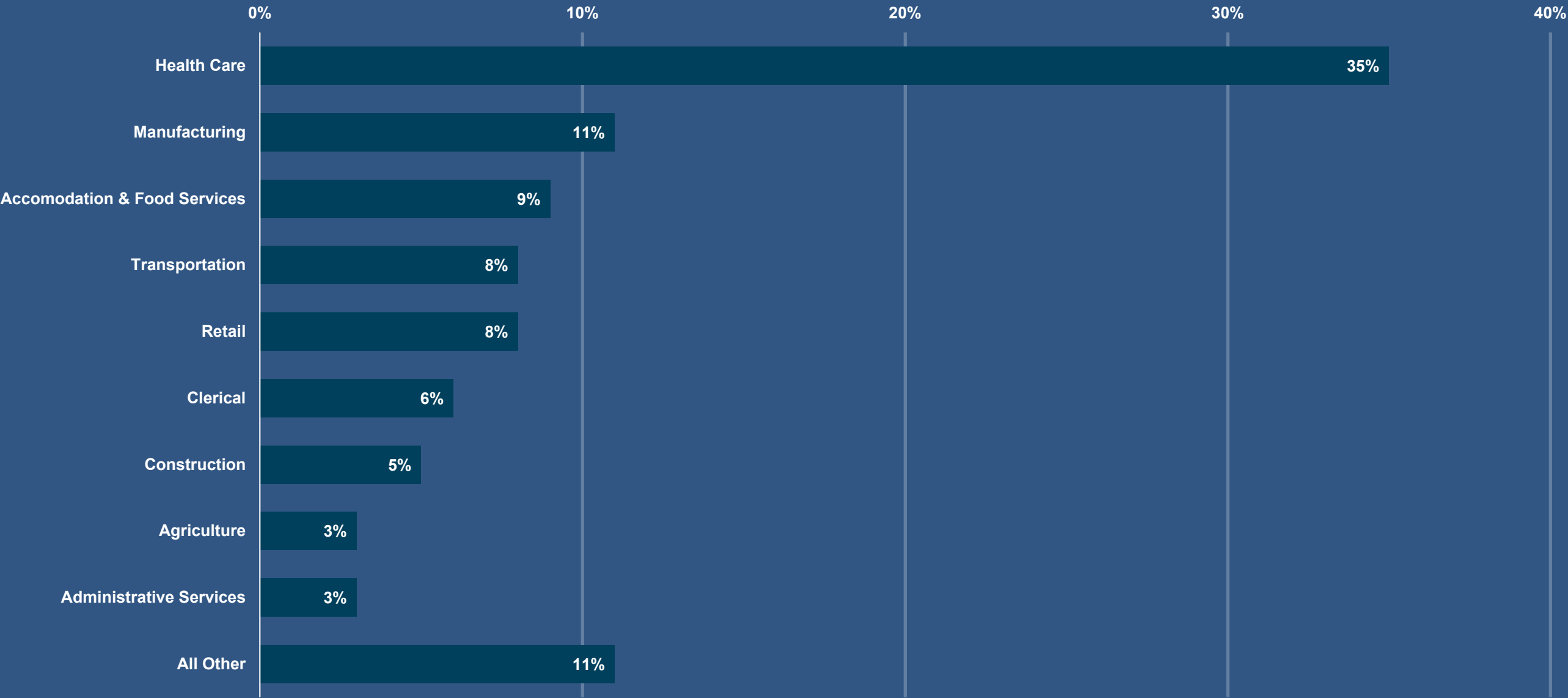
# Indemnity Claim Closing Rate by Accident Month — COVID-19 vs. Non-COVID-19 Claims

As of Nov. 30, 2020



# Distribution of COVID-19 Claims by Industry

As of Nov. 30, 2020





# Share of Total Claims due to COVID-19 by Industry

As of Nov. 30, 2020

Industry	Share of Claims due to COVID
Health Care	36%
Public Administration	22%
Finance	20%
Clerical	14%
Unknown	13%
Accommodation & Food Services	12%
Education	12%
Outside Sales	11%
Retail	10%
Other Services	10%
Manufacturing	9%
Administrative Services	8%
Transportation	8%
Arts & Entertainment	8%
Agriculture & Mining	7%
Real Estate	6%
Utilities & Construction	6%
Wholesale	5%
Professional Services	5%
Information	3%
Total	12%

# Industries with Significant Changes in Non-COVID-19 Claim Share

As of Nov. 30, 2020



Agriculture  
and Mining



Manufacturing

Utilities and  
Construction

- Claims at 3 Months for 2020 Q2 Compared to Prior 4 Quarters
- Share Increased or Decreased by More Than 1 Point



Accommodation  
and Food Services



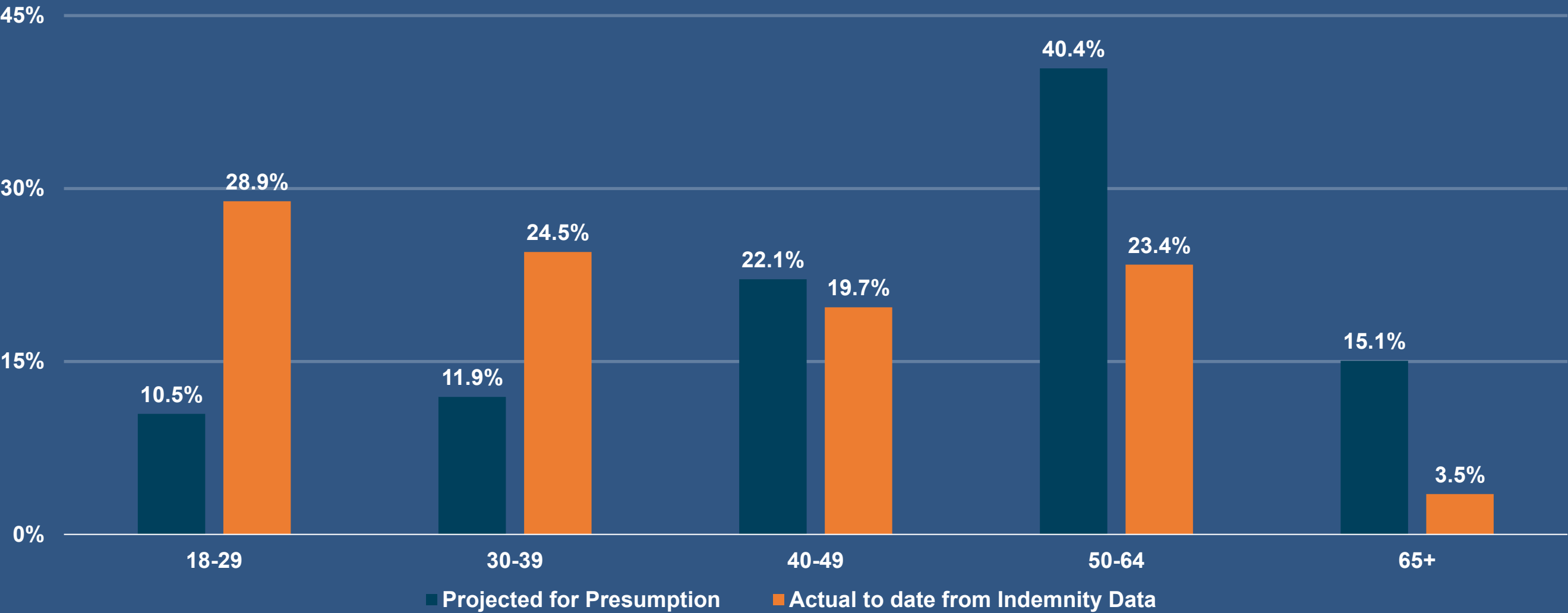
Educational  
Services



Arts, Entertainment  
and Recreation

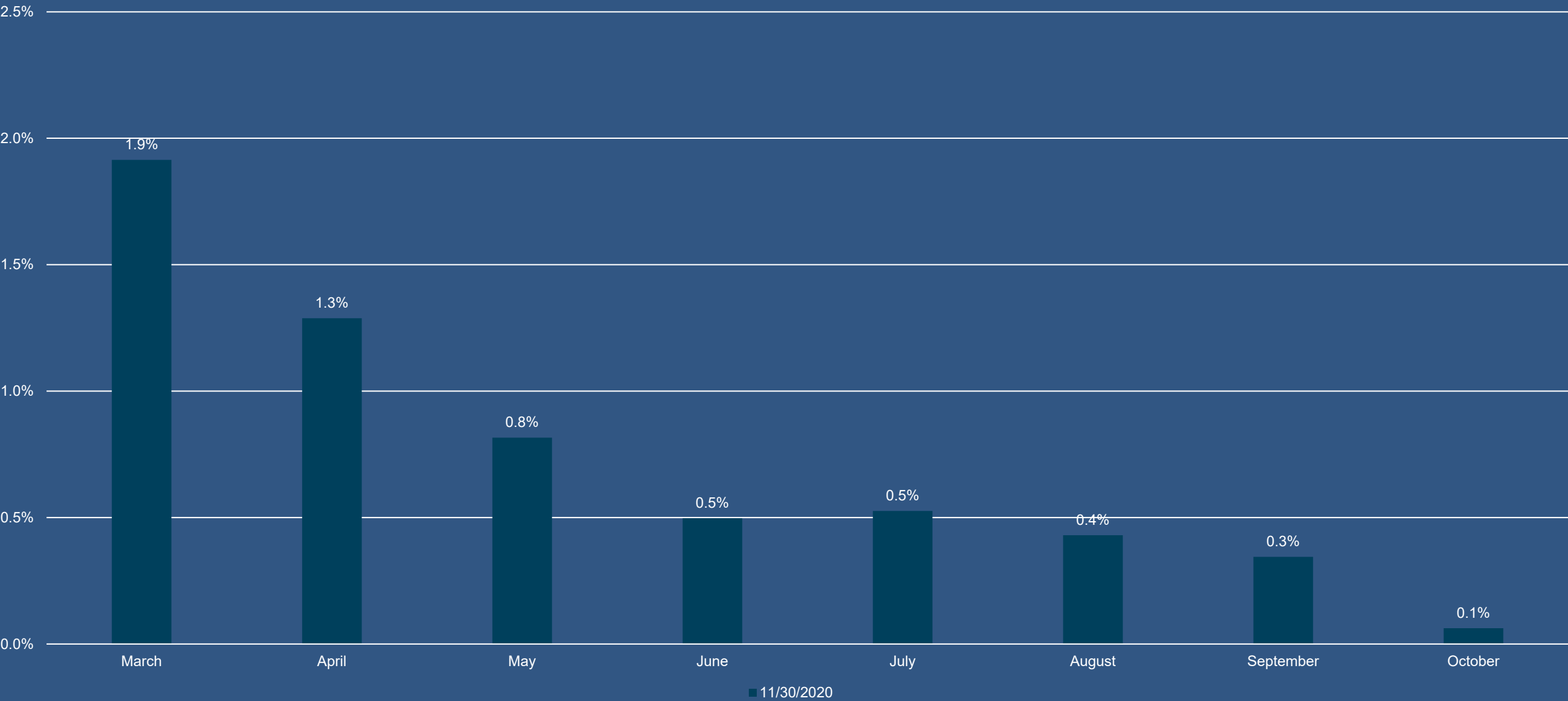
# Comparison of Projected Age Distribution in Presumption Analysis to Observed Age Distribution

As of Nov. 30, 2020



# Share of COVID-19 Claims with an Employee Date of Death by Accident Month

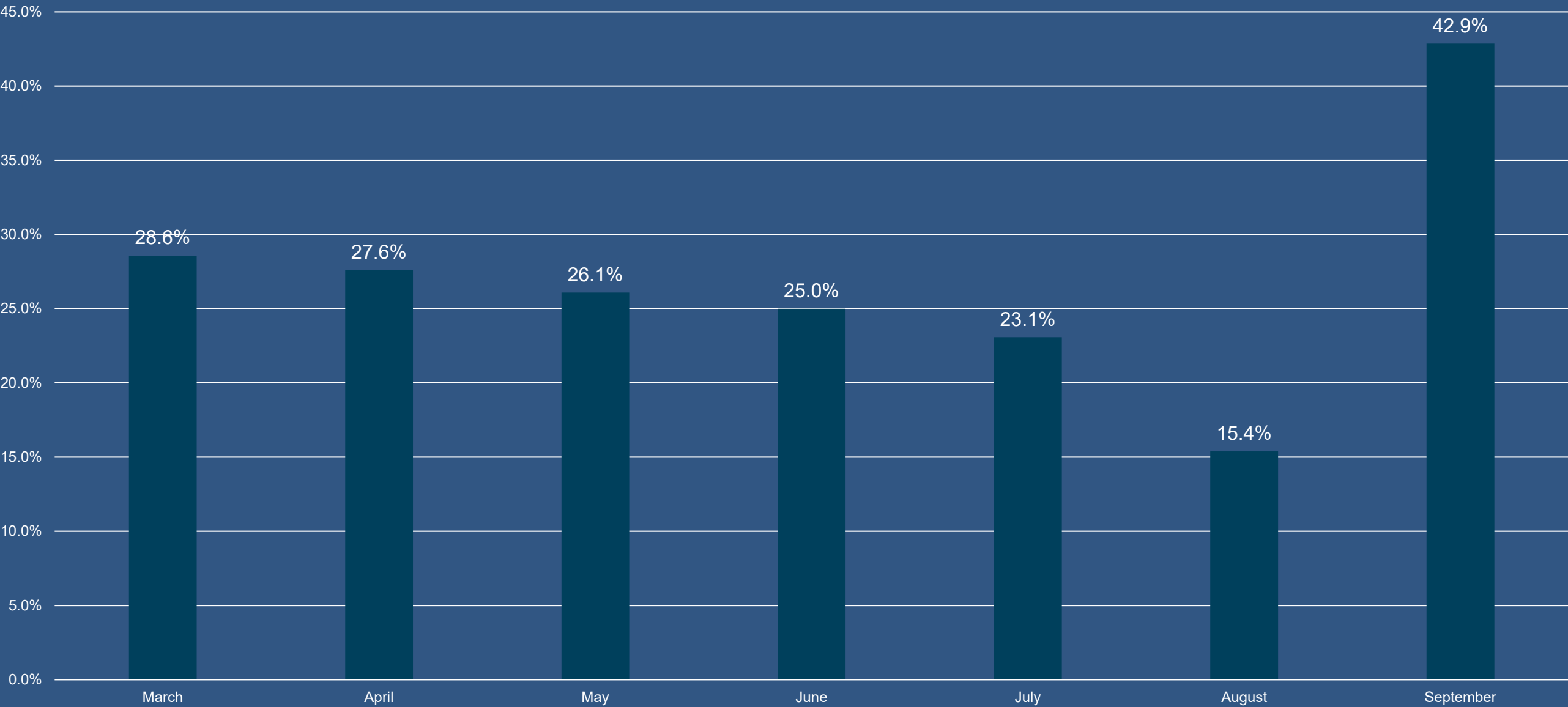
As of Nov. 30, 2020





# Share of COVID-19 Claims with an Employee Date of Death which were reported to the Employer after the Date of Death by Accident Month

As of Nov. 30, 2020



# When are COVID-19 Fatality Claims First Reported to the Employer?

As of Nov. 30, 2020

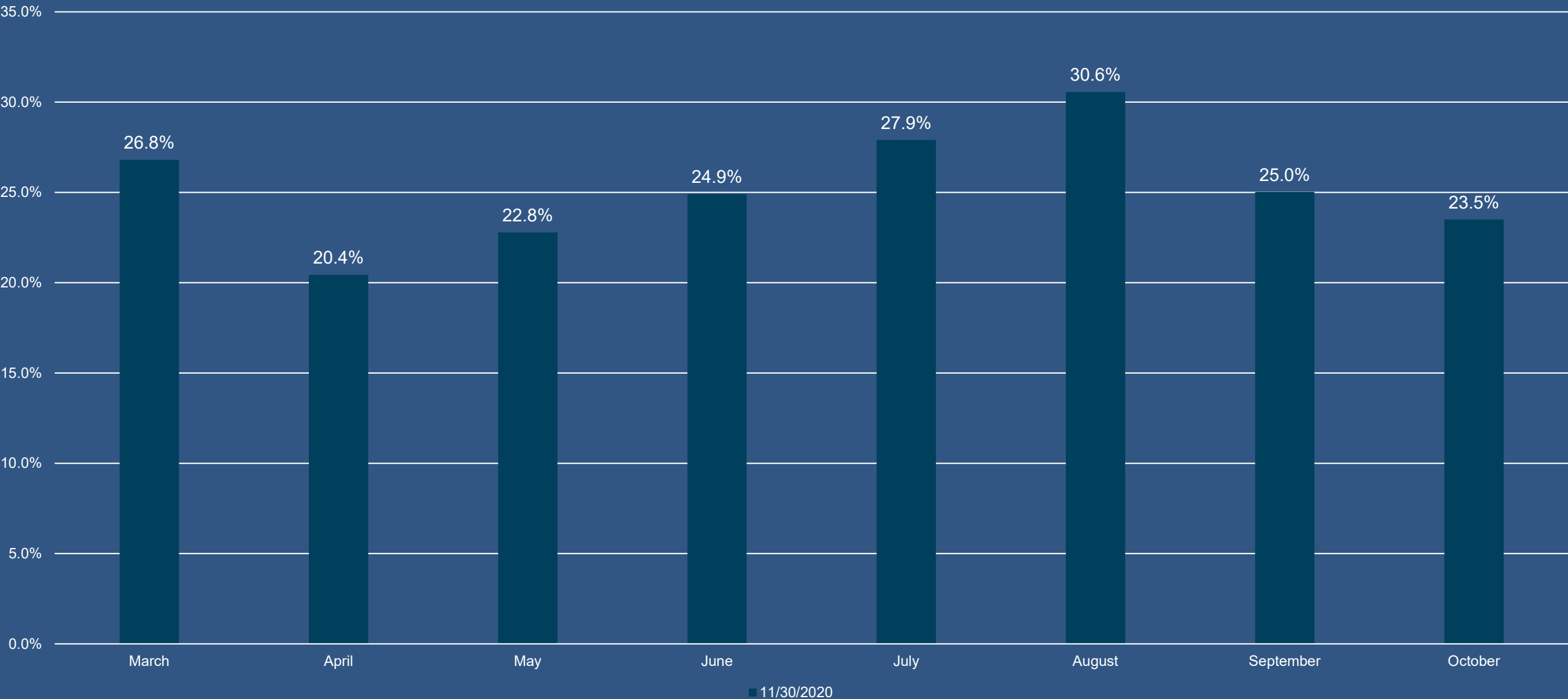
## Month of Fatality

Month  
Claim  
Reported  
to  
Employer

	February	March	April	May	June	July	August	September	October
March	0%	100%	15%	18%	0%	0%	0%	0%	0%
April	0%	0%	60%	18%	13%	0%	0%	0%	0%
May	0%	0%	15%	45%	13%	5%	0%	0%	0%
June	100%	0%	5%	3%	52%	22%	9%	7%	0%
July	0%	0%	5%	13%	9%	59%	52%	7%	0%
August	0%	0%	0%	3%	0%	5%	39%	29%	25%
September	0%	0%	0%	0%	9%	5%	0%	43%	50%
October	0%	0%	0%	0%	4%	5%	0%	14%	25%

