

# WCIRB Actuarial Committee Meeting

**Materials Presented at the WCIRB Actuarial Committee Meeting  
(August 2, 2017)**

## Notice

The information provided in this presentation was developed by the Workers' Compensation Insurance Rating Bureau of California (WCIRB) solely for the purpose of discussion during this presentation. The WCIRB shall not be liable for any damages, of any kind, whether direct, indirect, incidental, punitive or consequential, arising from the use, inability to use, or reliance upon information provided in this presentation.

© 2017 Workers' Compensation Insurance Rating Bureau of California. All rights reserved.

No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including, without limitation, photocopying and recording, or by any information storage or retrieval system without the prior written permission of the Workers' Compensation Insurance Rating Bureau of California (WCIRB), unless such copying is expressly permitted by federal copyright law. No copyright is claimed in the text of statutes and regulations quoted within this work.

Workers' Compensation Insurance Rating Bureau of California, WCIRB, WCIRB California, WCIRB Connect, WCIRB Inquiry, X-Mod Direct, eSCAD and the WCIRB California logo (WCIRB Marks) are registered trademarks or service marks of the WCIRB. WCIRB Marks may not be displayed or used in any manner without the WCIRB's prior written permission. Any permitted copying of this work must maintain any and all trademarks and/or service marks on all copies.

To seek permission to use any of the WCIRB Marks or any copyrighted material, please contact the WCIRB at [customerservice@wcirb.com](mailto:customerservice@wcirb.com).

# Review of WCIRB Trending Methodology

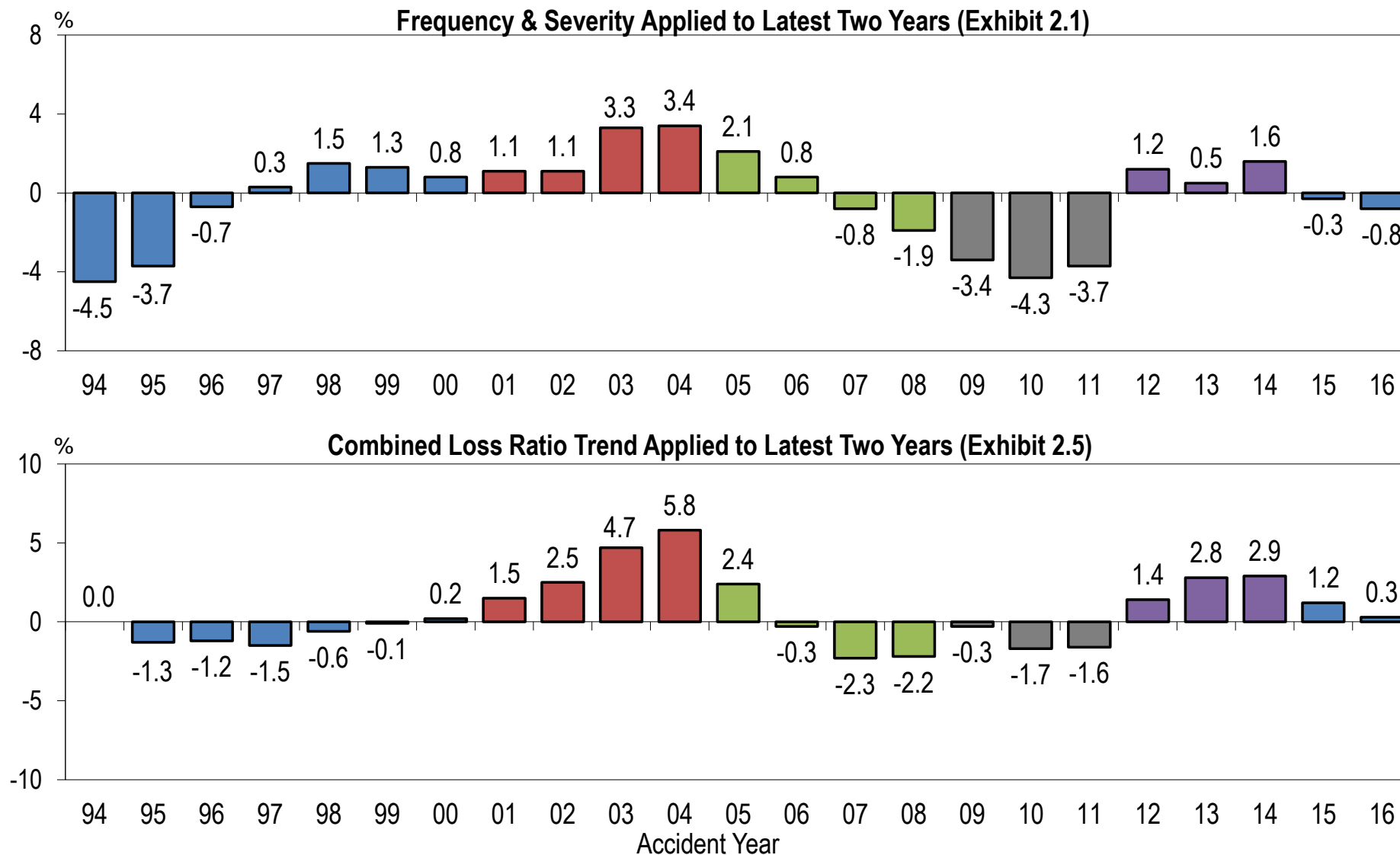
**WCIRB Actuarial Committee Meeting  
August 2, 2017**