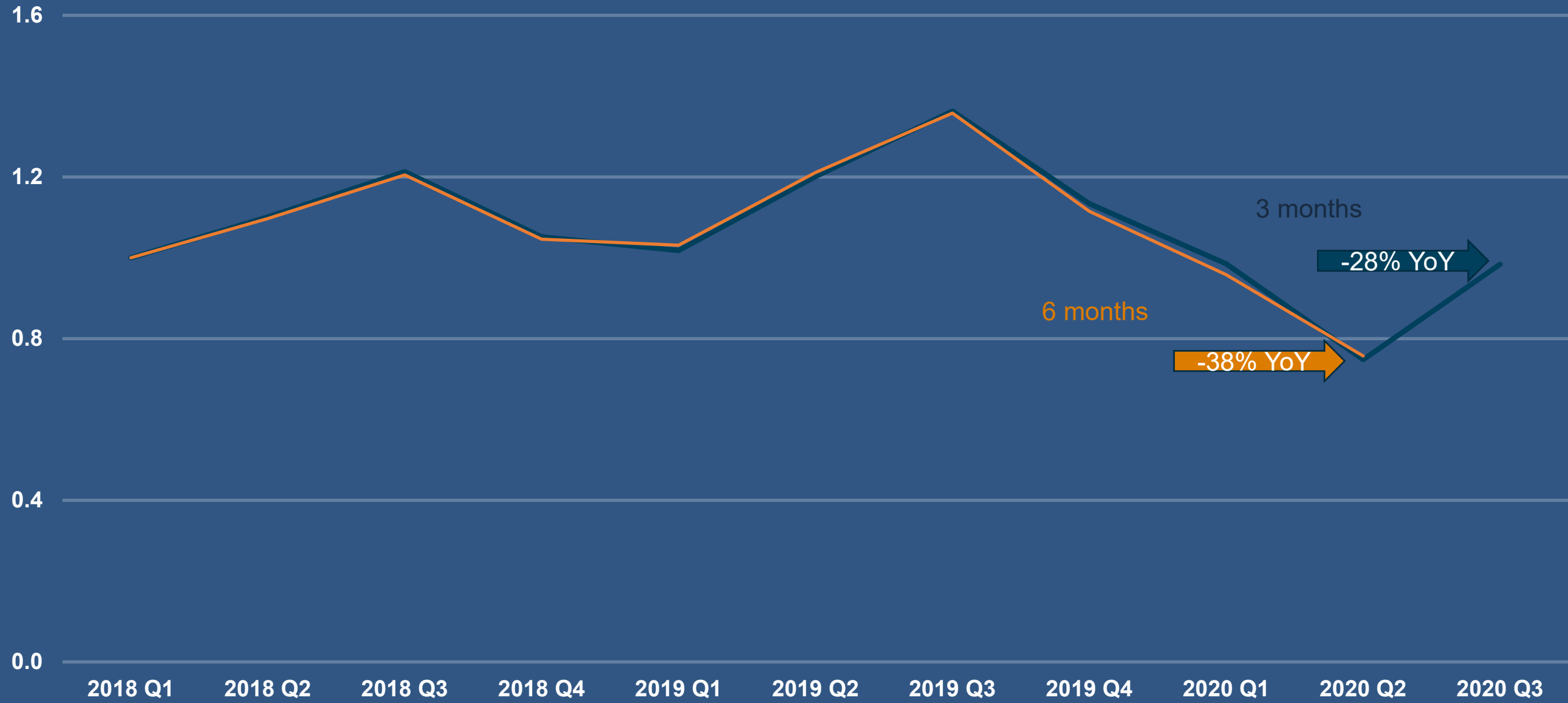
# Denial Rates by Accident Month

As of Nov. 30, 2020



# Total Non-COVID-19 Claims Reported by AQ Relative to the Number Reported in 2018 Q1

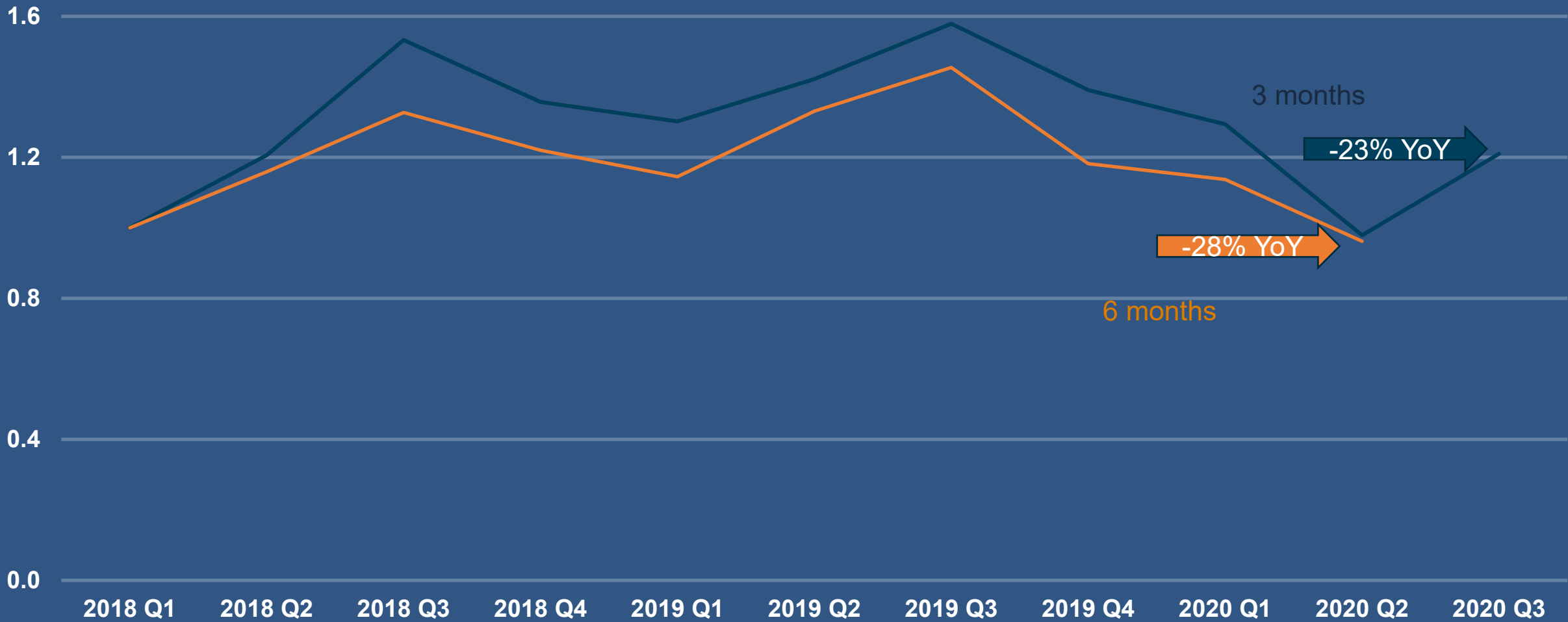
As of Nov. 30, 2020





# Non-COVID-19 Indemnity Claims Reported by AQ Relative to the Number Reported in 2018 Q1

As of Nov. 30, 2020



# 05

9/30/2020  
Experience  
Review



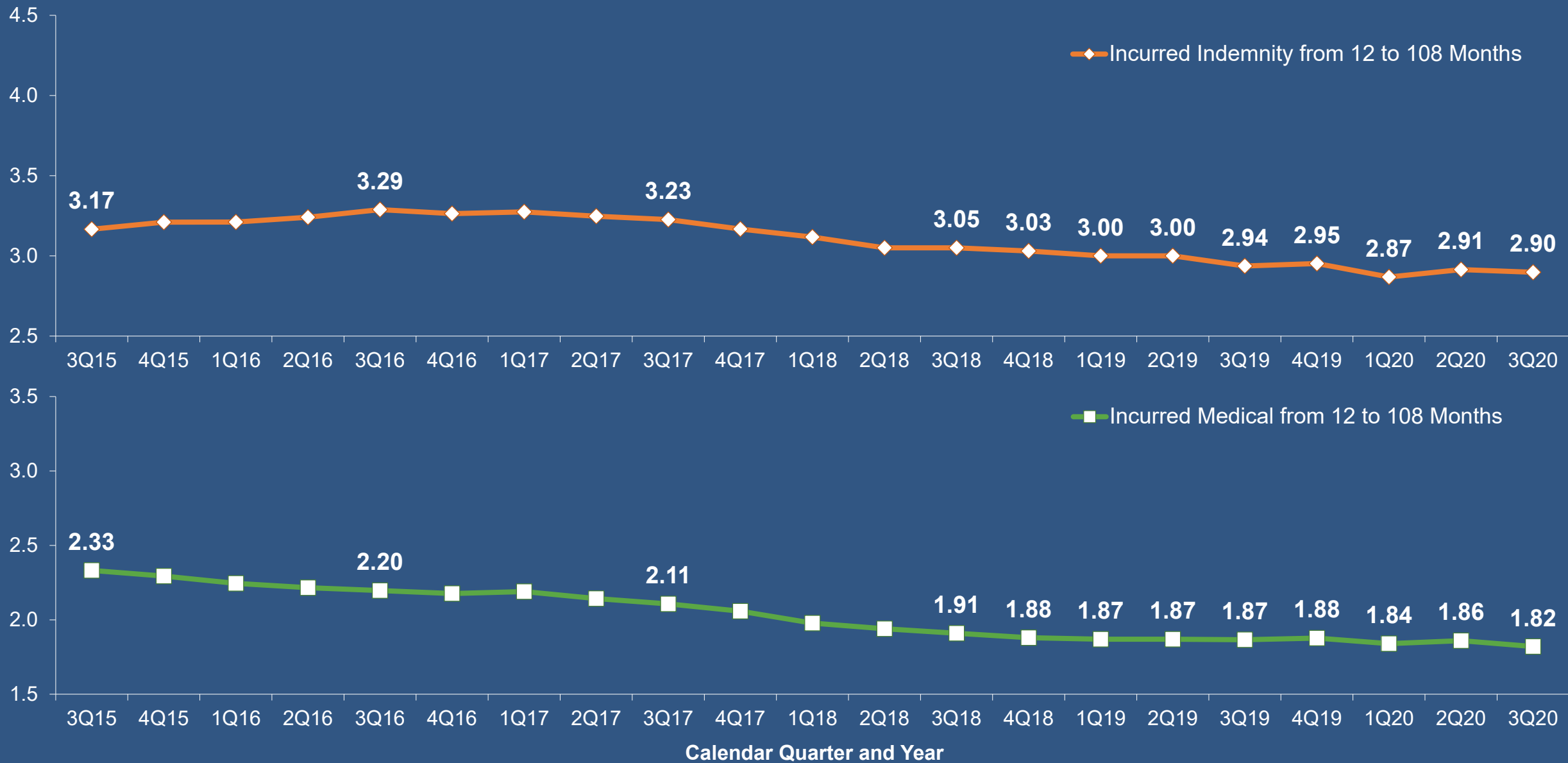


# Summary of 9/30/2020 Experience (Excluding COVID-19)

- 9/30/2020 experience showing signs of more typical pattern compared to 2Q
  - Paid and incurred development more consistent with longer-term trends
  - Claim settlement rates on AY 2018 and 2019 continuing to slow
- Projections included in 12/8/2020 Agenda informational and based on 1/1/2021 Filing methodology
  - No specific adjustment for shelter-in-place period loss development
- Projected loss ratio based on 9/30/2020 experience (w/o development adjustment) = 0.605
- 1.3 points lower than 1/1/2021 Filing based on 3/31/2020 experience (0.618)
  - -1.0 points from loss development change
  - -0.3 points from updated 2019 frequency change
- CDI decision on 1/1/2021 Filing reflected 0.595 loss ratio
  - Differences in medical development methodology and severity trends assumptions

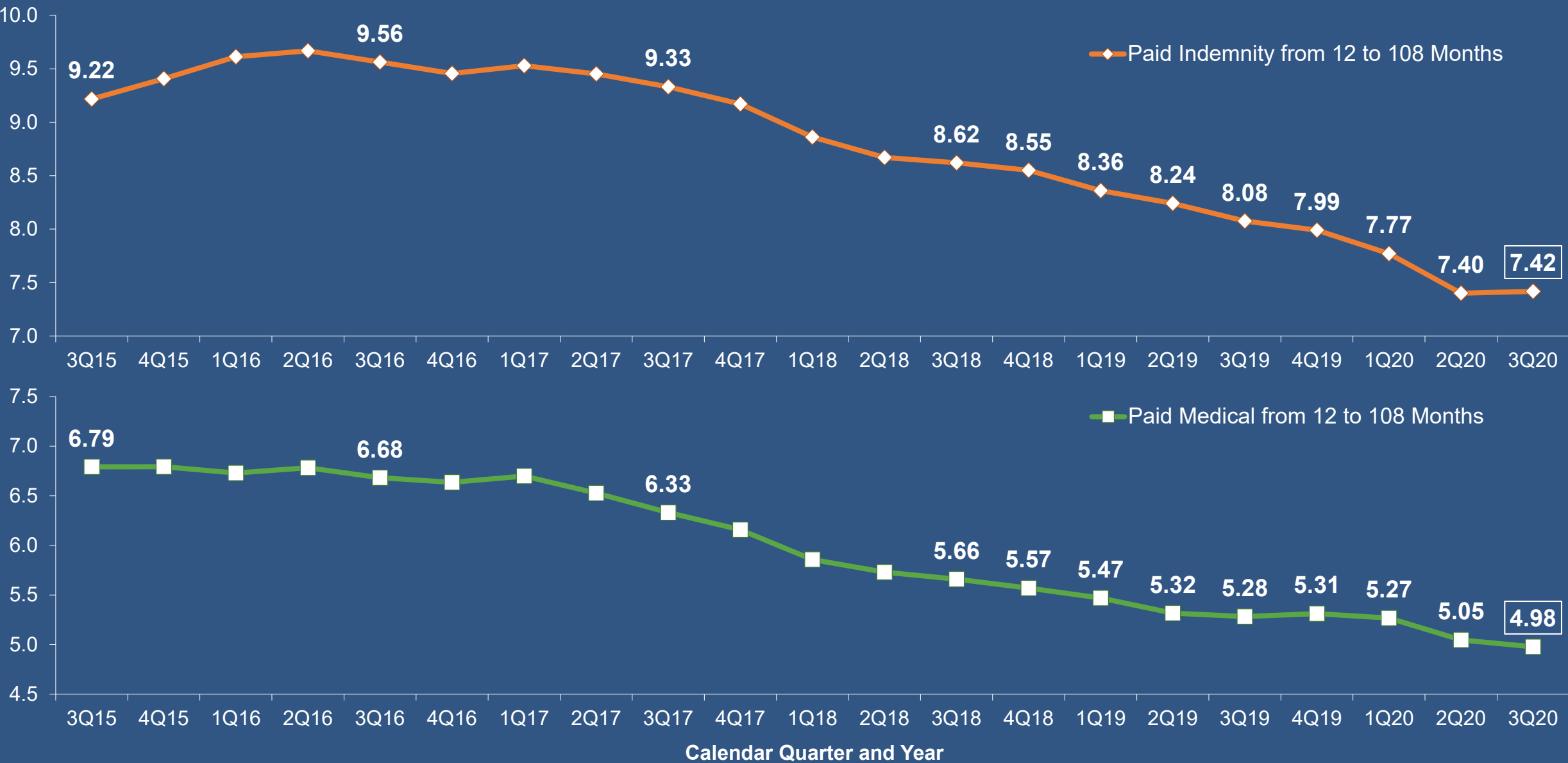
# Cumulative Incurred Development from 12 to 108 Months

As of September 30, 2020



# Cumulative Paid Development from 12 to 108 Months

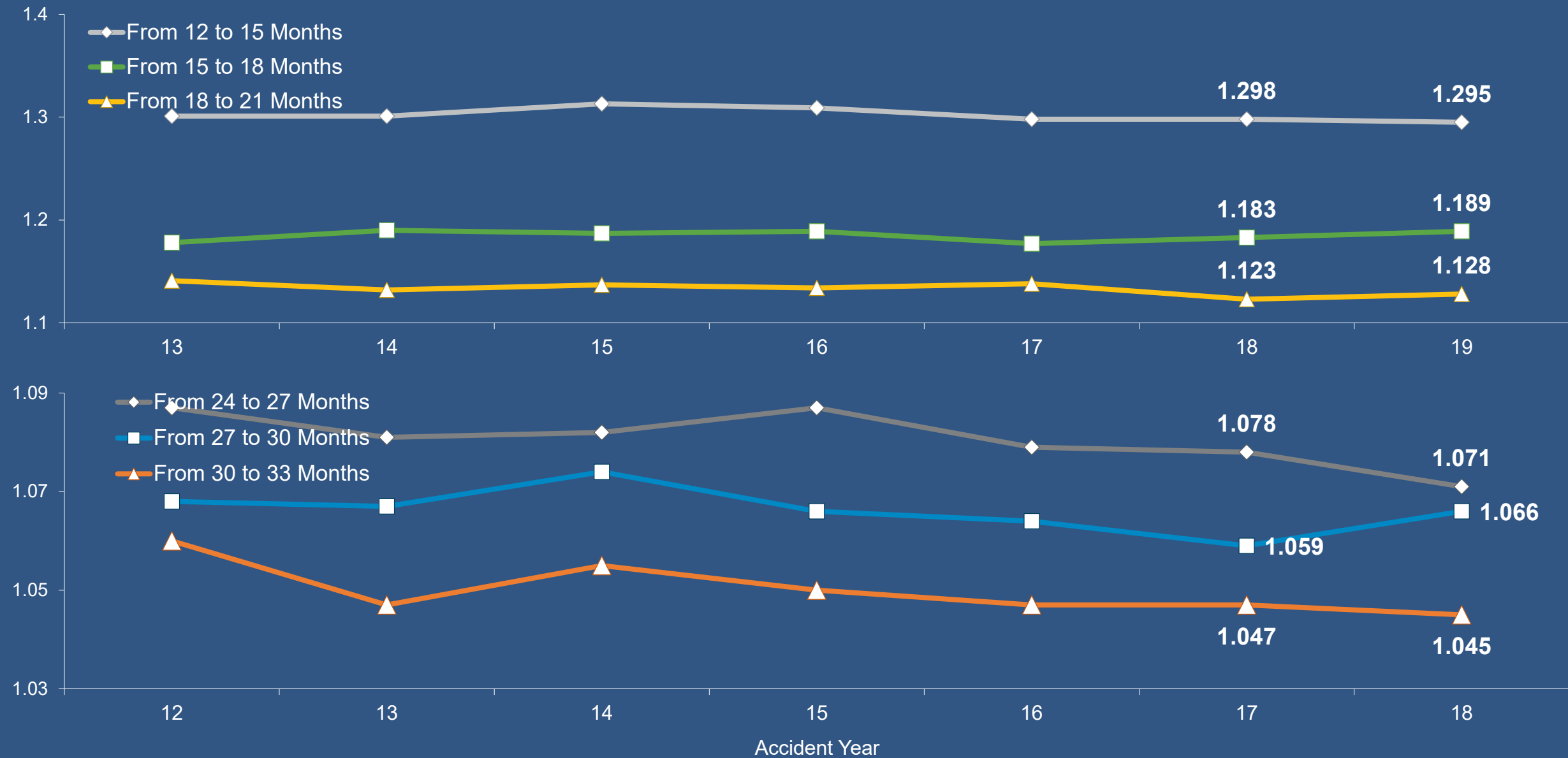
As of September 30, 2020





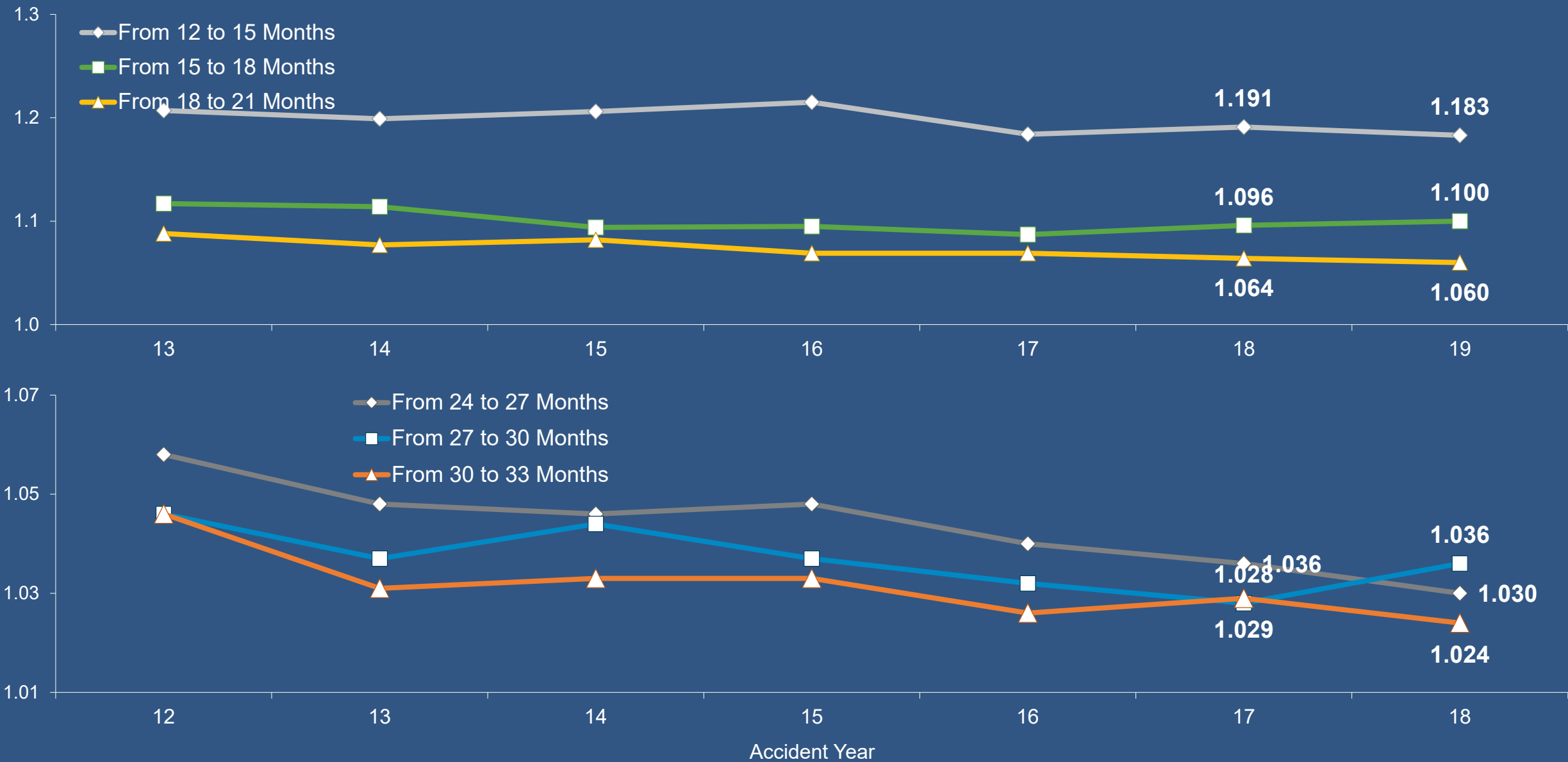
# Incurred Indemnity Quarterly Development (Exhibit 9.1)

As of September 30, 2020



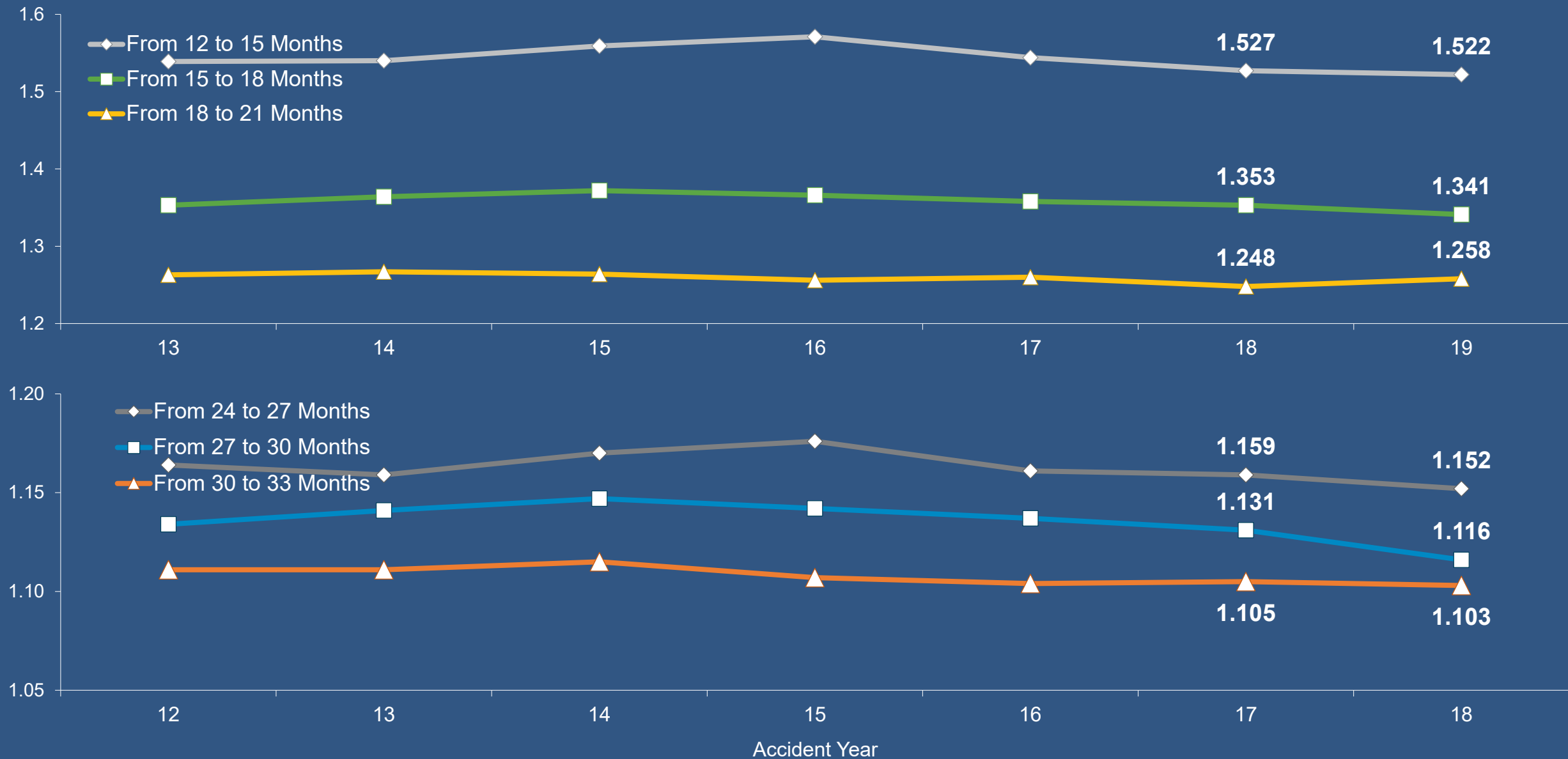
# Incurred Medical Quarterly Development (Exhibit 9.2)