## Review of Trending Methodology

- Comprehensive review of trending methodology originally in 2012 and last undertaken in 2015
- Various methods retrospectively tested
  - Projections for AYs 1994 to 2016 analyzed
  - Results summarized by claims environment
- Post-SB 863 Period (2015 & 2016) included in recent study
- Approach consistent with 2015 study
  - Compare current AY estimate with that trended from 2 years prior
  - Focus on separate frequency & severity projections vs. combined loss ratio projection
  - Accuracy of loss development & on-level adjustments not measured

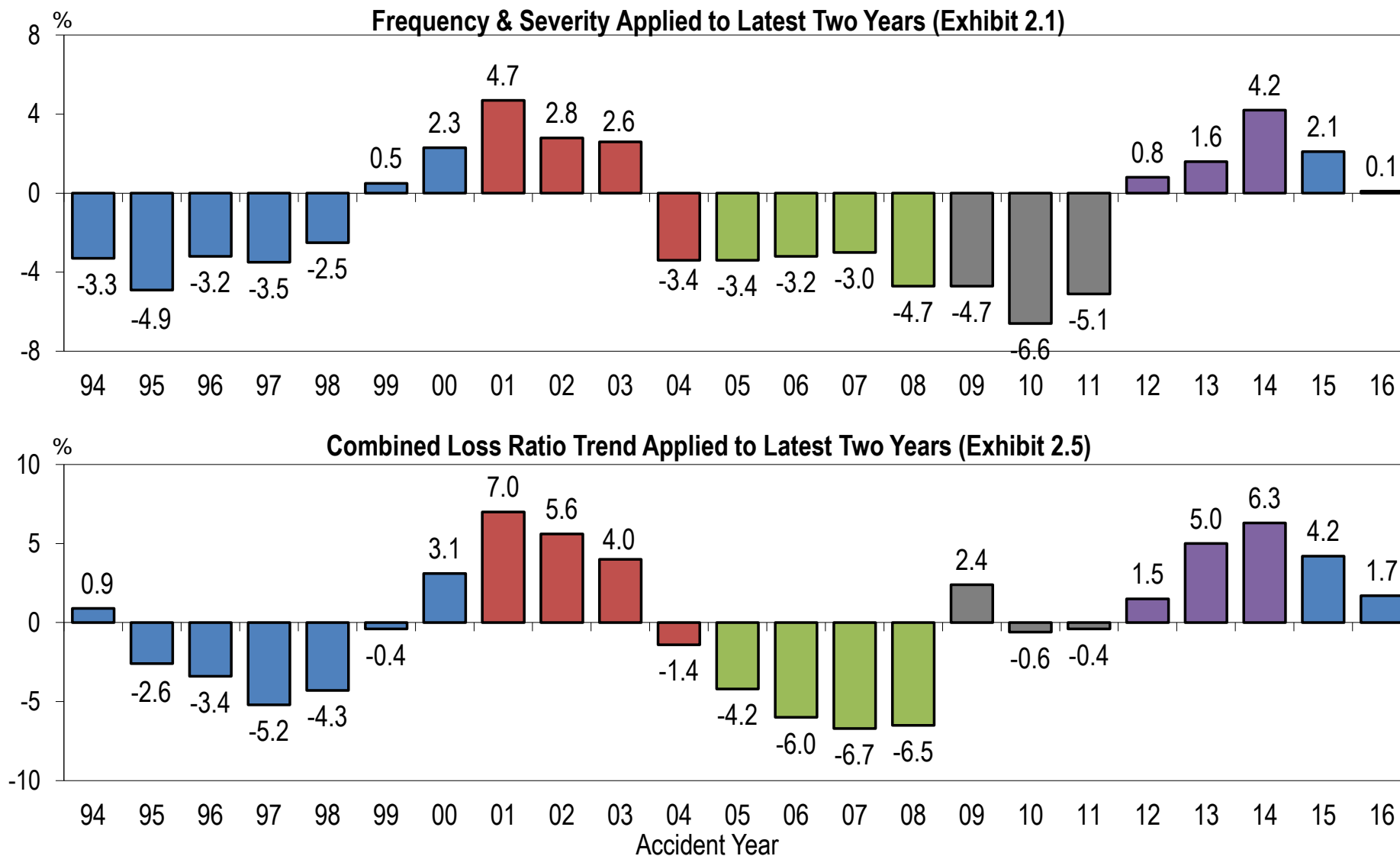
# Retrospective Tests Results

## Difference in Indemnity Projection from Actual

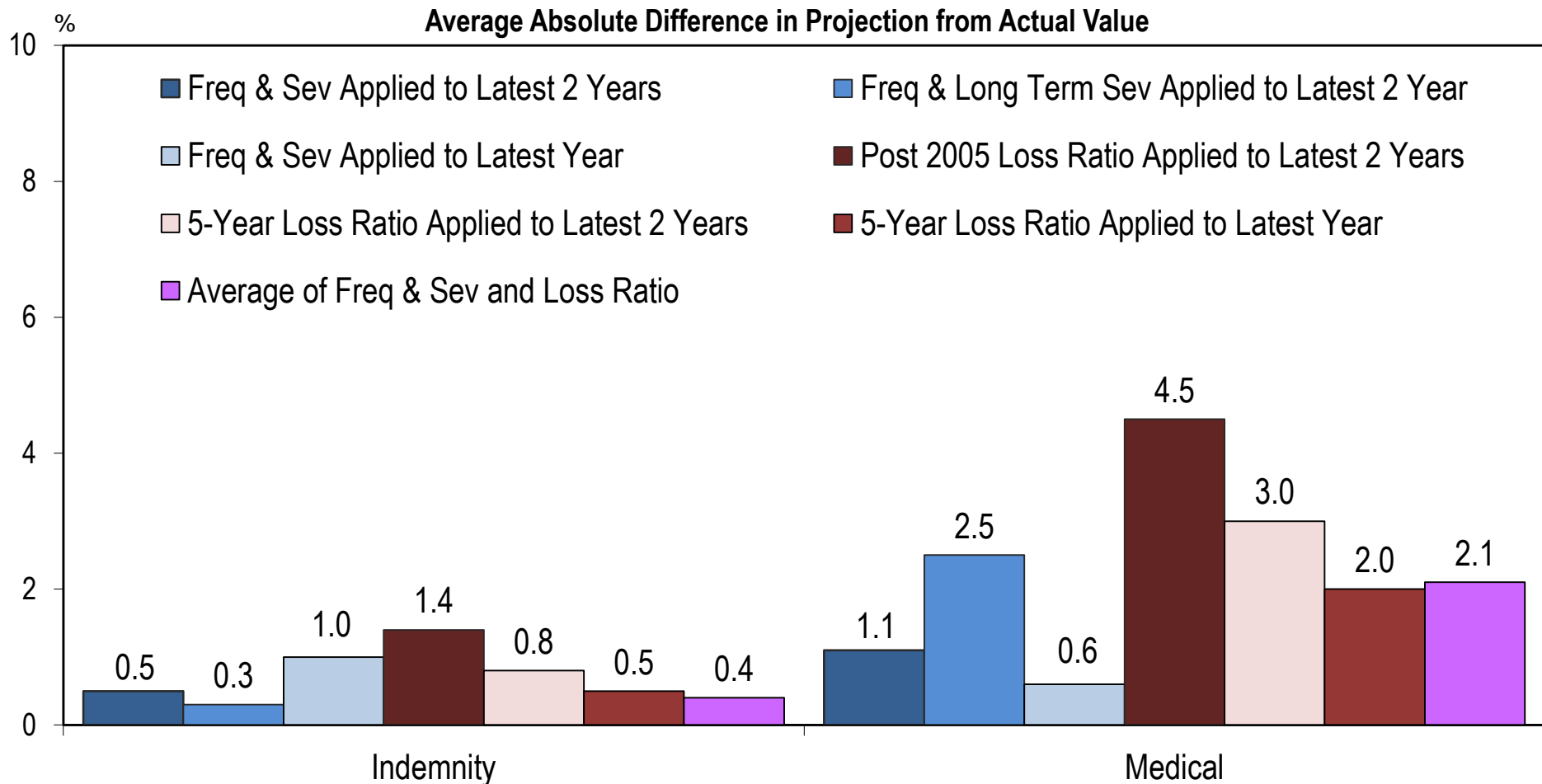


# Retrospective Tests Results

## Difference in Medical Projection from Actual



# Results for Post-SB 863 Transition Environment (Exhibit 4)



## Conclusions of Trending Methodology Study

- Separate frequency and severity trending methods continue to be more accurate
  - Current selected trending method
  - Allows for quicker responses to changing environments such as increasing medical severity trends
- Loss ratio trending methods continue to be somewhat less accurate due to on-level loss ratio volatility
  - Consider monitoring volatility and revisiting method in the future
  - Limited evidence of strong correlation of frequency and severity
- Staff does not recommend any changes to the current trending methodology at this time