As of September 30, 2020



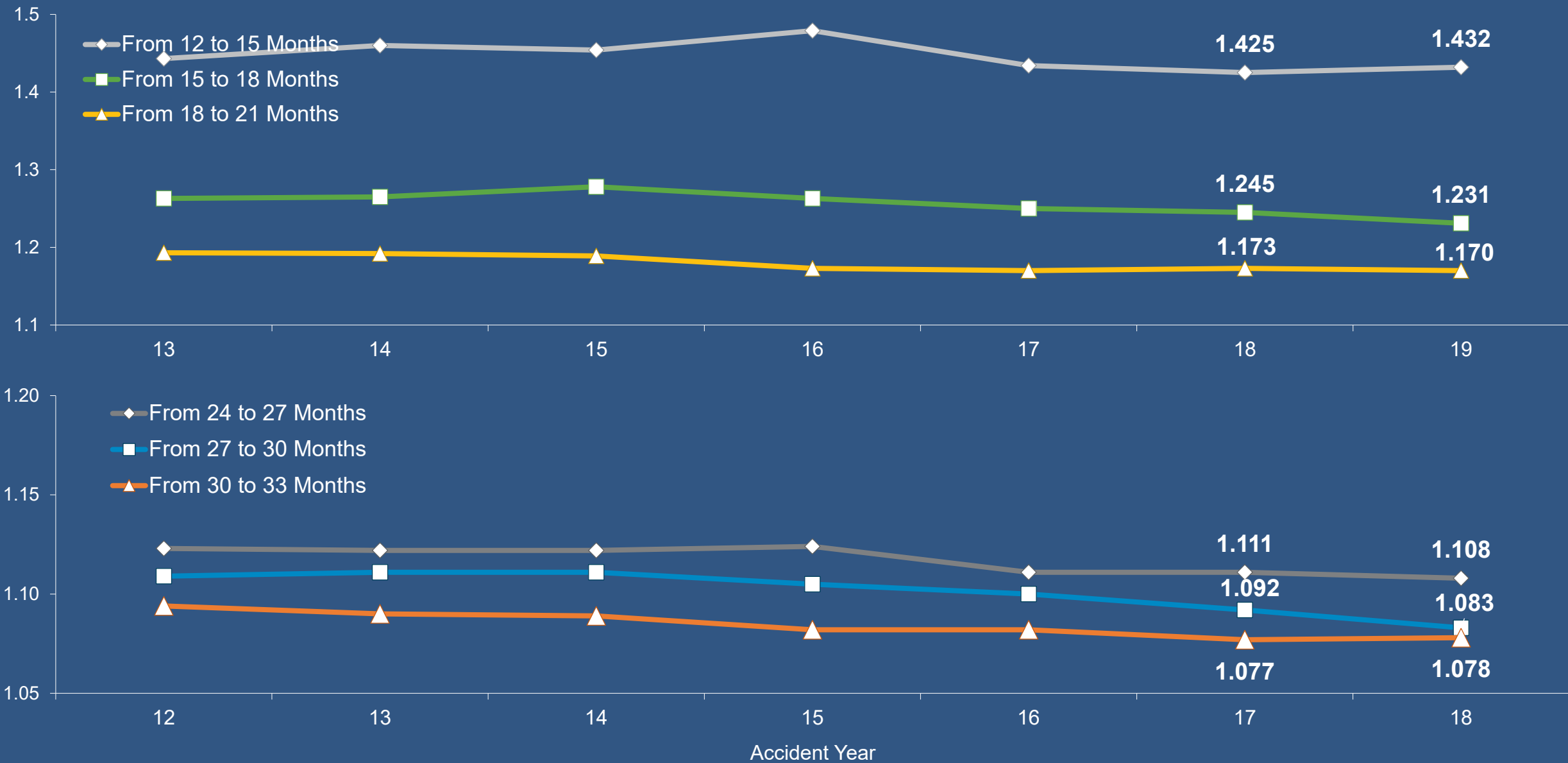
# Paid Indemnity Quarterly Development (Exhibit 9.3)

As of September 30, 2020



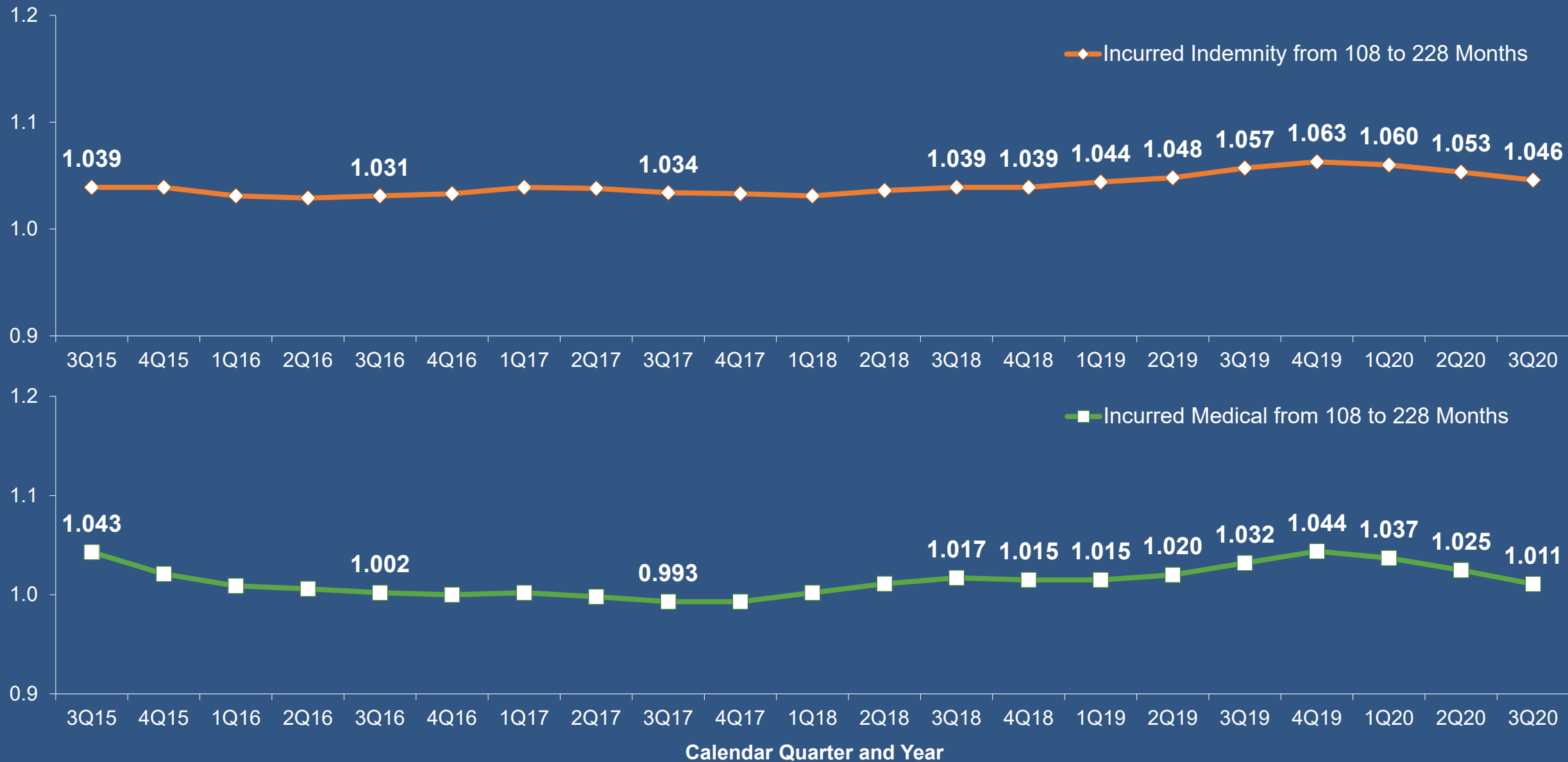
# Paid Medical Quarterly Development (Exhibit 9.4)

As of September 30, 2020



# Cumulative Incurred Development from 108 to 228 Months

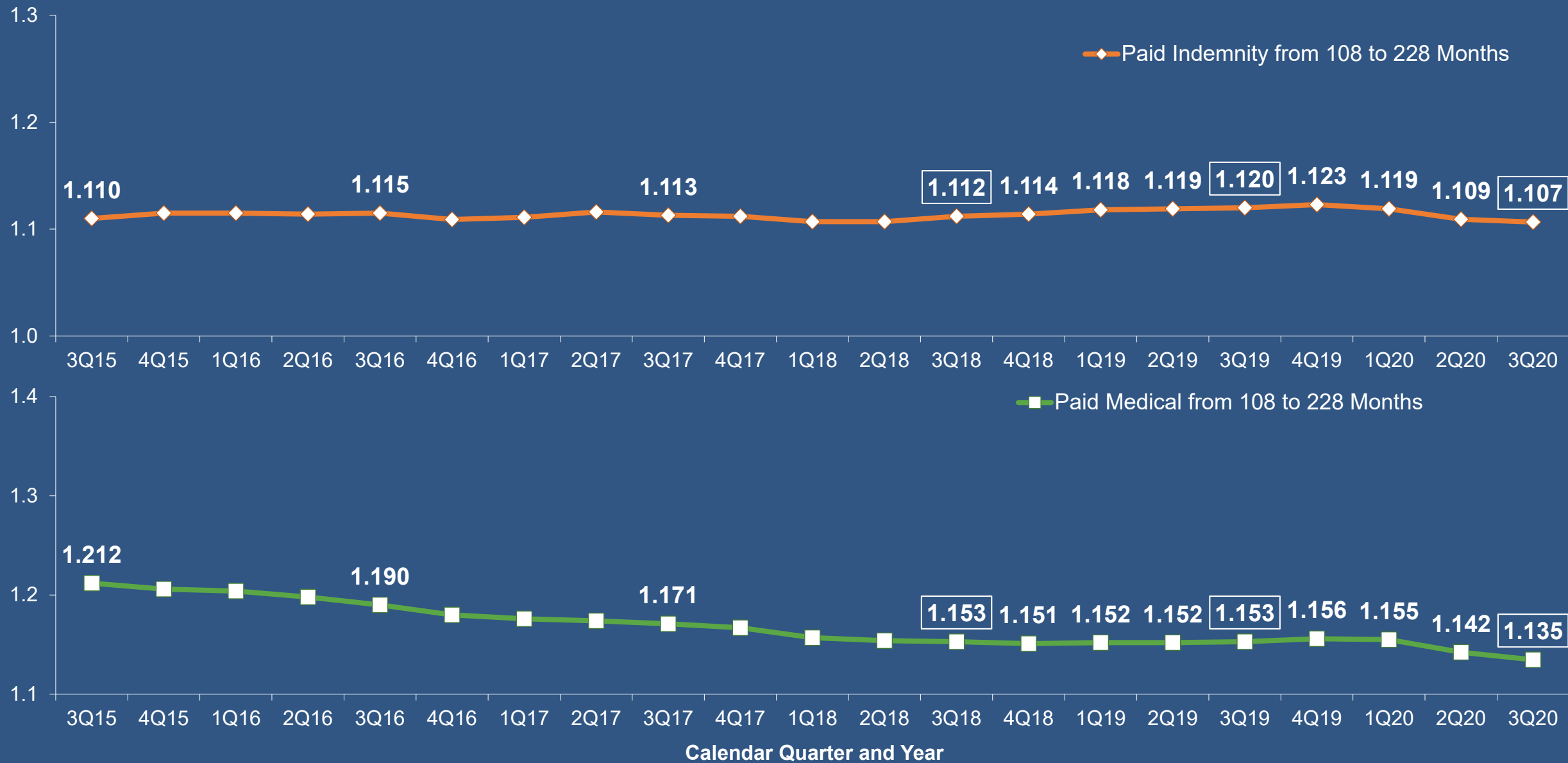
As of September 30, 2020





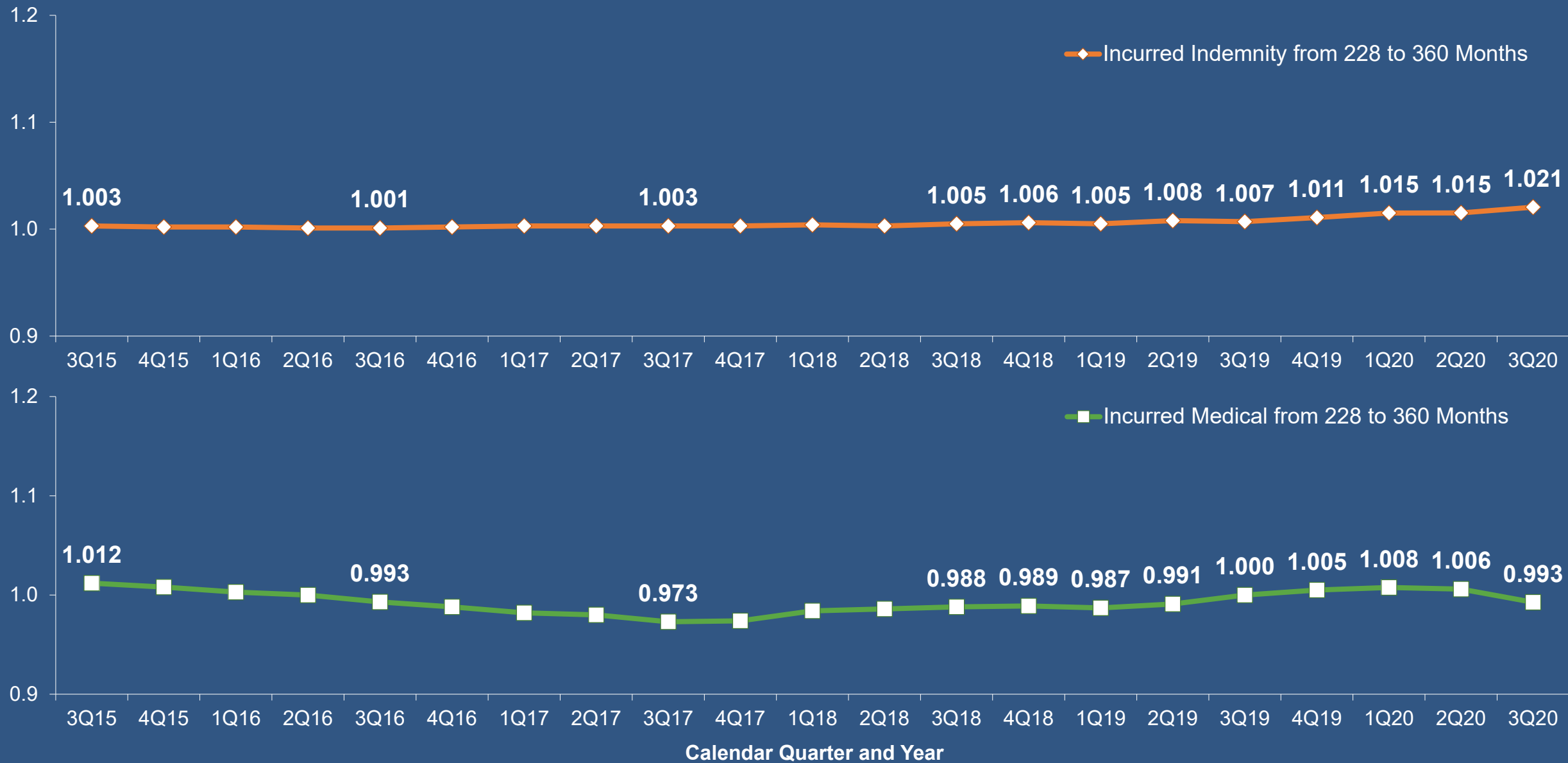
# Cumulative Paid Development from 108 to 228 Months

As of September 30, 2020



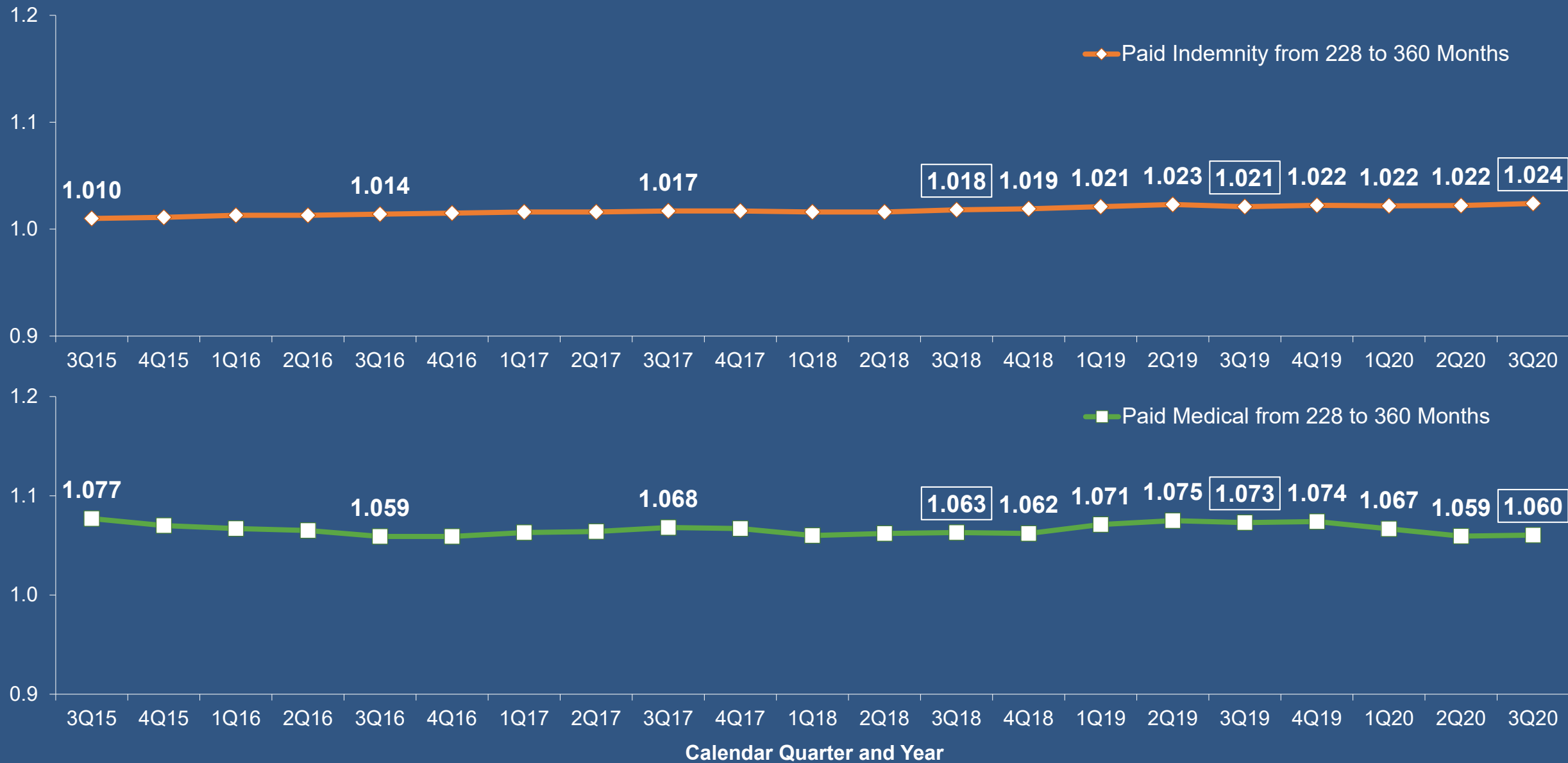
# Cumulative Incurred Development from 228 to 360 Months

As of September 30, 2020



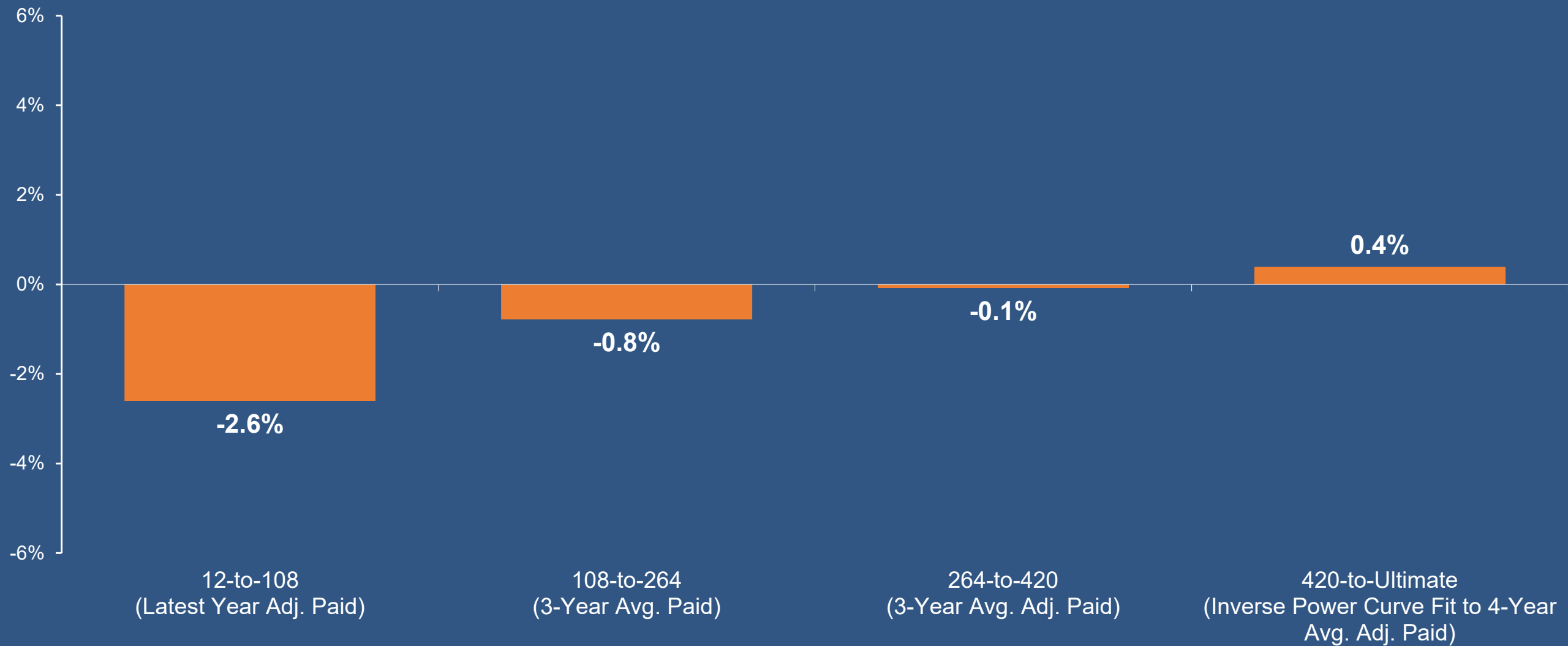
# Cumulative Paid Development from 228 to 360 Months