# **Item AC17-04-04**

## **New Drug Formulary**

**WCIRB Actuarial Committee Meeting**  
**August 2, 2017**

## AB 1124 - *Summary & Background*

- Signed by the Governor on October 6, 2015
- Authorizes Administrative Director to Establish a Drug Formulary by July 1, 2017
- Pharmaceuticals Fastest Growing Medical Cost up until SB 863
- Significant Reductions in Pharmaceutical Cost Since SB 863
- The pharmaceutical costs are 8% of total medical paid for Service Year 2016 (compared to 15% in 2012).
- Cost Impact is uncertain

# Development of Formulary

- DWC is working with an advisory group on developing the formulary
- Proposed formulary regulations and cost impacts were initially released March 17, 2017 and then updated after the May 1, 2017 Public Hearing.
- The second 45-day comment period is underway until August 2, 2017
- The proposed formulary structure is based on
  - MTUS (Medical Treatment Utilization Schedule) treatment guidelines
  - MTUS Drug list
  - Ancillary Formulary Rules

# Summary of Proposed Formulary

<b>Exempt drugs</b>	not subject to prospective utilization review if use is consistent with MTUS
<b>Non-Exempt drugs</b>	subject to prospective utilization review, all opioids and compounds fall under this category
<b>Not listed drugs</b>	subject to prospective utilization review
<b>Special fill policy</b>	allows for non-exempt drugs to be prescribed at the single initial visit within 7 days of injury
<b>Perioperative fill policy</b>	allows for non-exempt drugs for post-surgery care (4 days prior, 4 days after surgery)
<b>Off-label use</b>	not subject to prospective review if a preferred drug and follows MTUS treatment guidelines
<b>Generic drug preference</b>	Physicians must obtain prospective authorization and document the need for brand name drug where a less costly generic equivalent exists.
<b>Physician dispensing</b>	subject to prospective utilization review except on a one-time basis for “exempt drugs”.

# Estimated Cost Impact of AB 1124

- The DIR has provided an Economic Impact Statement reflecting a decreased CA WC spending on prescription drugs by an estimated \$23 mm\*
- Impacts include the following assumptions:
  - Total number of prescriptions will be reduced in four categories
    - Brand-name drugs where equivalent generic drugs available
    - Non-preferred drugs in therapeutic classes where a preferred drug is available
    - Physician-dispensed drugs where pharmacy-dispensed drugs are available
    - Bulk ingredients used to make compound drugs
  - 20% of physician-dispensed prescriptions will not be written and another 40% of physician-dispensed volume will transition to pharmacy dispensing

\*Source: STD 399 State of California – Department of Finance, Economic and Fiscal Impact Statement (Regulations and Orders)  
Economic Impact Statement by the Department of Industrial Relations for the Medical Treatment Utilization Schedule Drug  
Formulary signed March 2, 2017