As of September 30, 2020



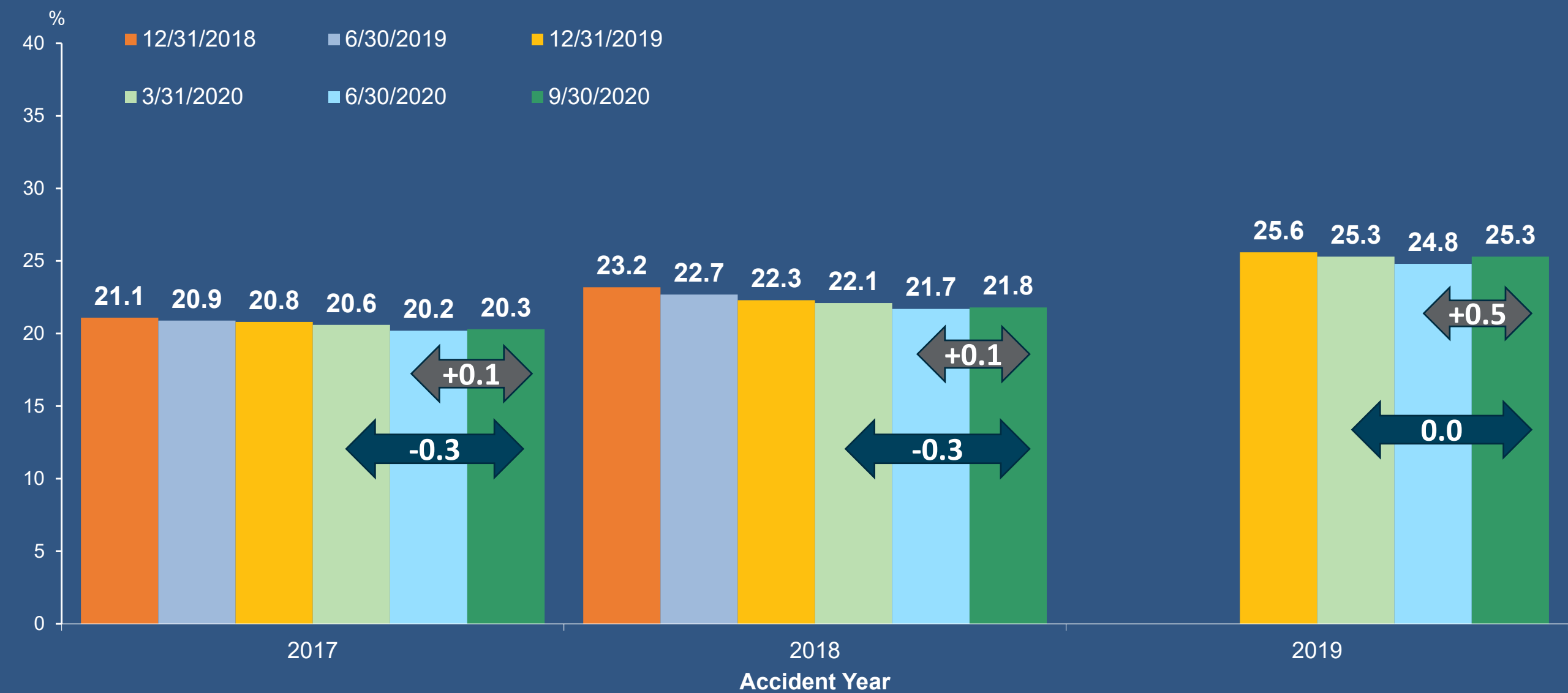
# Change in Projected Medical Development Factor

3/31/2020 to 9/30/2020 Experience



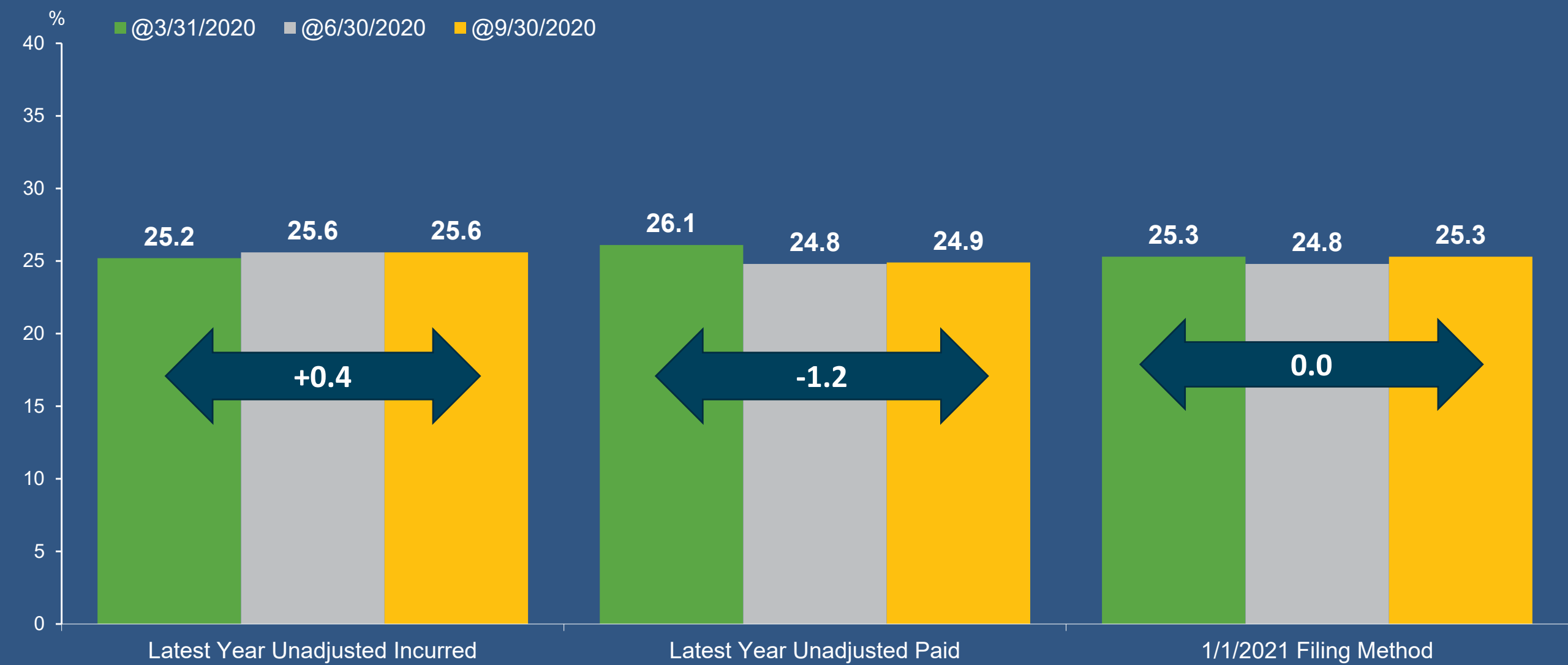
# Developed Indemnity Loss Ratios (Exhibit 3.1)

As of September 30, 2020



# Developed AY 2019 Indemnity Loss Ratios under Different Methods

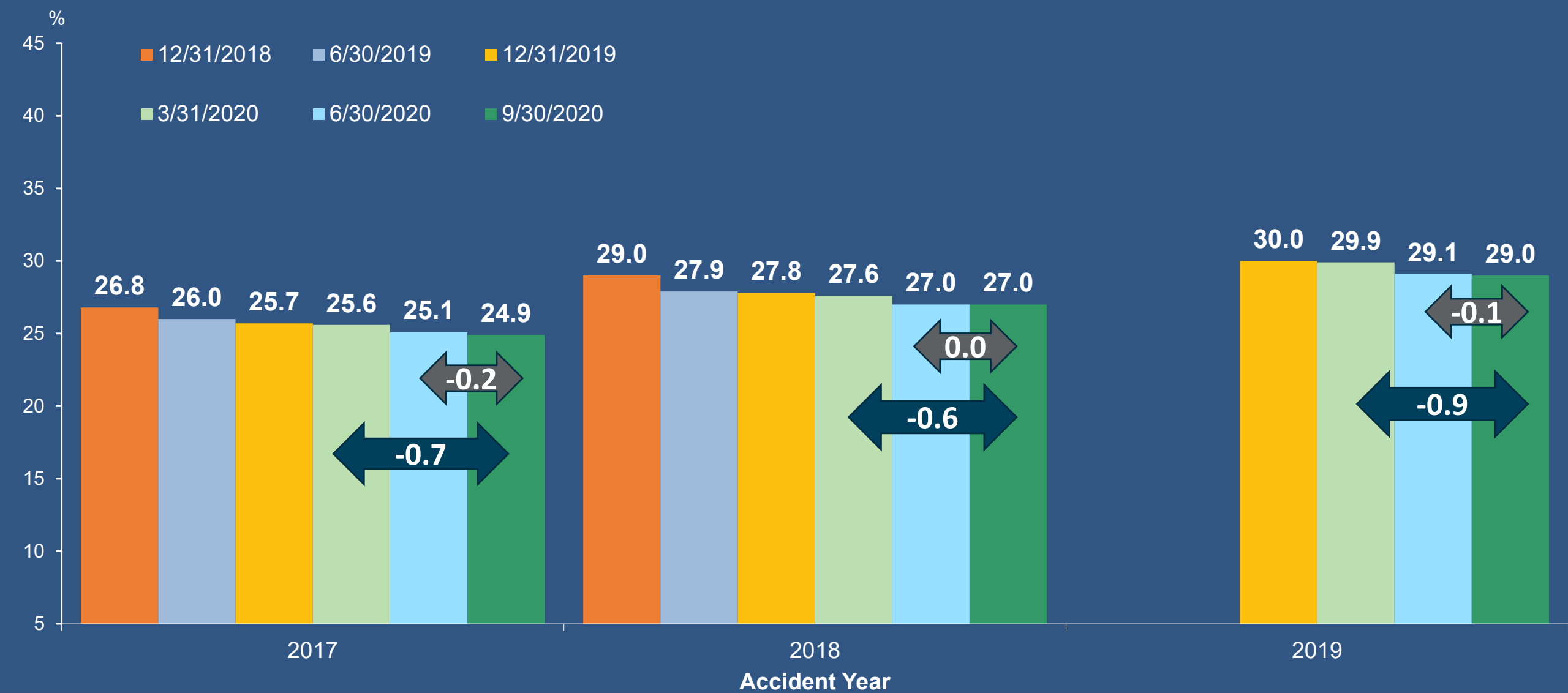
As of September 30, 2020





# Developed Medical Loss Ratios (Exhibit 3.2)

As of September 30, 2020



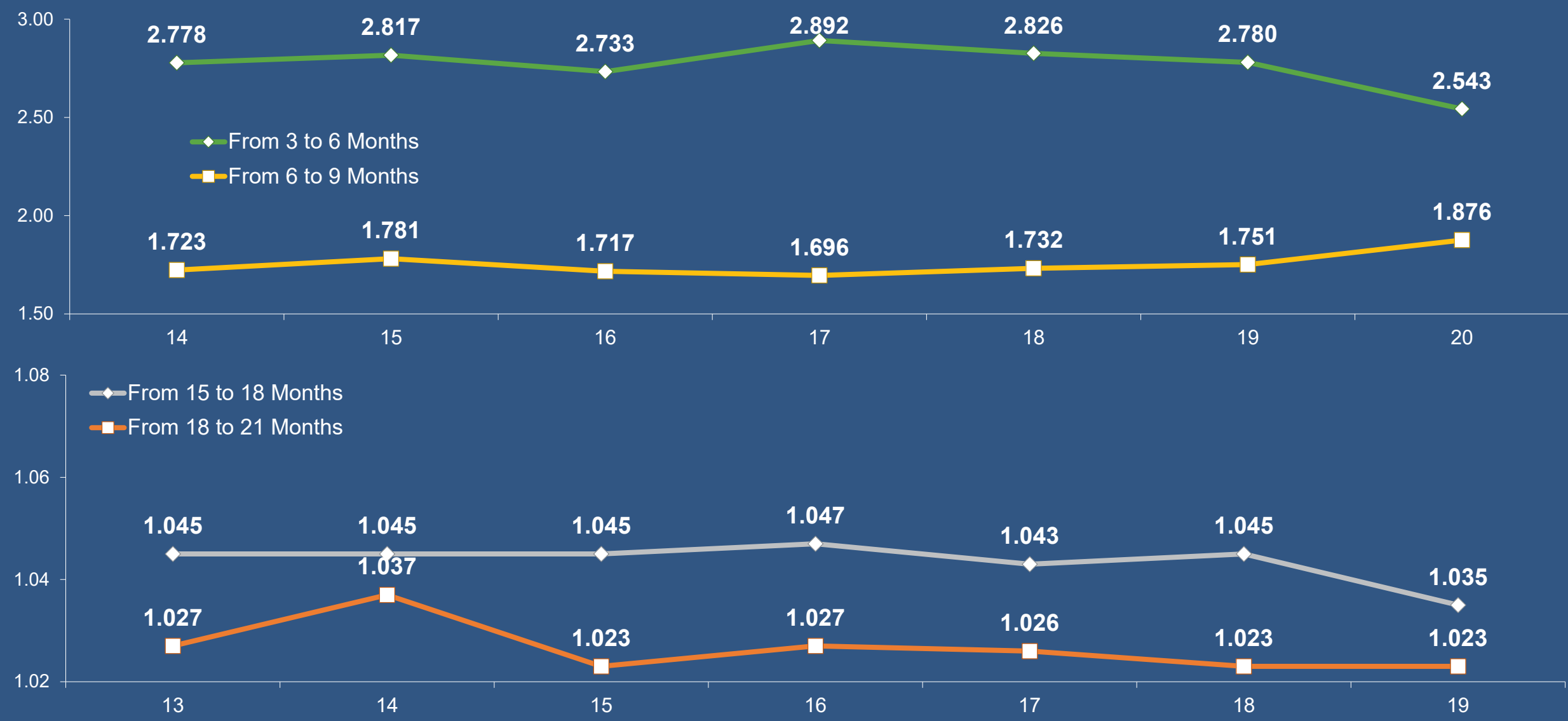
# Developed AY 2019 Medical Loss Ratios under Different Methods

As of September 30, 2020



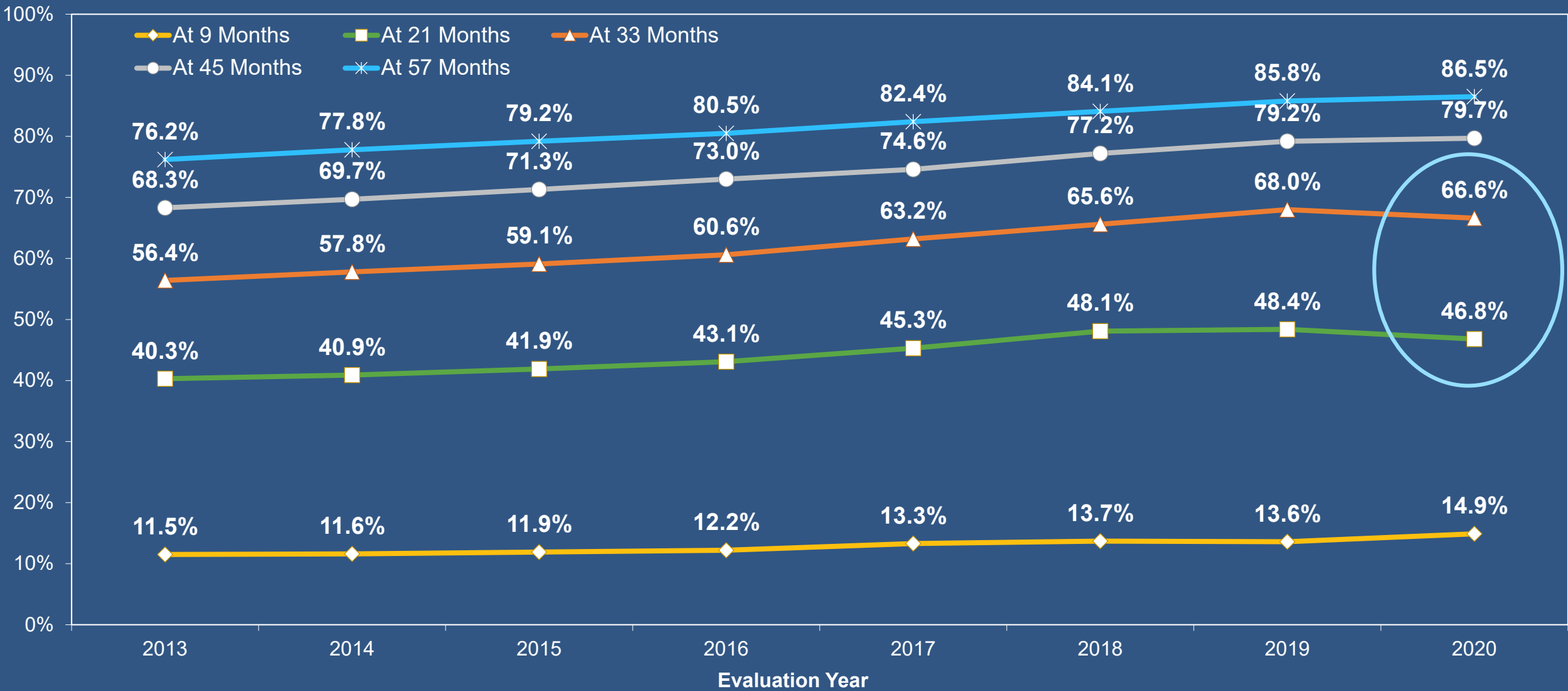
# Indemnity Claim Count Quarterly Development (Exhibit 10.2)

As of September 30, 2020



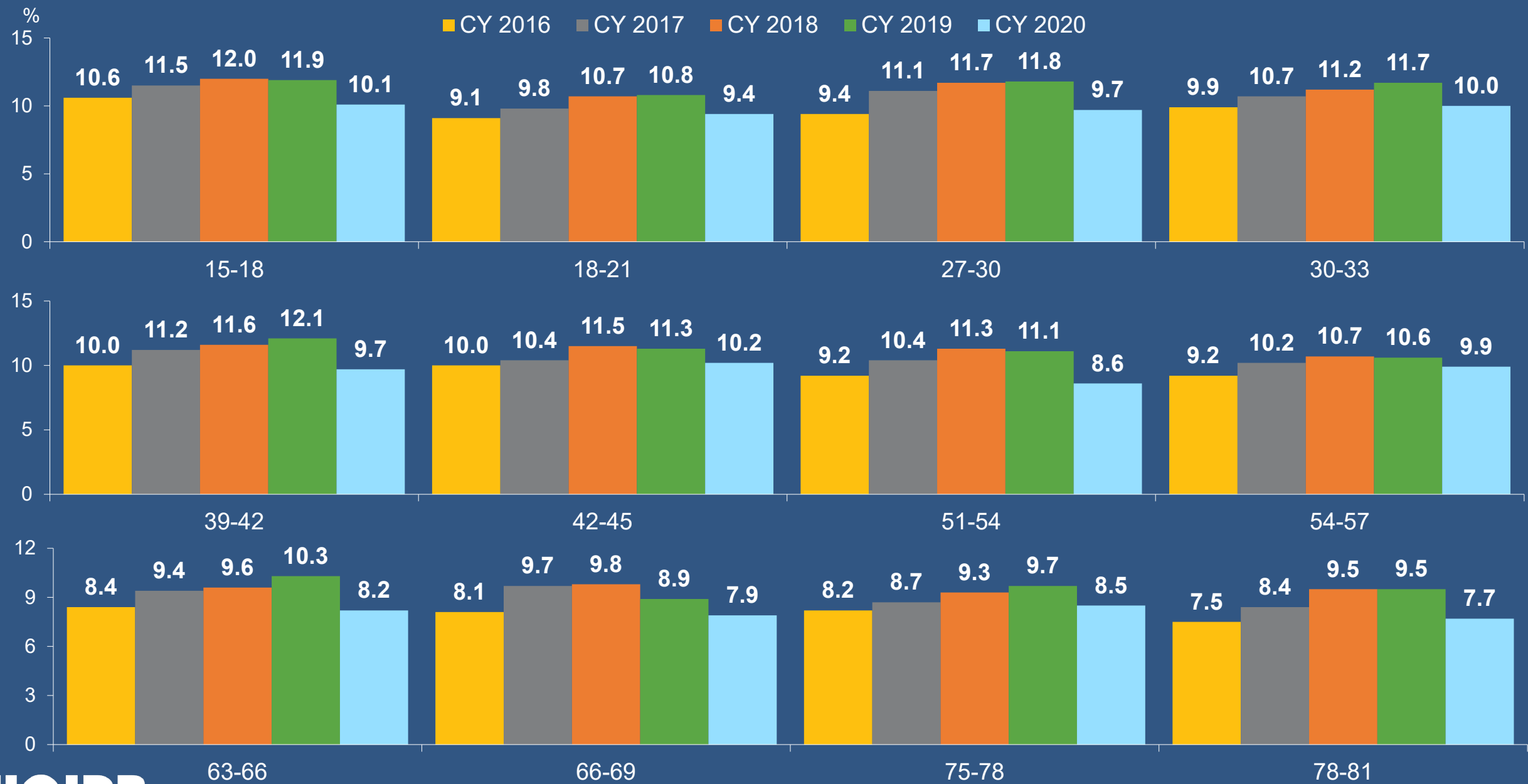
# Estimated Ultimate Indemnity Claim Settlement Ratios (Exhibit 11.2)

As of September 30, 2020



# Incremental Closed Indemnity Claims Compared to Estimated Prior Open Claims

As of September 30, 2020



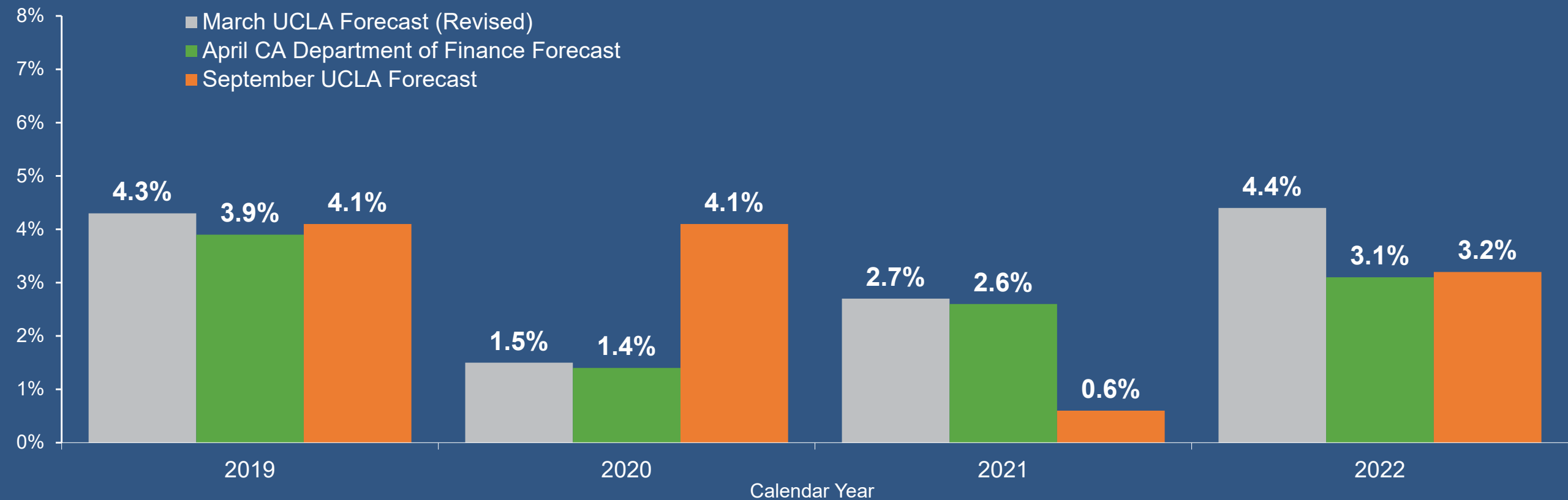
# 2020 Loss Development Challenges

- Loss development through 1Q 2020 appears unaffected by pandemic
- Loss development in 2Q 2020 shows some distortion
  - Slower claim count reporting
  - Decreases in payments, increases in case reserves
  - Decline in claim settlement rates
- Loss development in 3Q 2020 generally appears more typical with no significant sign of “rebound”
  - Claim settlement rates on AY 2018 and 2019 continuing to slow
- WCIRB study shows early delays in medical treatment correlated with higher costs later
  - Study focused on initial treatment, impact of delays in the middle of treatment unclear
- Staff reviewing potential impact of pandemic on development and if adjustment is appropriate
  - Compare anomalous 2Q with other quarters
  - Changes in treatment patterns
  - Impact of delays in medical treatment for more established claims
  - Sensitivity of claim settlement rate adjustments
  - Incurred vs. paid development



# Average Annual Wage Level Change Forecast (Exhibit 5.1)

As of April/September 2020



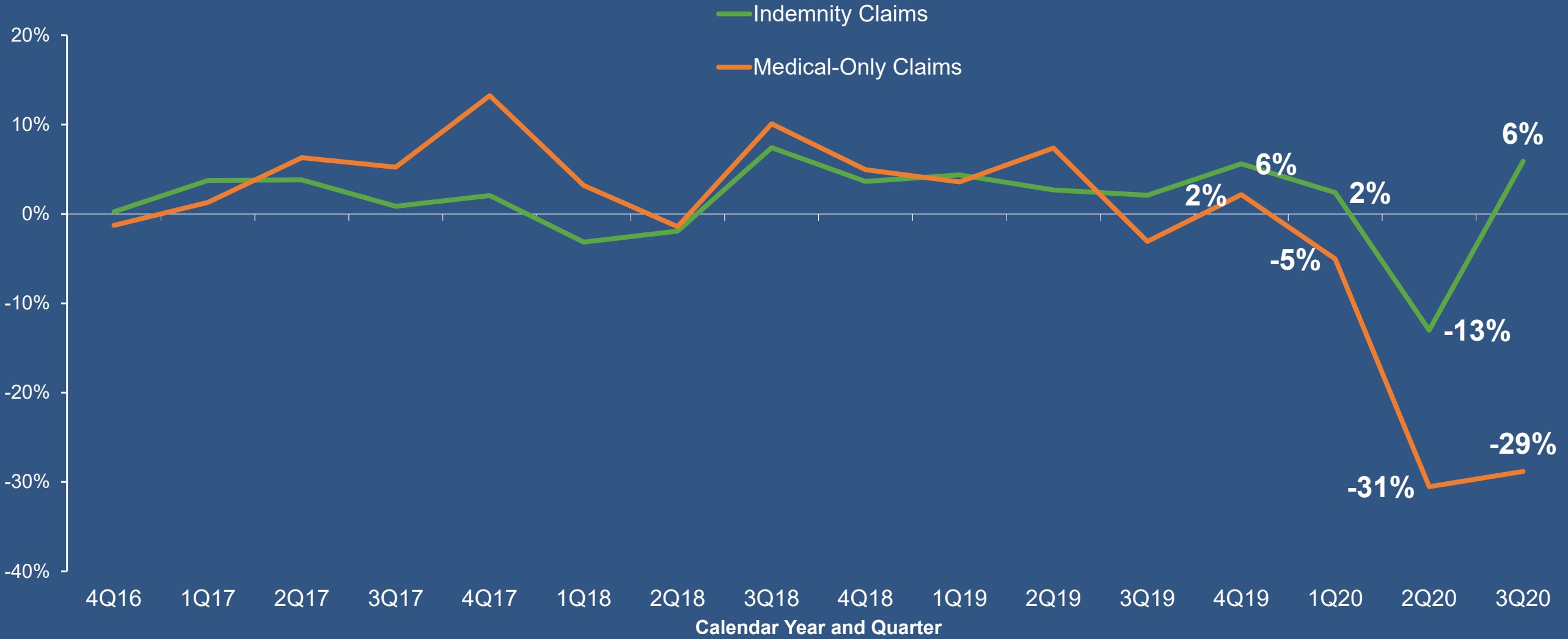
Average Annual Change (includes -0.8% adjustment to 2020):

1/1/2021 Filing: 2.3%

12/8/2020 Agenda: 2.3%

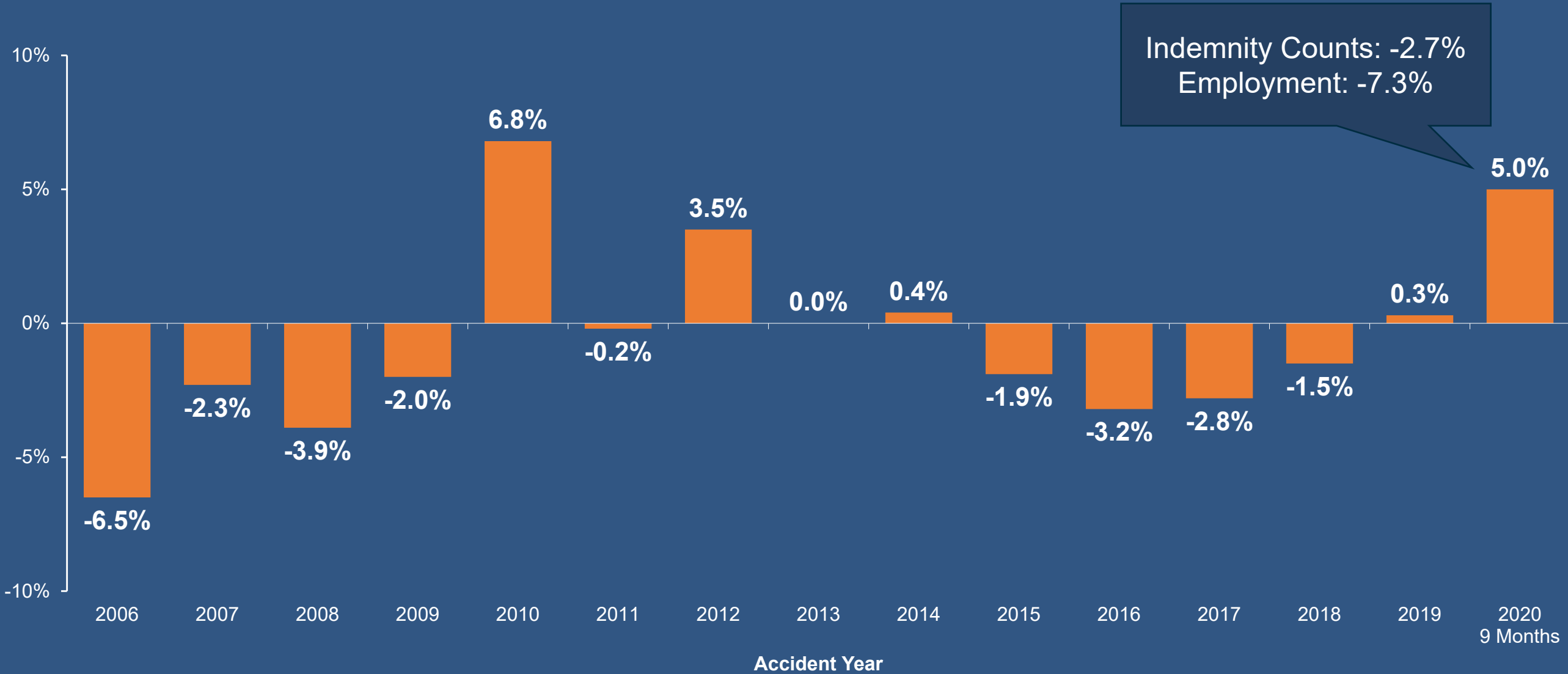
# Change in Incremental Reported Claims from Same Quarter in Prior Year

As of September 30, 2020



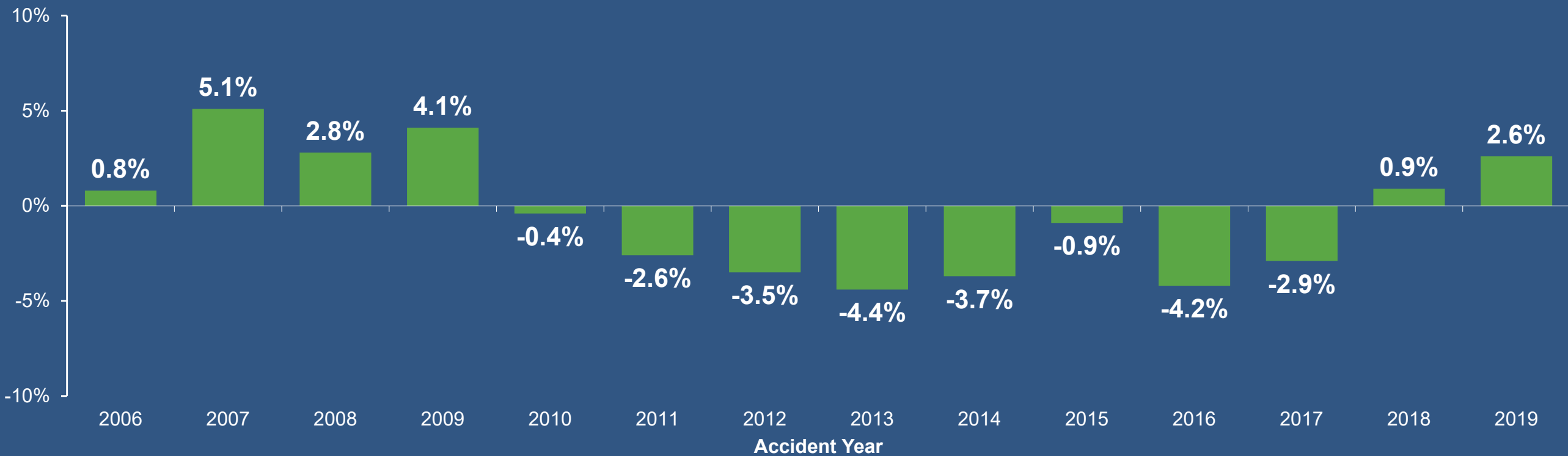
# Historical Changes in Indemnity Claim Frequency (Exhibit 12)

As of September 30, 2020



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

As of September 30, 2020



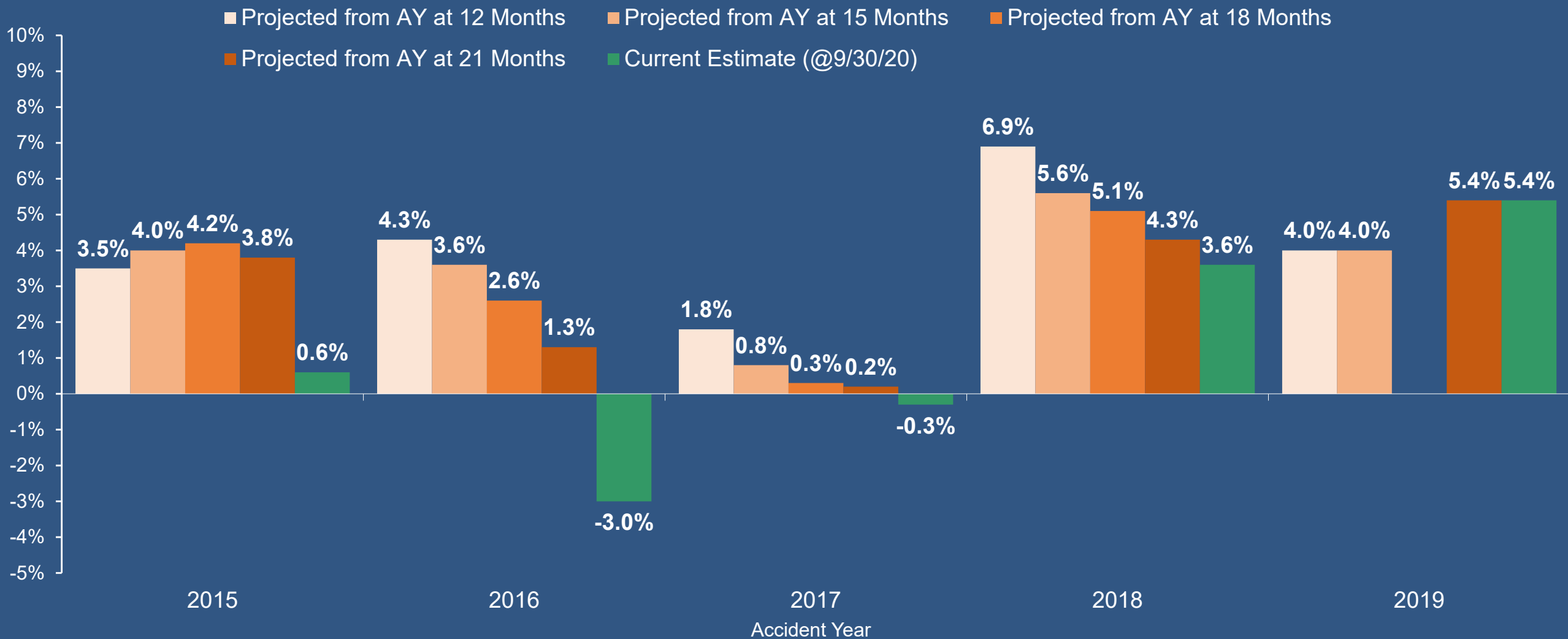
## Annual Exponential Trend Based on:

- 1990 to 2019: 1.1%
- 2005 to 2019: -1.5%
- 2015 to 2019: -0.9%

1/1/2021 Filing Selected: 1.0%

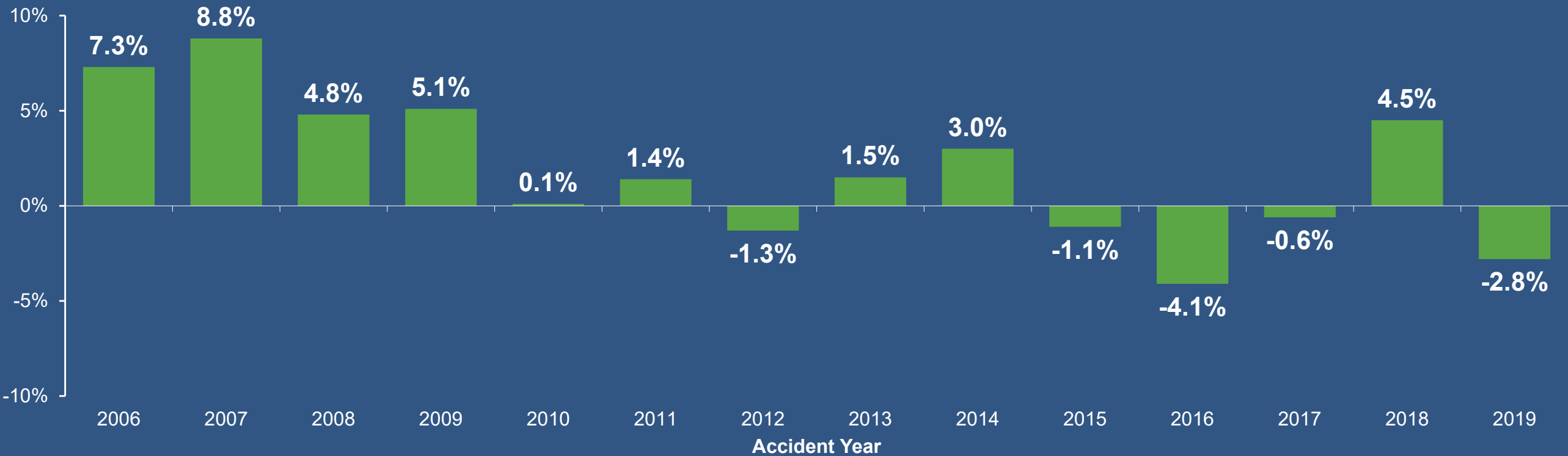
# Indemnity Severity Changes Projected from Early Evaluations Compared to Current

As of September 30, 2020



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

As of September 30, 2020



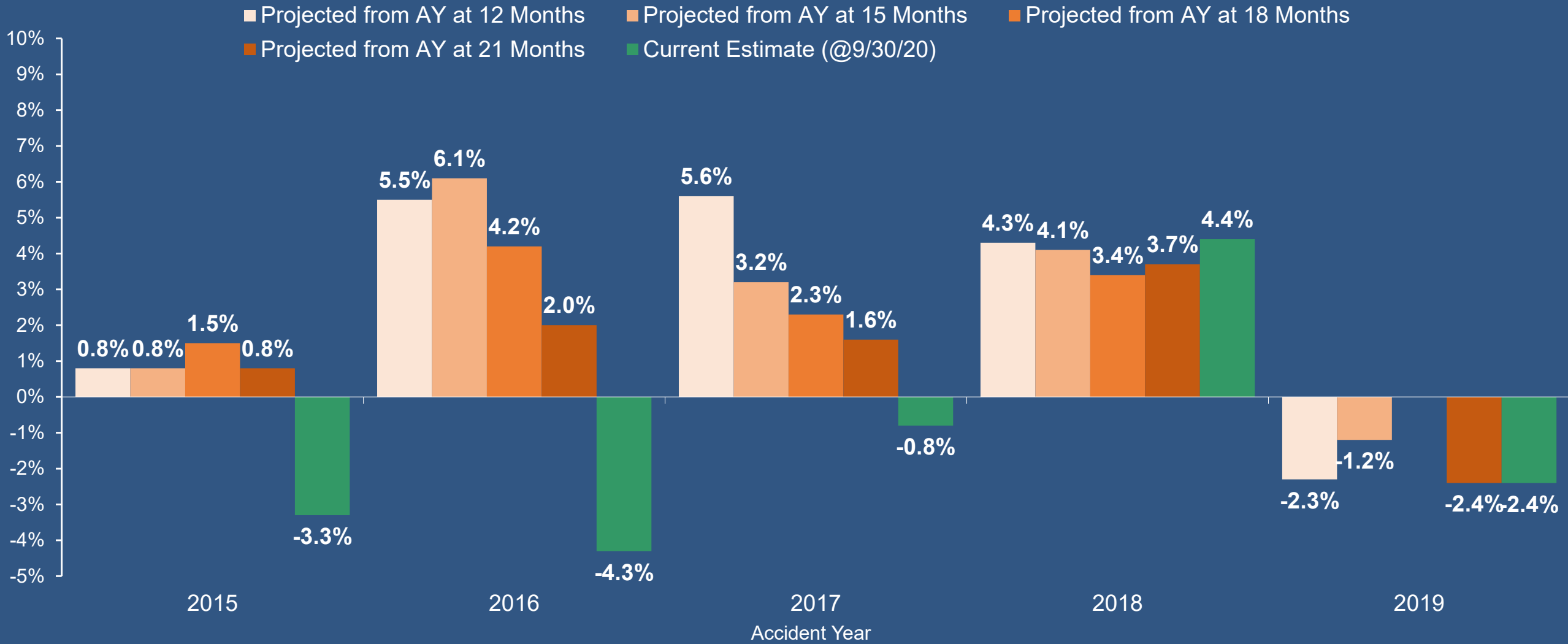
## Annual Exponential Trend Based on:

- 1990 to 2019 (Incl. MCCP): 5.3%
- 2005 to 2019: 1.4%
- 2015 to 2019: -0.3%

1/1/2021 Filing Selected: 2.5%

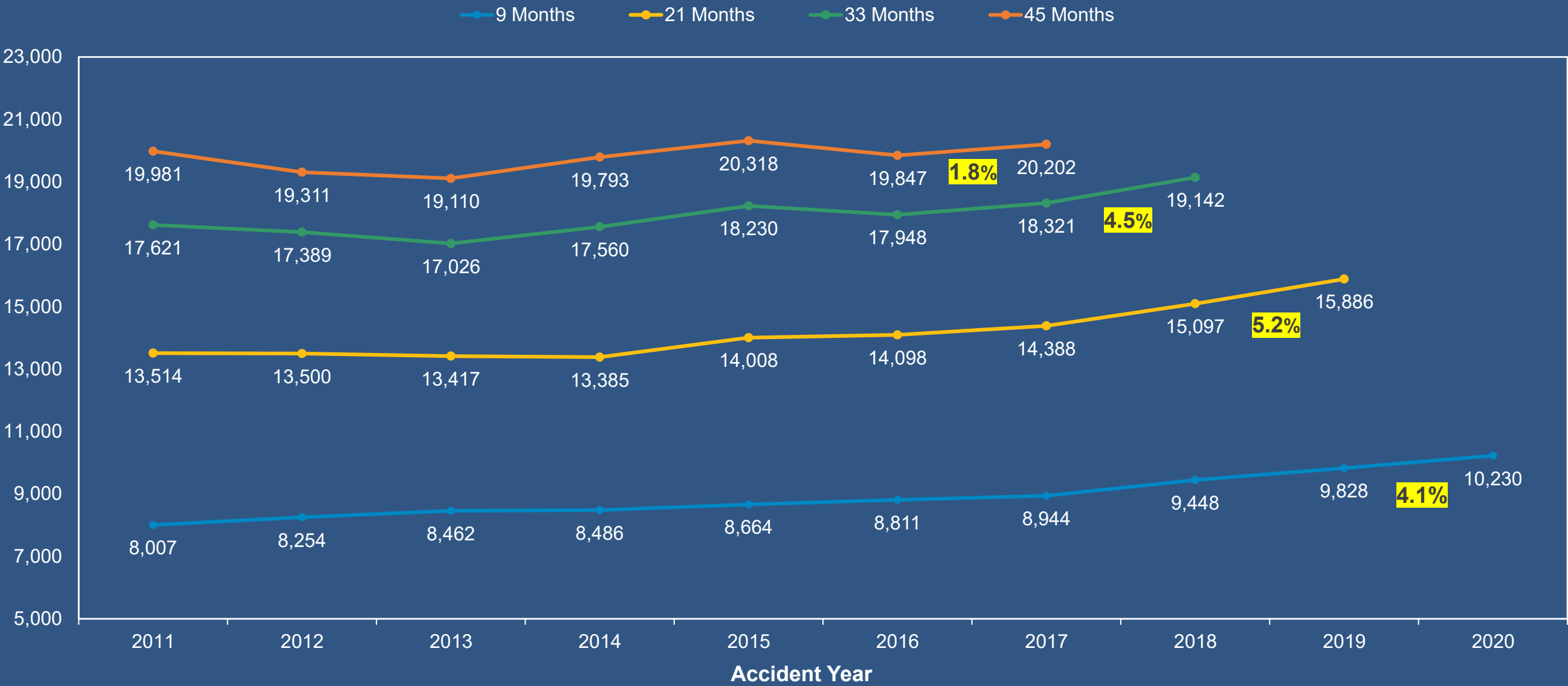
# Medical Severity Changes Projected from Early Evaluations Compared to Current

As of September 30, 2020

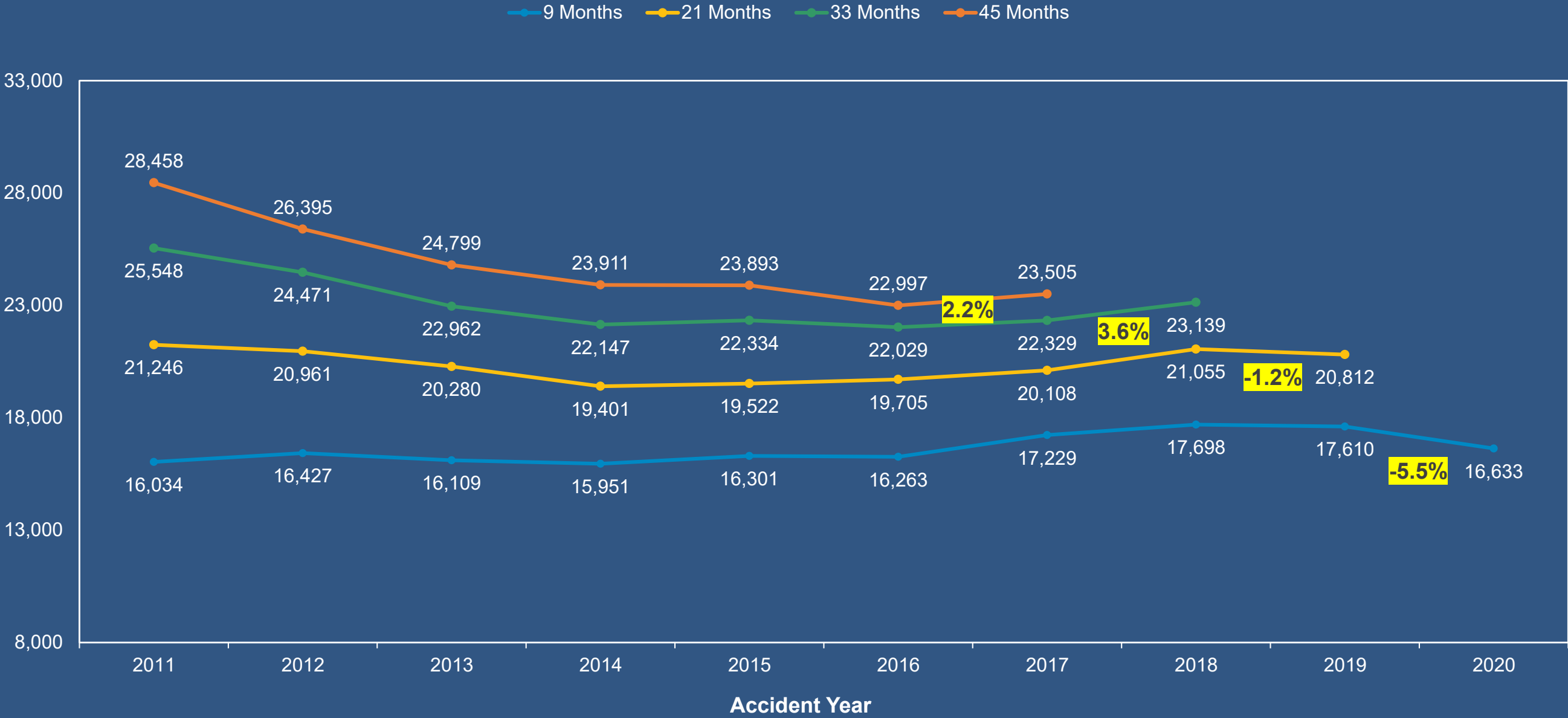




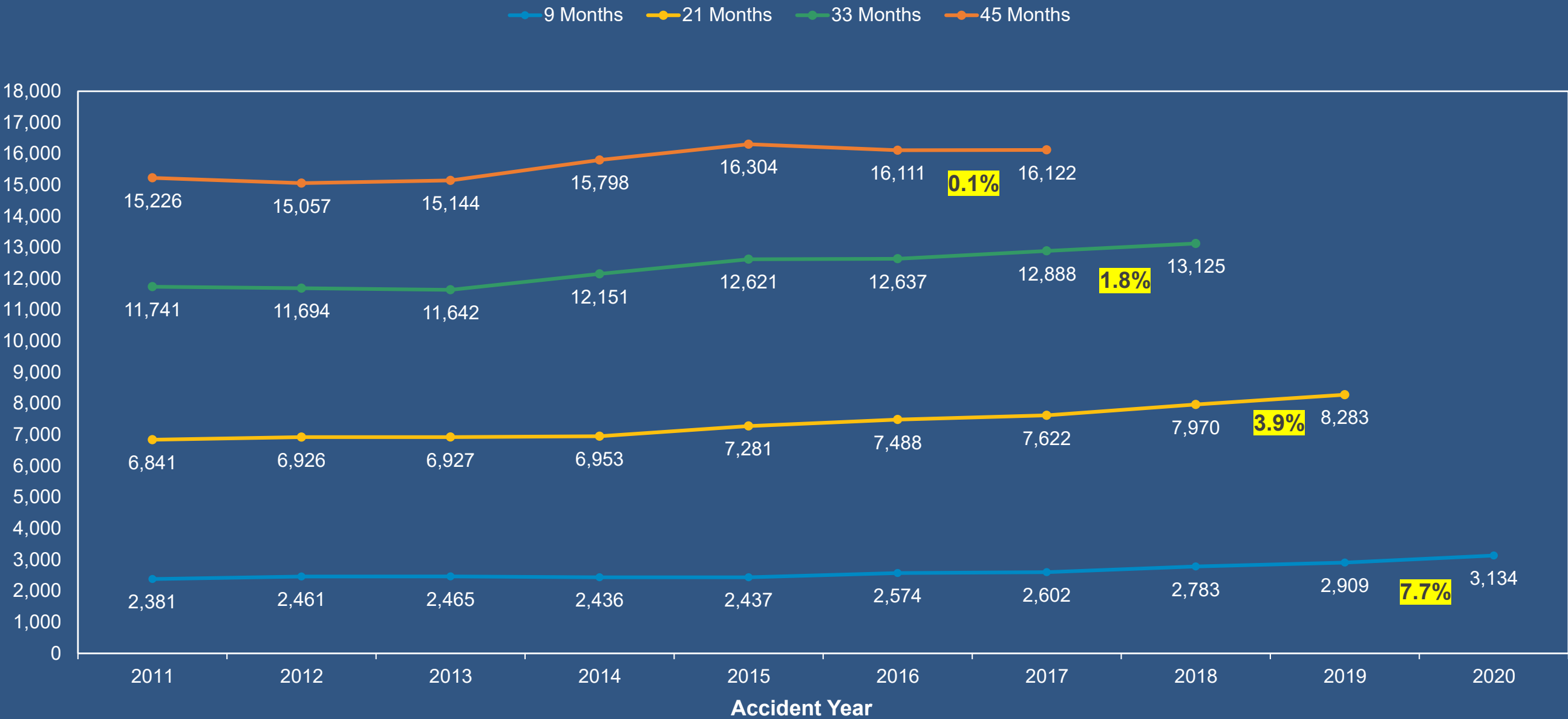
# Incurred Indemnity per Indemnity Claim



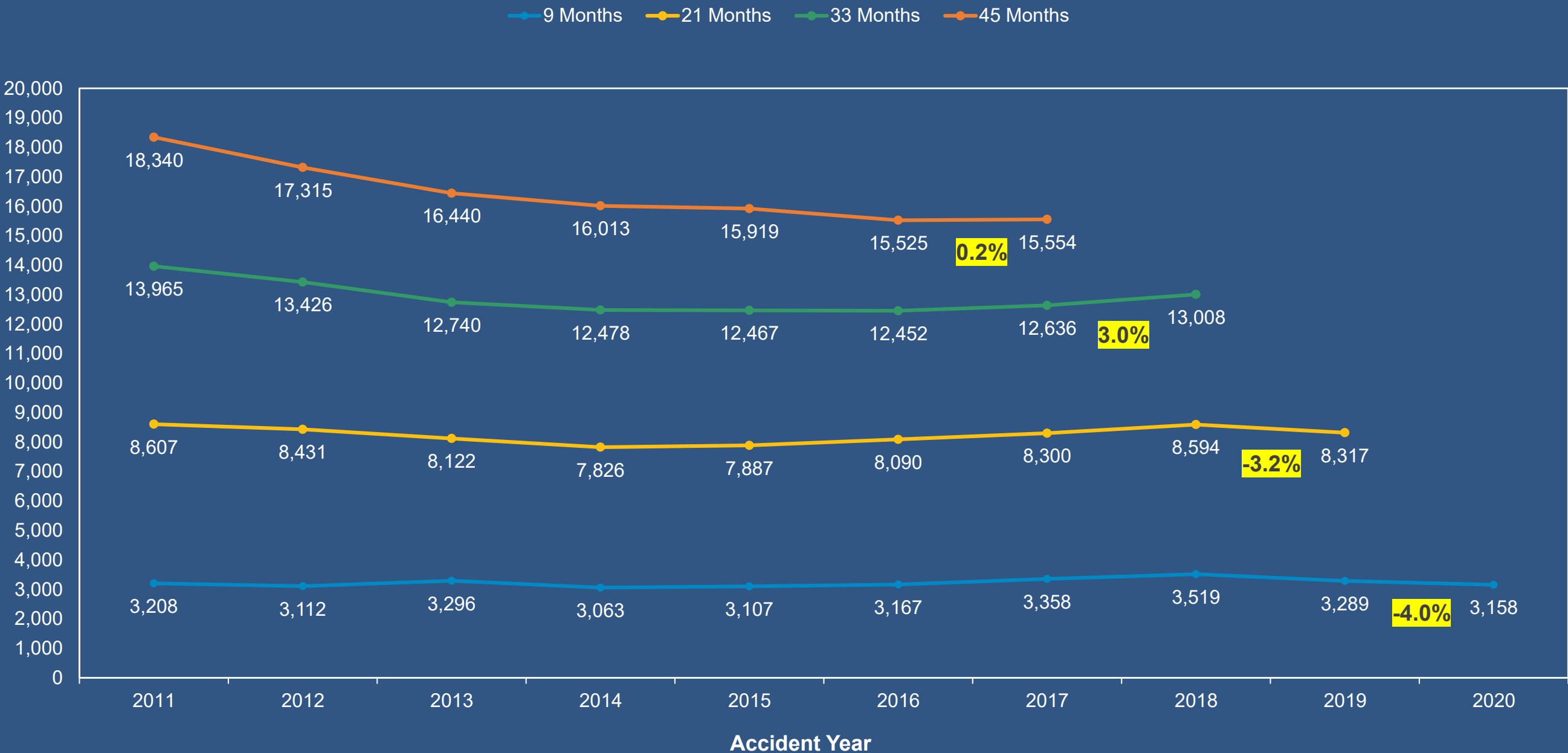
# Incurred Medical per Indemnity Claim



# Paid Indemnity per Indemnity Claim

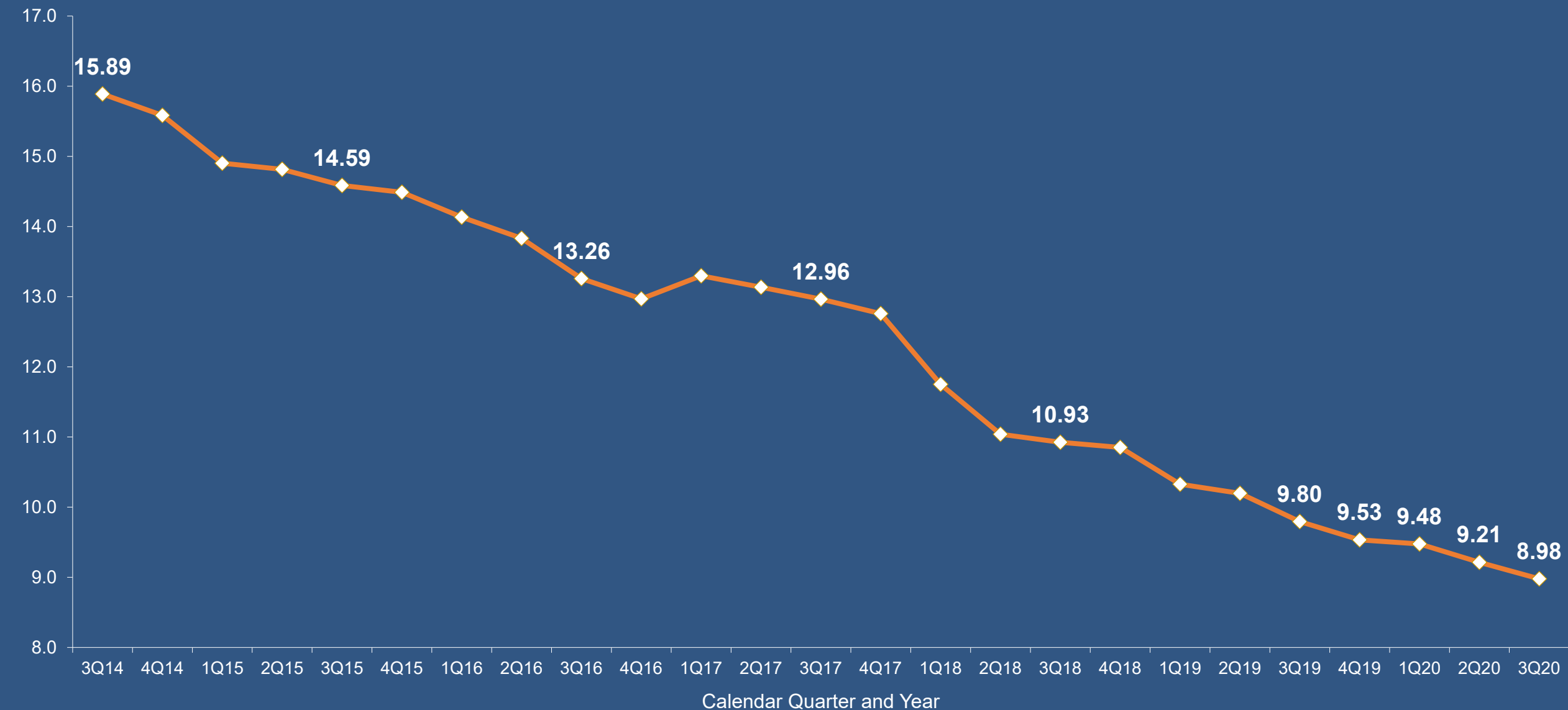


# Paid Medical per Indemnity Claim

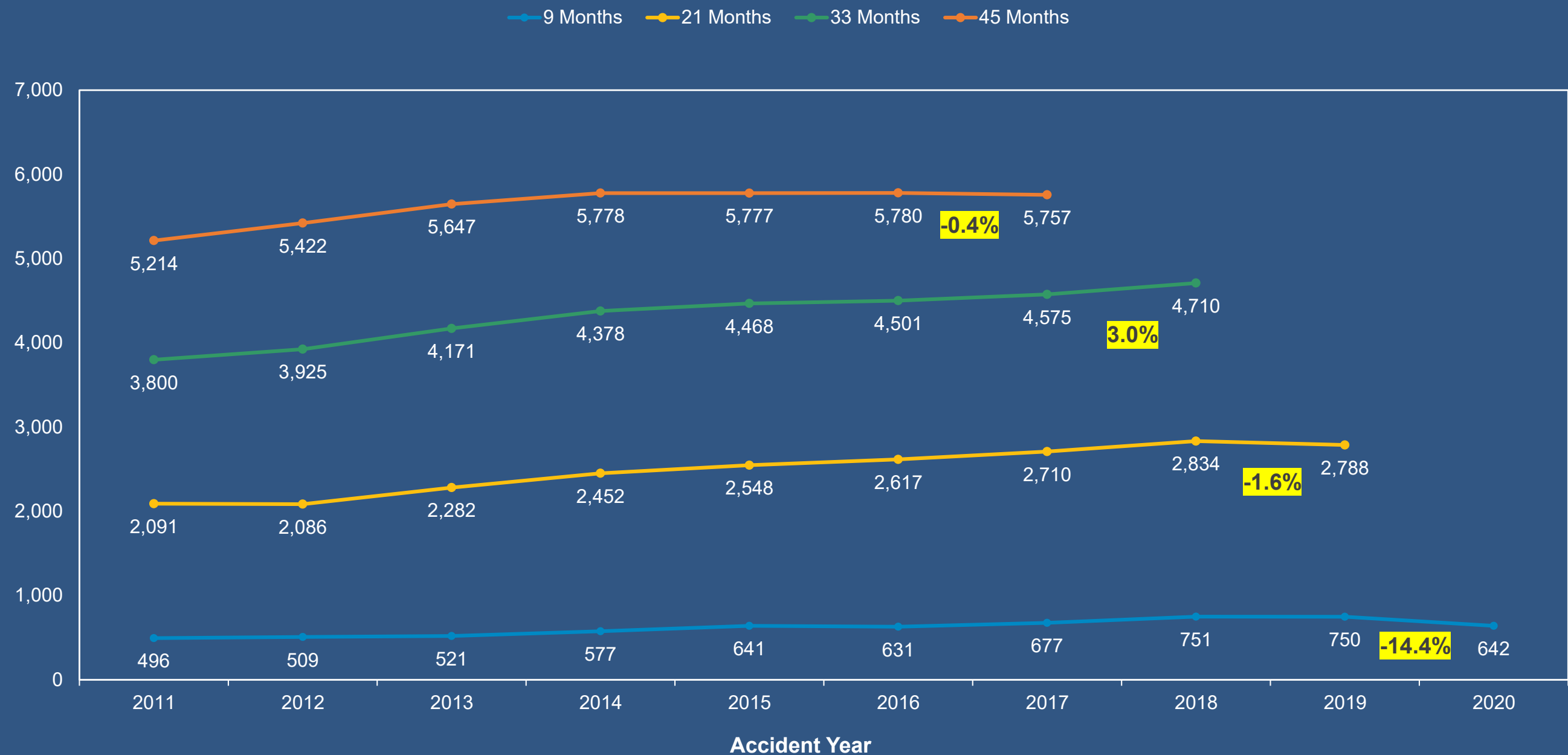


# Cumulative Paid ALAE Development from 12 to 90 Months

As of September 30, 2020



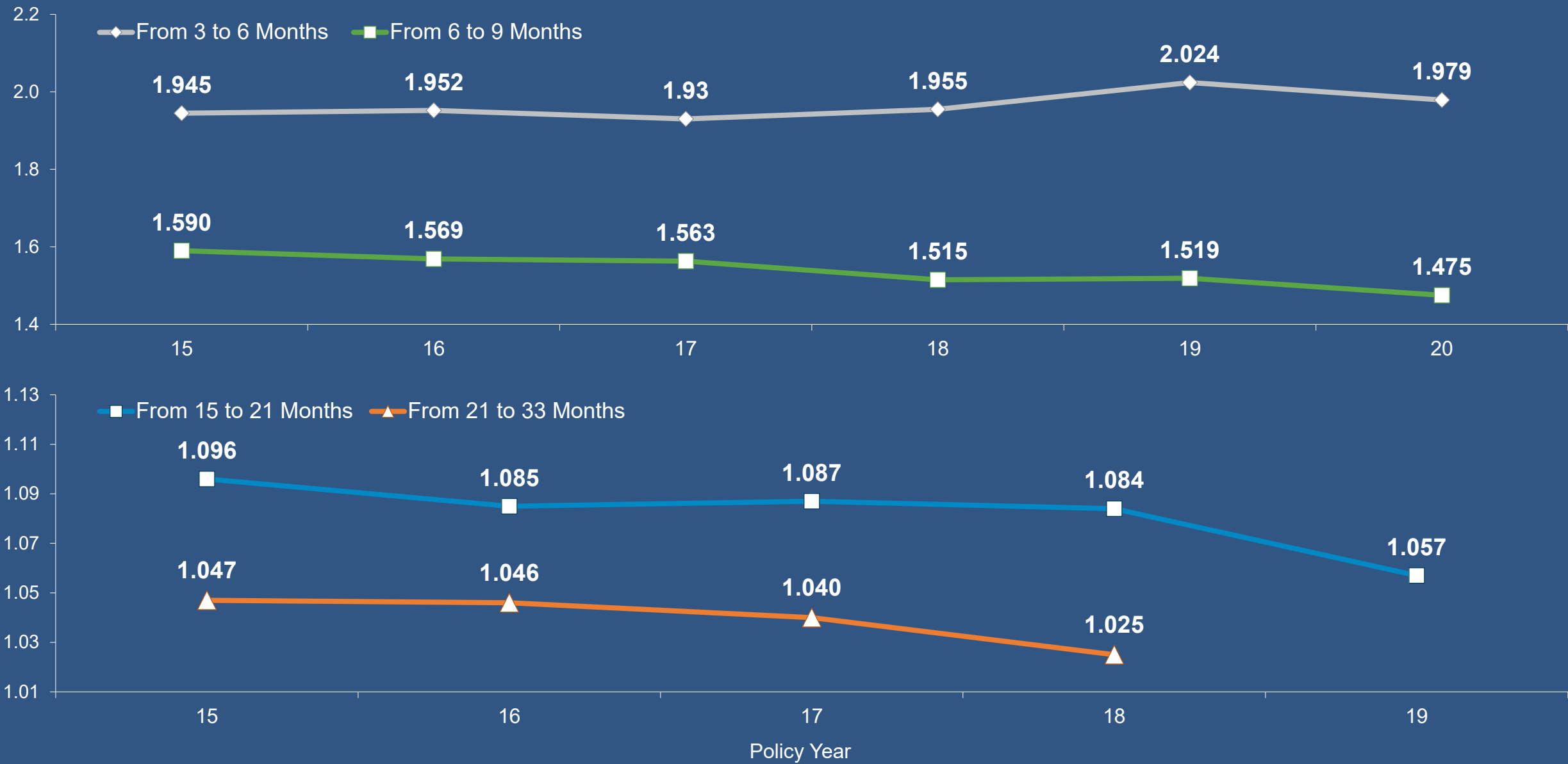
# Paid ALAE per Indemnity Claim – Private Insurers (Exhibit 13)





# Written Premium Development

As of September 30, 2020



# 06

## Review of Projections based on 9 Months



# Background

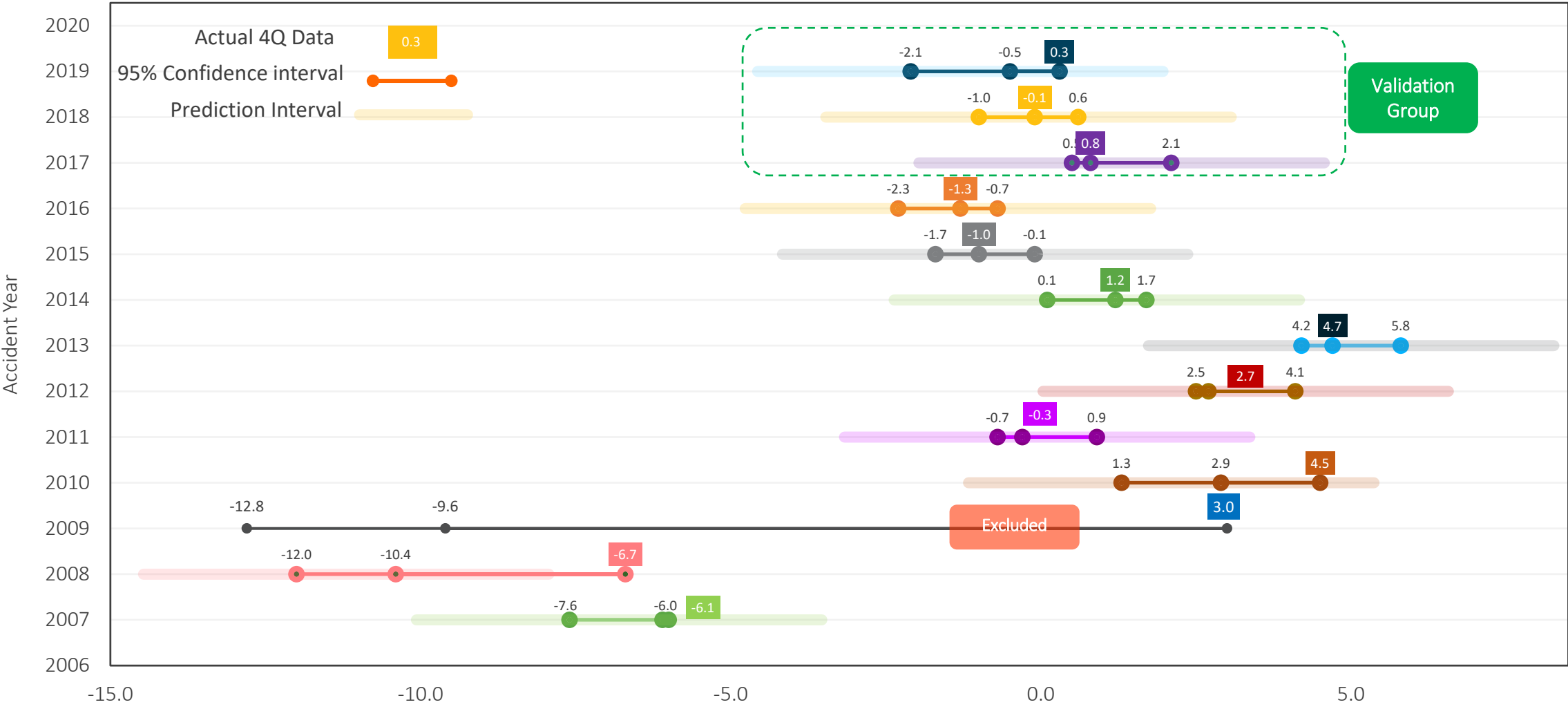
- WCIRB will submit 9/1/2021 annual filling in April 2021
- 9/1/2021 filling will be based on 12/31/2020 experience
- At 2019 December meeting, Committee recommended review of preliminary year end projections based on 9 months data
- Staff reviewed 9/30 and 12/31 data from 2005 to 2019
- Modeled reliability of 9/30 experience as predictor of 12/31 experience

# Modeling Summary

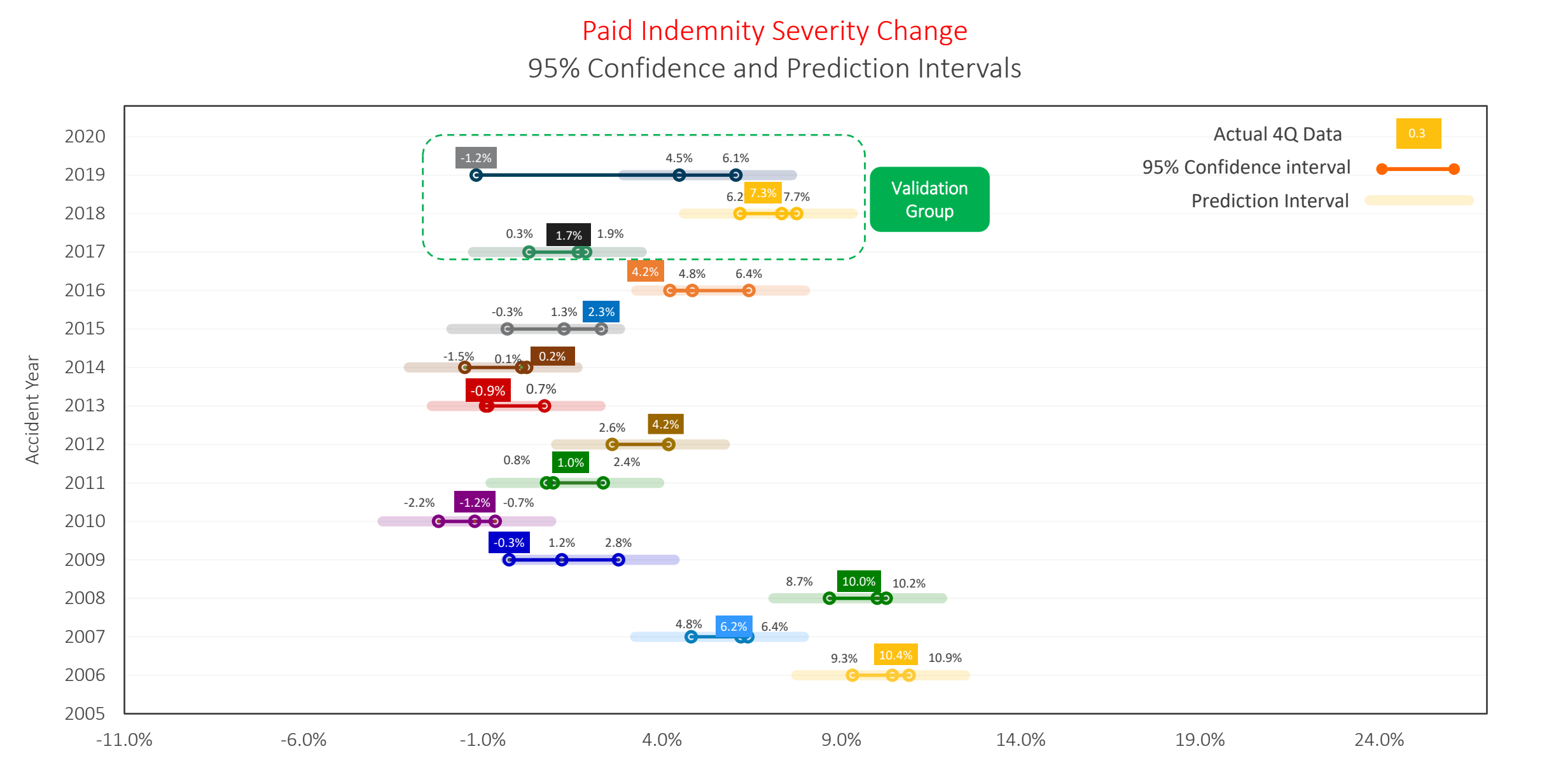
- Staff split historical data into training group (2005-2016) and validation group (2017-2019) for modeling
- Staff excluded outlier data from model training for frequency
- Student's t-distribution was selected due to small sample size (<30)
- 95% confidence interval was calculated by 3Q data +/- the margin of error from Student's t-distribution
- Prediction interval was calculated by 3Q data +/- 2\*Sample Standard Deviation
- Model run for a number of measures (e.g., frequency, severity changes)

# Review of Projections Based on 9 Months

Indemnity Frequency Changes  
95% Confidence and Prediction Intervals

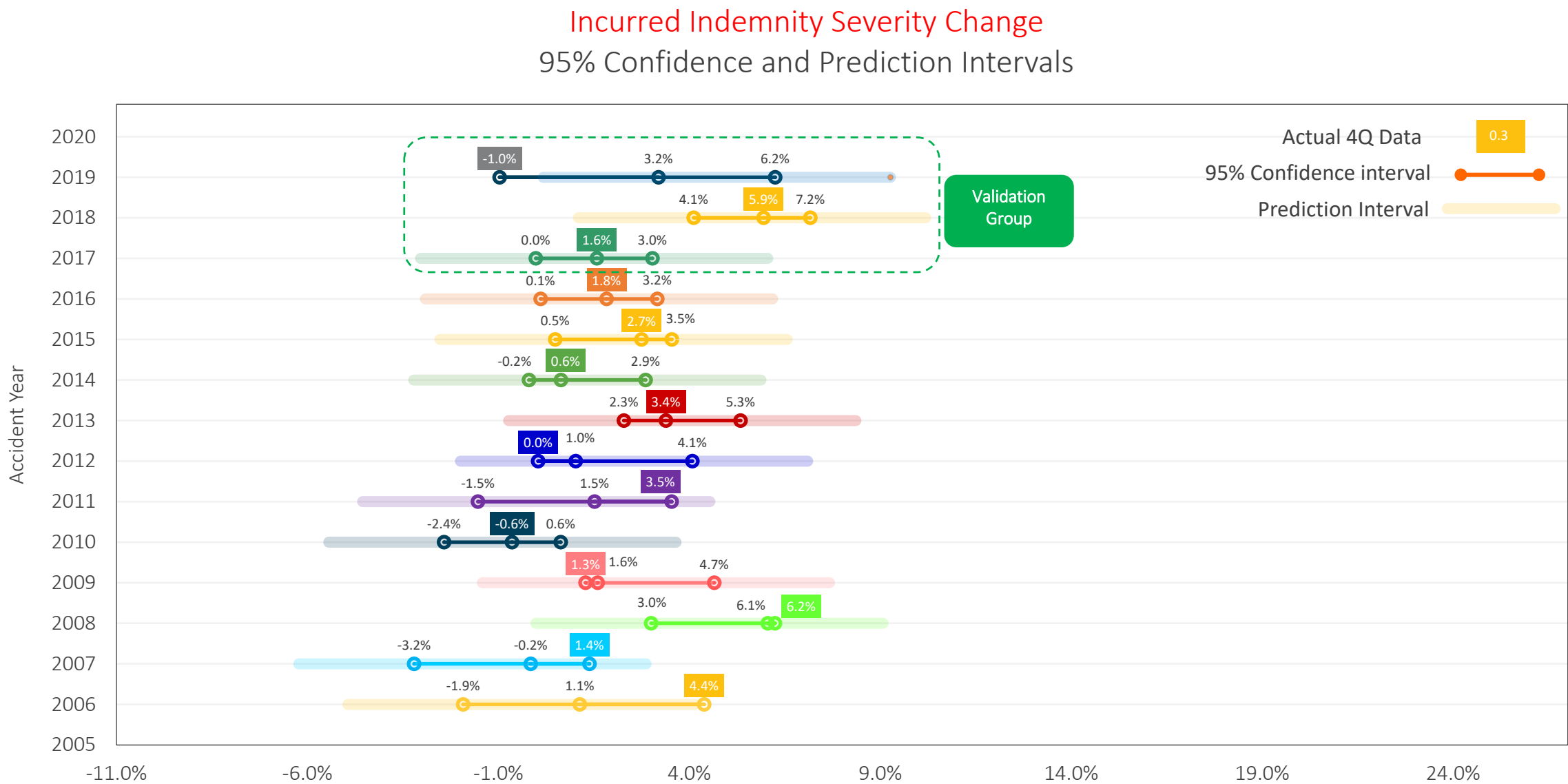


# Review of Projections Based on 9 Months



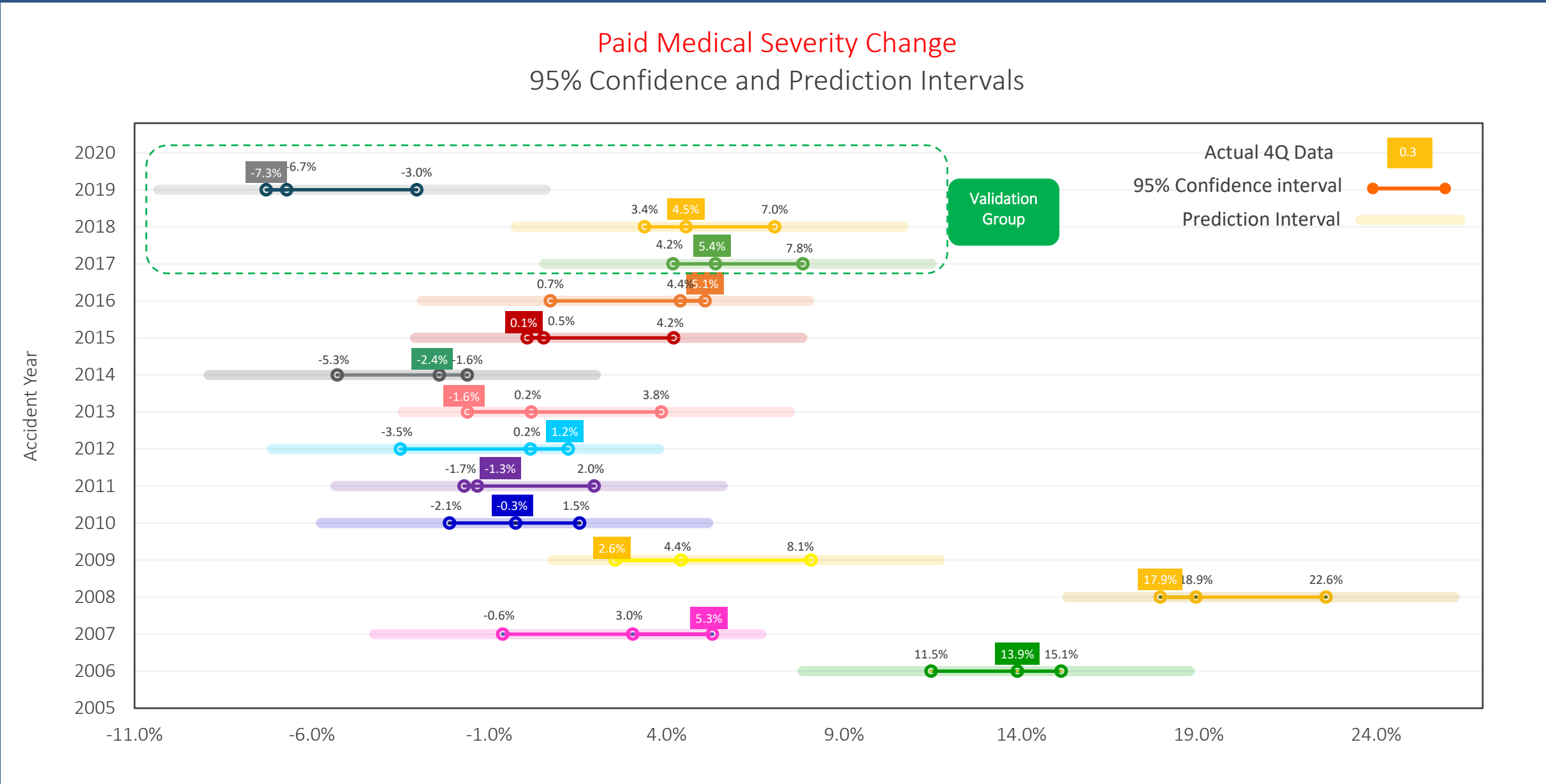


# Review of Projections Based on 9 Months

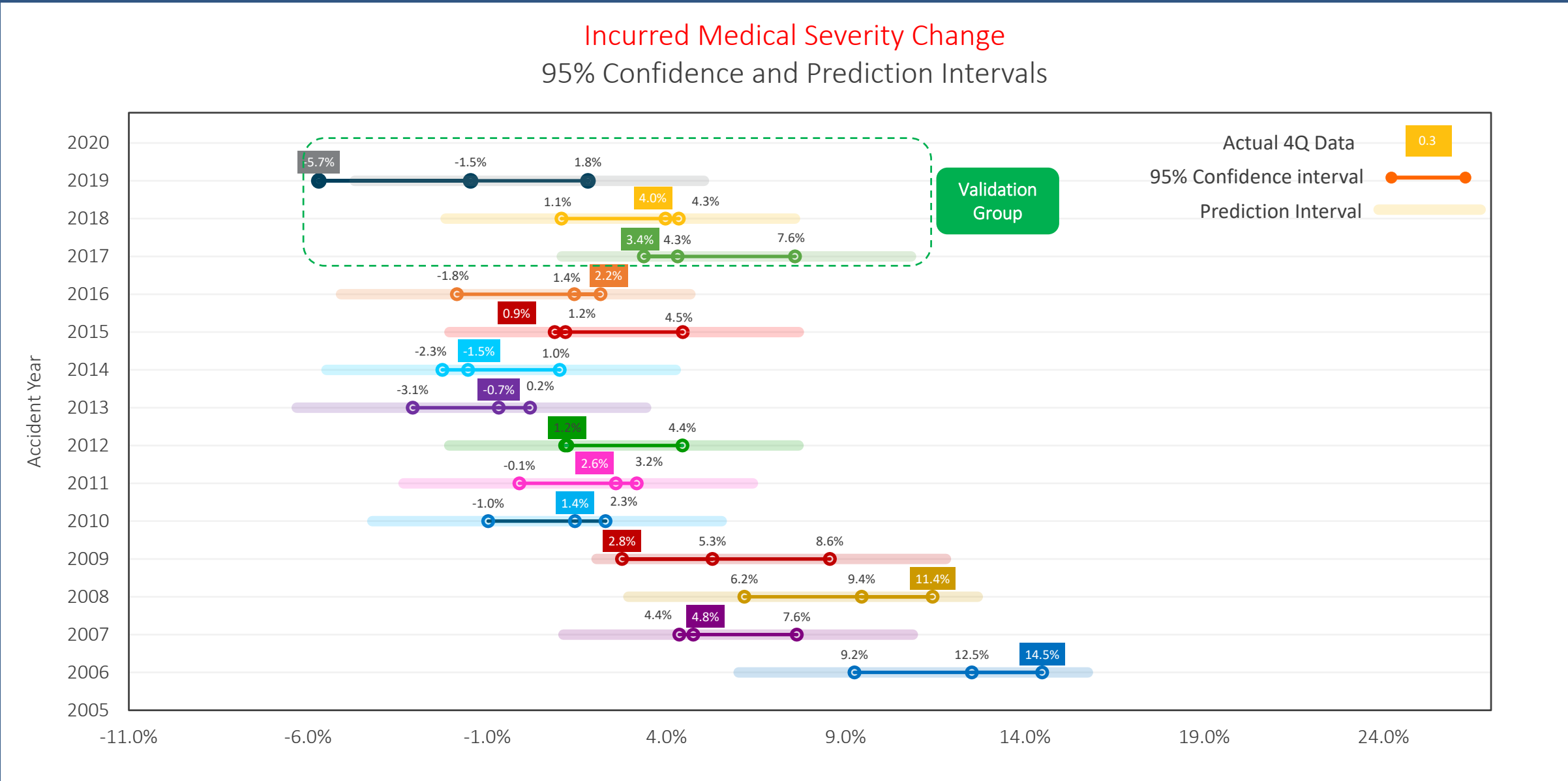




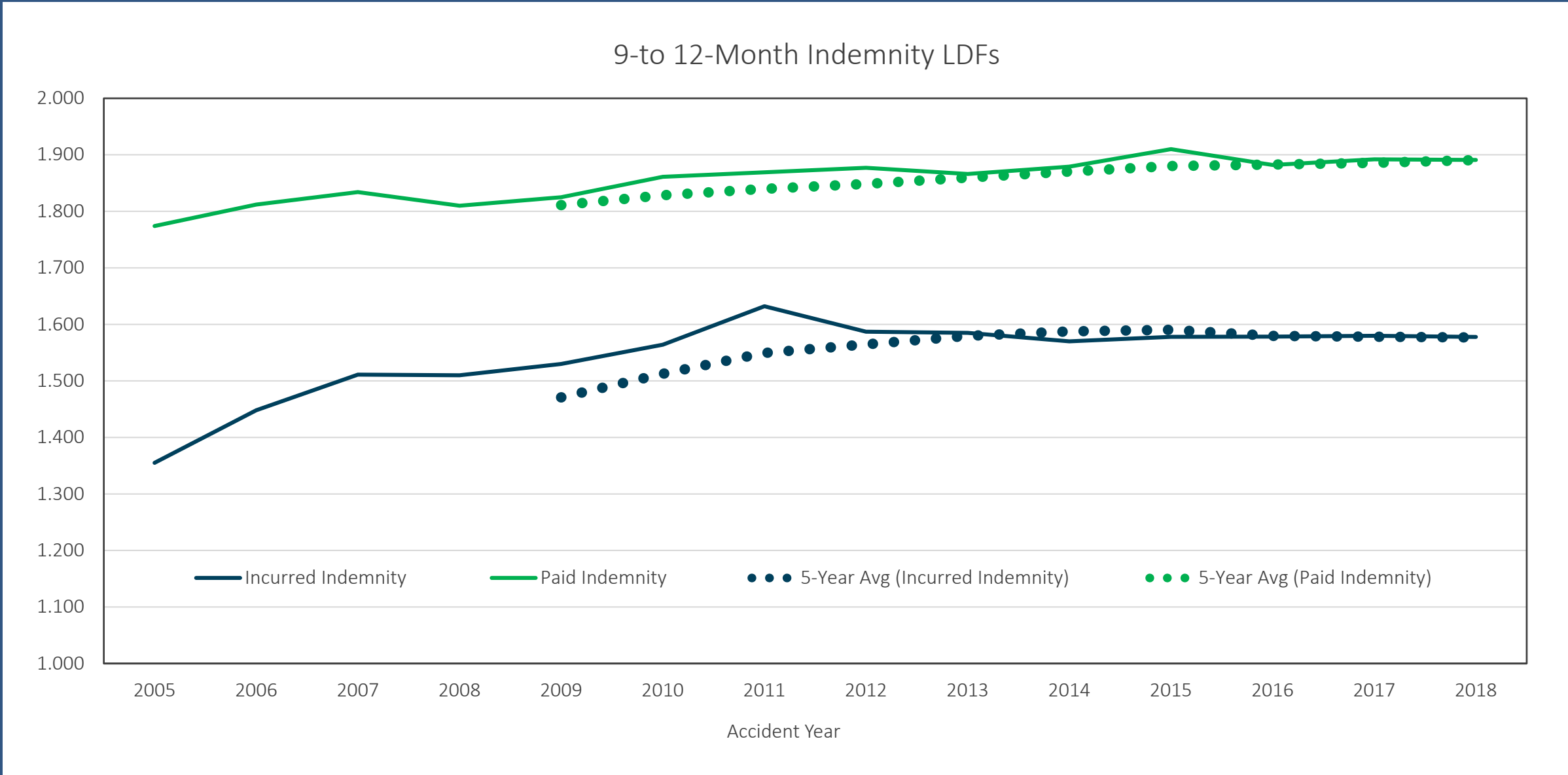
# Review of Projections Based on 9 Months



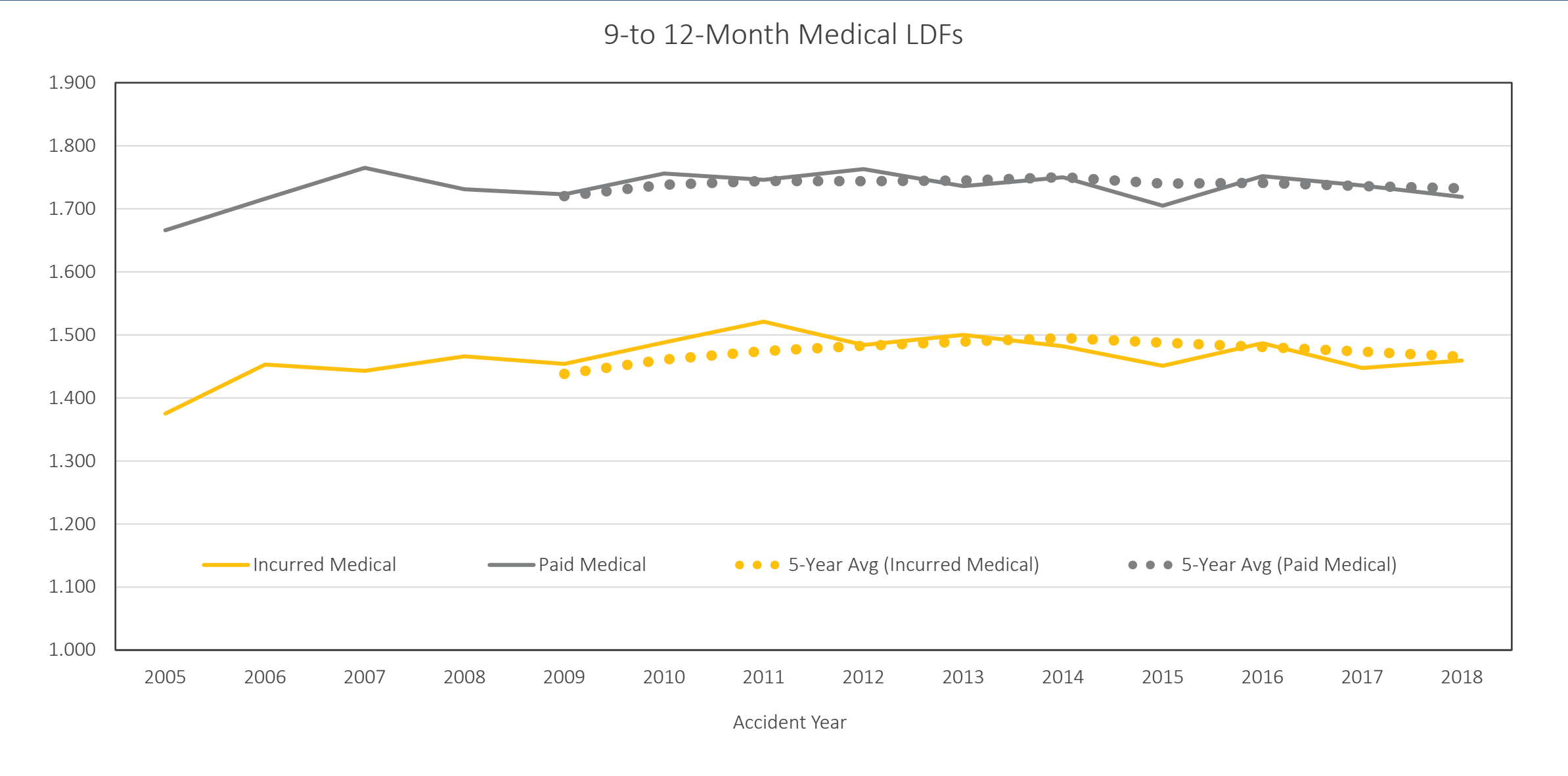
# Review of Projections Based on 9 Months



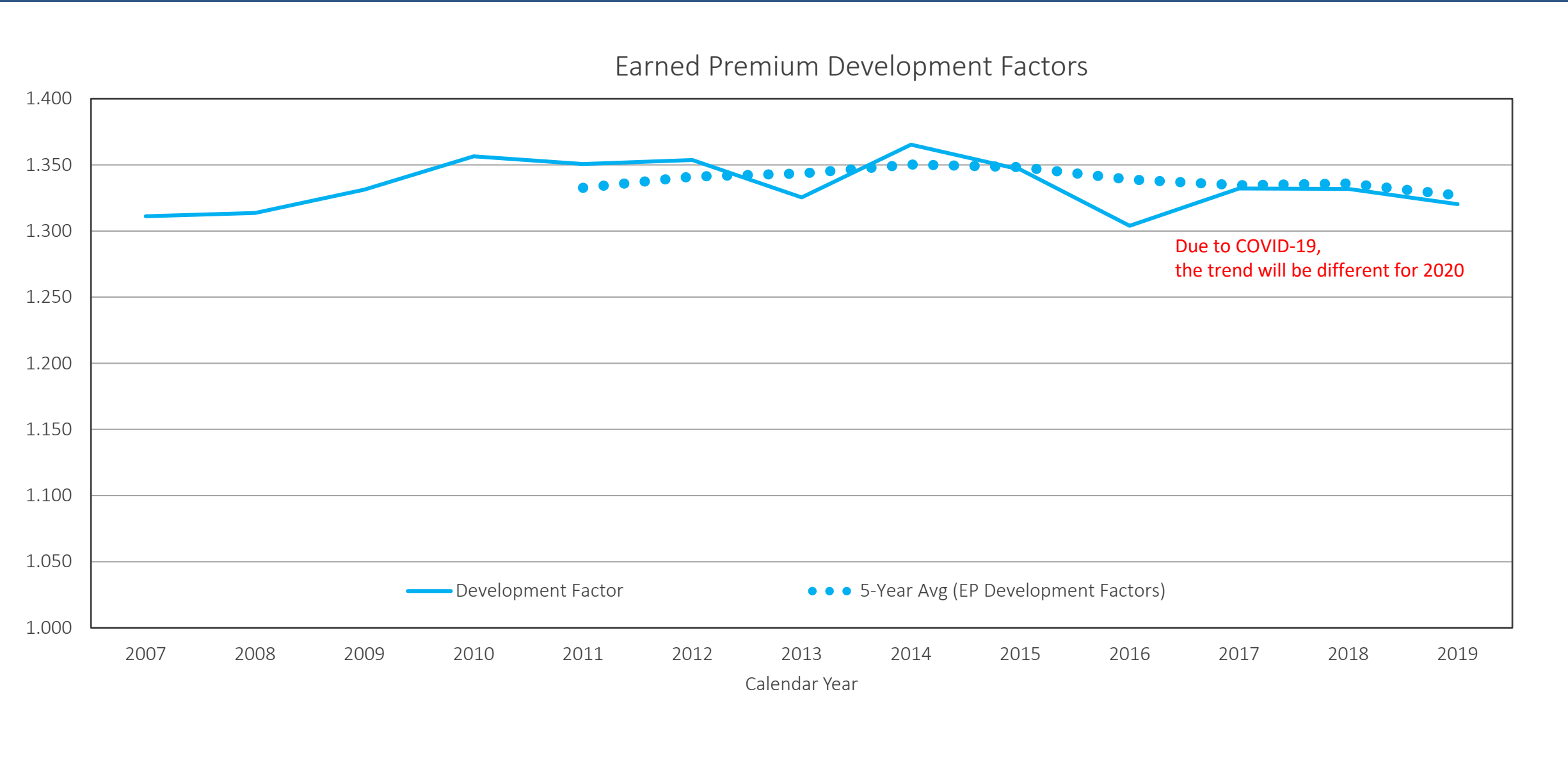
# Review of Projections Based on 9 Months



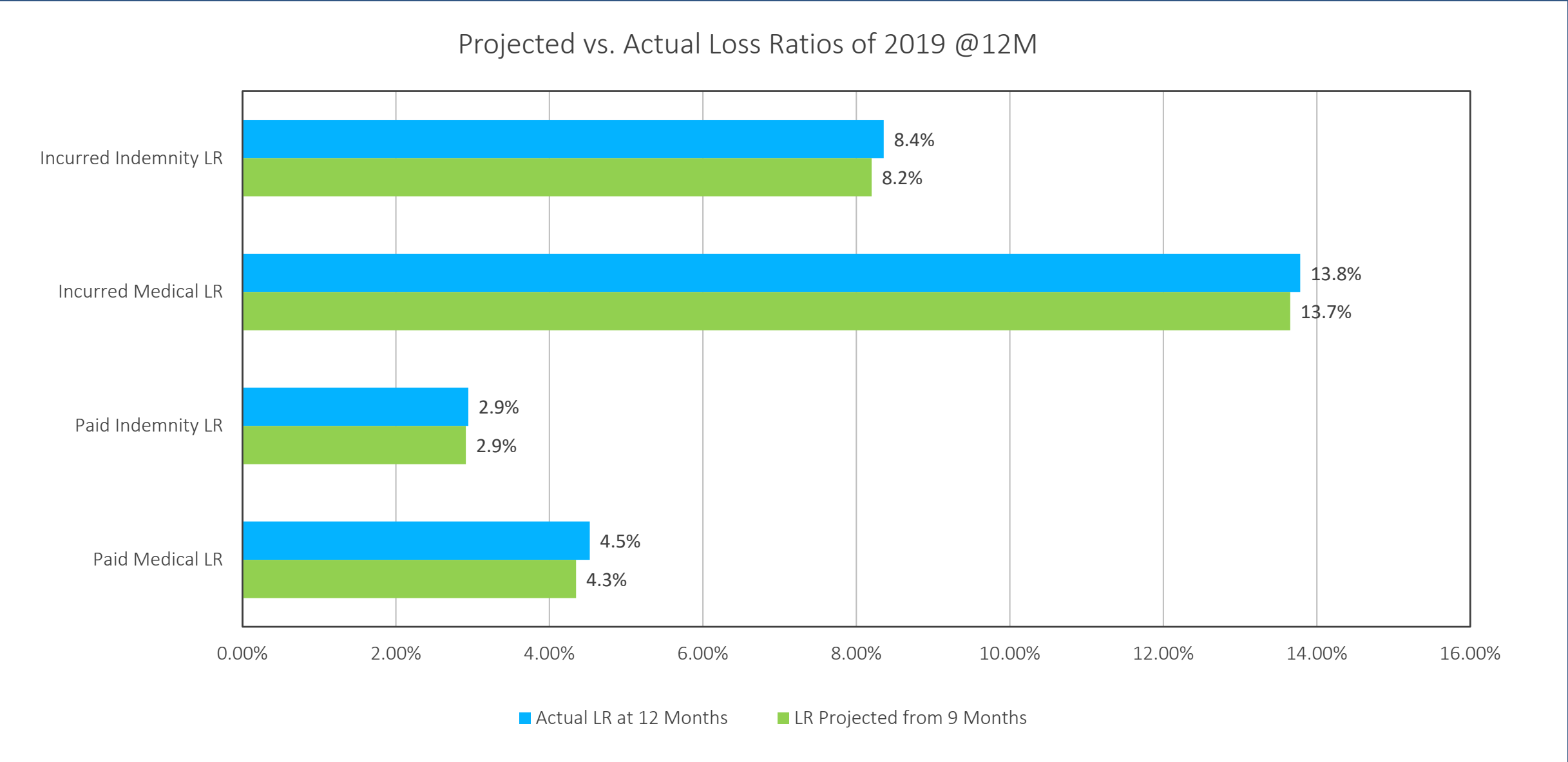
# Review of Projections Based on 9 Months



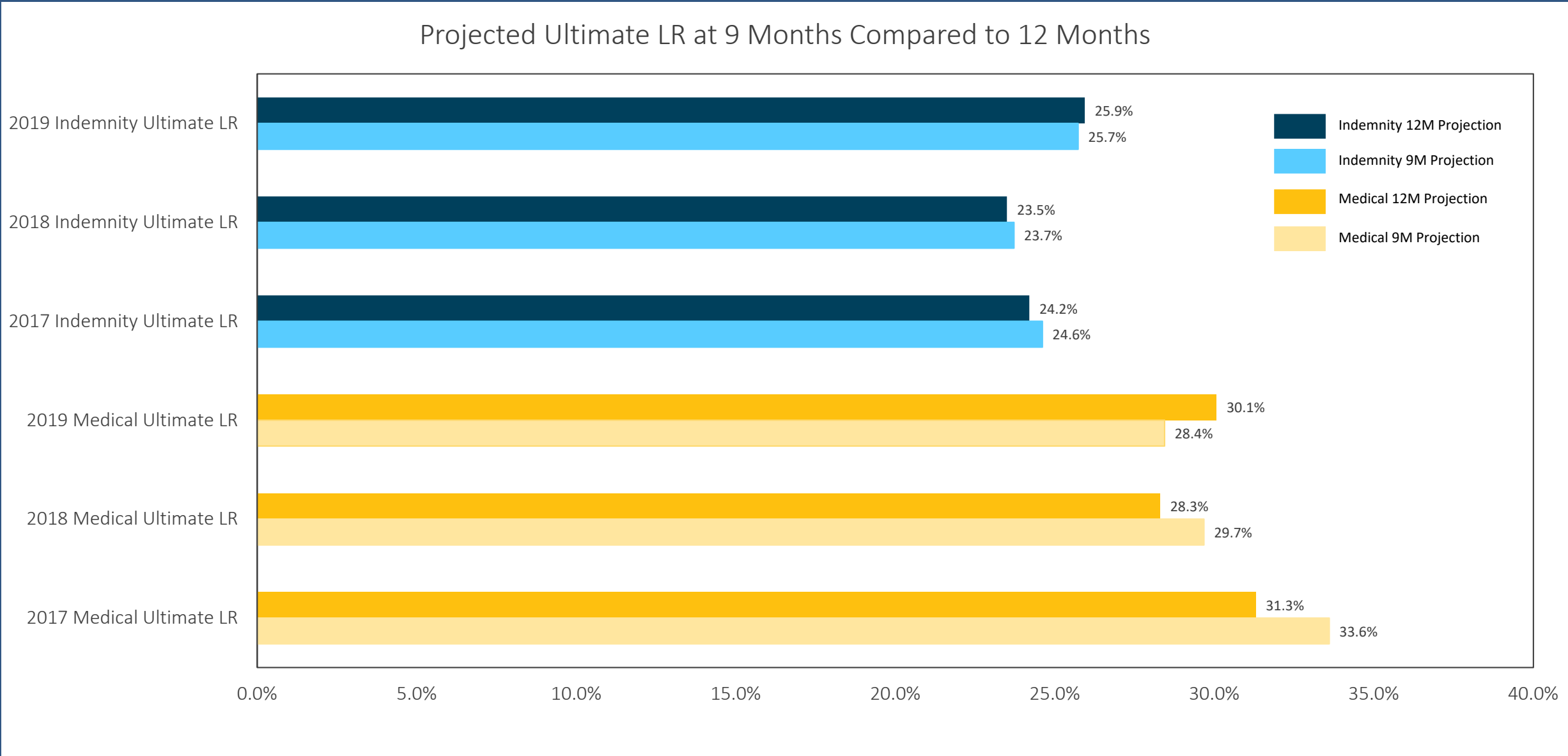
# Review of Projections Based on 9 Months



# Review of Projections Based on 9 Months



# Review of Projections Based on 9 Months

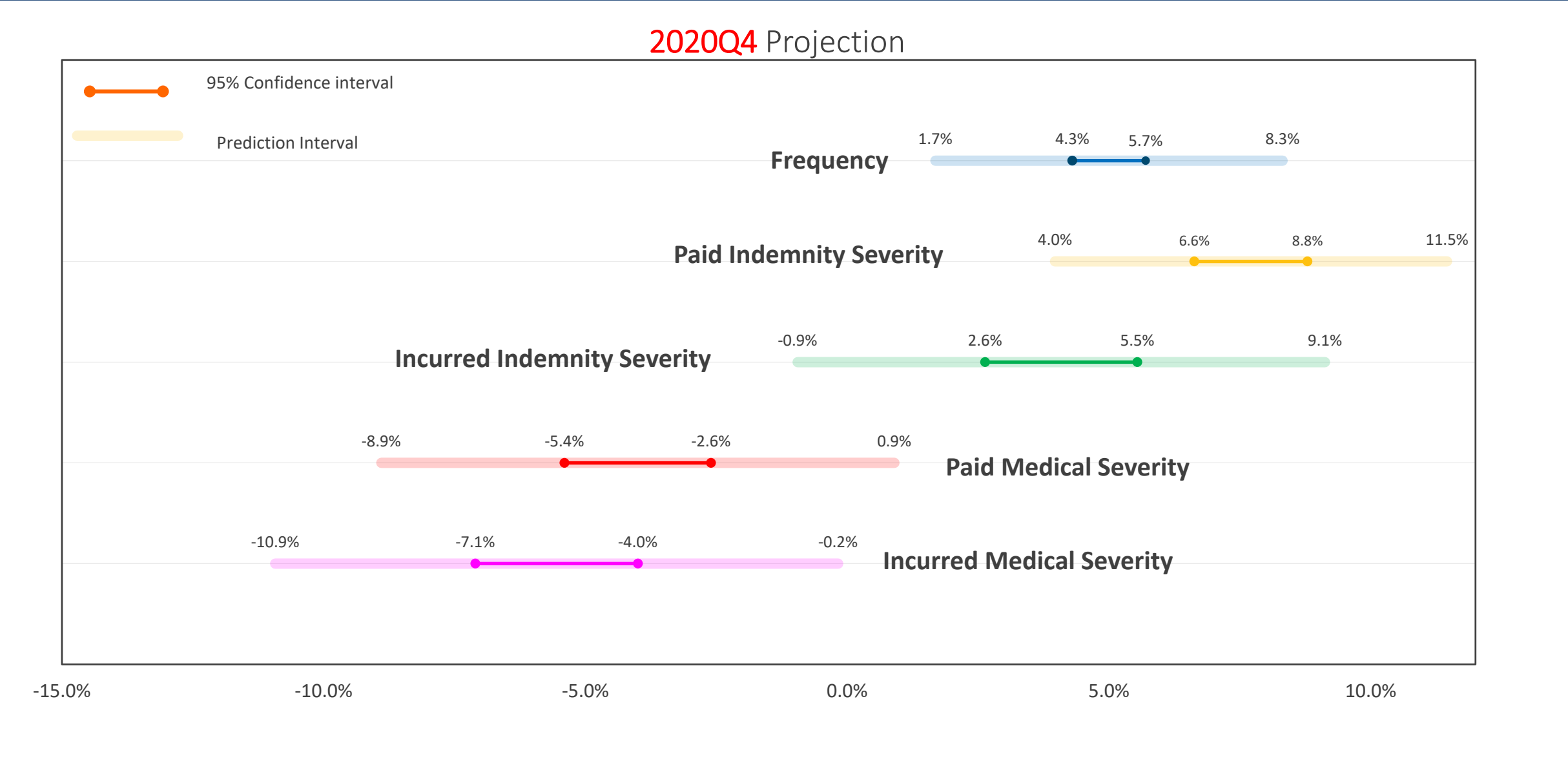




# Summary

- Reasonable indicator of the full year
  - Frequency change
  - Medical severity change
- Limited predictive value
  - Indemnity severity change
- Historical 9-to-12M LDFs and EP development factors were relatively stable
  - 5-year avg. selected
- Due to COVID-19, 2020 and 2021 earned premium development will likely vary from historical pattern

# Projection of 12/31/2020 Frequency and Severity Changes



# Next Steps

- Staff plans to on-level earned premium and losses to calculate projected ultimate on-level loss ratios based on 9 months to analyze trends
- Staff will continue to dynamically adjust the training group in order to recalibrate the model

# 07

## Potential Changes to Collection of Transactional Data

Potential Changes to Collection of Transactional Data

# Potential Changes to the Eligibility Threshold for Transactional Data Reporting

- Current eligibility threshold is 1% of statewide written pure premium
- Initially market share of insurers reporting medical transaction data was 88% with a peak of 94% in 2015
- Current market share of insurers reporting medical transaction data is 92% and indemnity transaction data is 89%
- Transaction data is heavily used in research and ratemaking
- Proposing to lower eligibility threshold to 0.5% of statewide written pure premium which would increase the market share reporting to 96%
- Change proposed to be effective for medical data on January 1, 2022 and for indemnity data on July 1, 2022

# Potential Changes to the Frequency of Medical Transactional Data Reporting

- Indemnity transaction data is required to be reported on a daily, weekly or monthly basis while medical transaction data is required to be reported on a monthly or quarterly basis
- Data for quarter required to be submitted by end of subsequent quarter
- Currently insurer groups representing 28% of statewide written pure premium report medical transaction data on a monthly basis
- The medical transaction data reported on a monthly basis has helped to provide timeline insights into the impact of COVID-19 and the resulting economic downturn
- Proposing to require all groups to report on a monthly basis beginning with transactions as of January 1, 2023
- Monthly data required to be submitted by 60 days from end of month

# 08

## Special Data Call for COVID-19 Claims



# COVID-19 Data Call – Losses

- Staff proposing modifying Quarterly Call for COVID-19 claim data
- Purposes of supplemental call:
  - Validate COVID-19 information submitted in transaction data and USRs
  - Potentially remove COVID-19 costs from aggregate data for ratemaking purposes
- Data to include basic loss, ALAE, and claim count information for AY 2020 and later
- First call for data as of 12/31/2020 due in mid-February as separate Excel form
  - Requests for 1Q 2021 and later to be issued as component of Quarterly Call packet



# COVID-19 Data Call – Losses

WCIRB Special Call for COVID-19 Claim Data Evaluated as of December 31, 2020									
Data Page									
	Indemnity		Medical						
Accident Year	Paid Losses	Loss Reserves Excluding IBNR	Paid Losses	Loss Reserves Excluding IBNR	Paid ALAE	Open Indemnity Claim Counts	Total Indemnity Claim Counts	Total Claim Counts	Reporting Entity Code
	(1)	(2)	(3)	(4)	(7)	(11)	(12)	(13)	
2020									998
Note: All data is only for claims occurring in 2020 and arising out of a diagnosis of COVID-19 (Catastrophe Code 12). For convenience, the column numbers correspond to the column numbers of the related columns on the Accident Year Exhibit of the CA-QT-4Q20 Quarterly Call.									

# COVID-19 Data Call – Premium

- In 1/1/2021 decision, Insurance Commissioner rejected including COVID-19 provisions in advisory pure premium rates
  - CDI proposed decision included separate advisory additive adjustment for COVID-19 costs
- Commissioner noted insurers *“shall submit any rate component and/or rating plan that includes an adjustment for COVID-19; the filed rates and rating plans in 2021 shall reflect the expected cost of COVID-19 claims on the policies to which they apply and be clearly identified in the rate filings submitted to the Department”*
- CDI also directed WCIRB to collect data of aggregate premium charged for COVID-19
- Staff proposing amendments to Quarterly Call to collect COVID-19 premium data charged on 2021 and later policies
  - First call for data as of 3/31/2021 due in mid-May
  - Insurers to provide COVID-19 premium information consistent with how it is reflected in their rate filings
- Staff also proposing amendments to USRP for stat code related to COVID-19 premium charges (similar to terrorism)
  - To be filed in February with 9/1/2021 effective date

# 09

## Potential 2021 Actuarial and Research Projects



# Potential 2021 Actuarial and Research Projects

## Executive Summary

- Actuarial and Research Agenda reviewed annually by the Actuarial Committee and Governing Committee
- Potential projects segregated by purpose (e.g., in response to CDI directives, in response to legislation, rating plans, etc.)
- Project list to be reviewed and approved by Governing Committee at 12/09/2019 meeting

# Potential 2021 Actuarial and Research Projects Highlights

- Studies Arising out of CDI Directives
  - Indemnity frequency model
  - Terrorism data reporting
  - COVID-19 premium reporting
- COVID-19 Pandemic Related Research
  - Updated cost analyses
  - Impact of medical treatment delays
  - COVID-19 claim severity
- Studies Directly Impacting Pure Premium Rates
  - Classification ratemaking – payroll on-leveling process
  - Dual wage threshold update

# Potential 2021 Actuarial and Research Projects Highlights (Continued)

- Other Studies Indirectly Impacting Pure Premium Rate Projections
  - Analysis of very large claims
  - Frictional costs in California
  - Cumulative trauma claims
- WCIRB Rating Plans
  - Experience rating eligibility
  - Impact of experience rating on workplace safety
- Other Studies
  - Analysis of California regional differences
  - Comparison of medical costs to group health costs
  - Potential impact of pandemics (potentially in 2022)

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