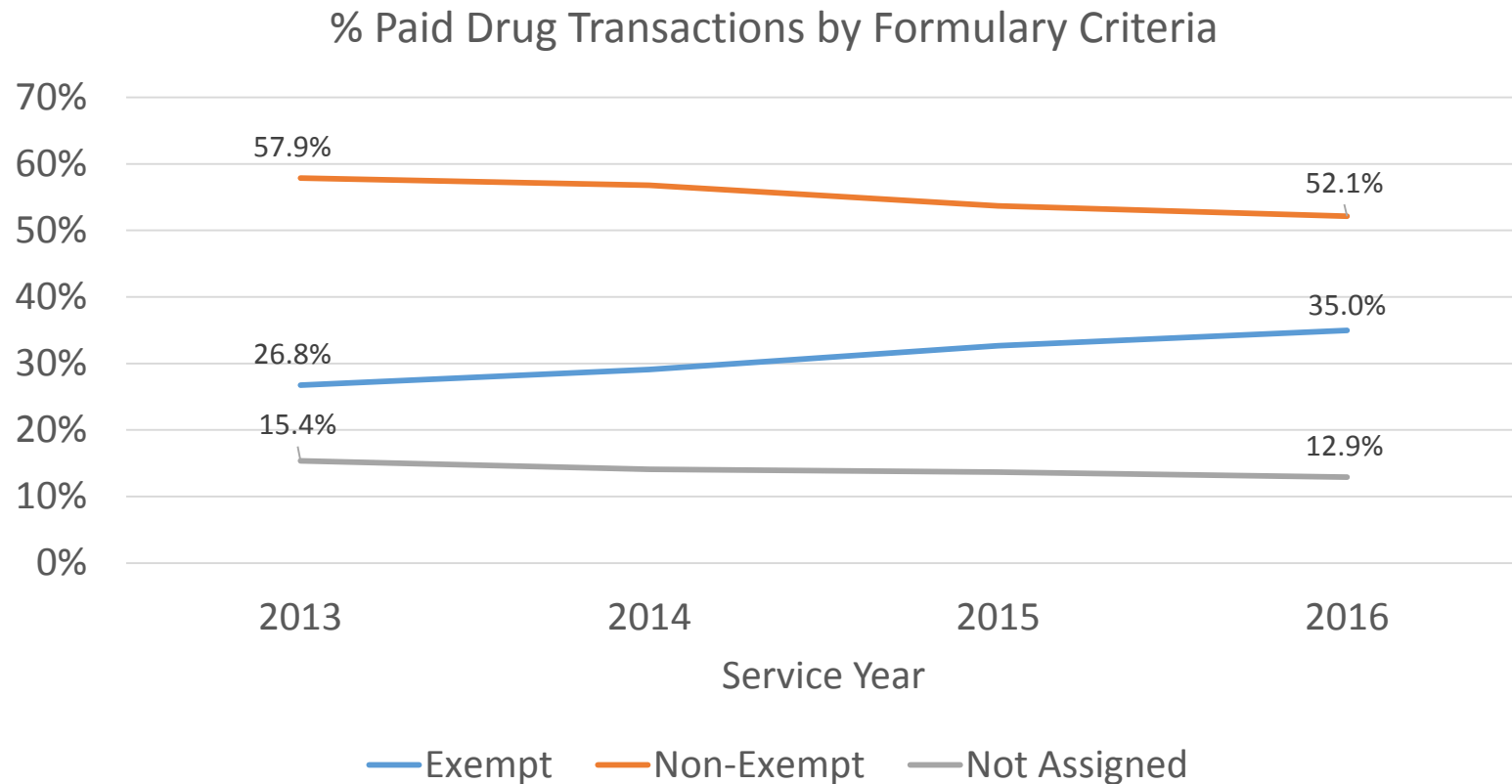
# WCIRB process

- After formulary adoption the WCIRB will evaluate cost using the WCIRB's MDC data source & other information to:
  - Identify the drugs by NDC codes
  - Identify the site of service
  - Validate the site of service with reported taxonomy
  - Extract the data by therapeutic class
  - Map to Formulary drug table
  - Review UR & IMR costs impacted
  - Define a methodology based on the final definitions and details of formulary
- Potential Issues
  - No price controls in schedule
  - Changes to Medi-Cal Schedule (Federal Upper Limits)
  - Impact on future prescribing pattern uncertain

# Summary Information on Formulary Drugs

- 80 Exempt Drug names
- 196 Non-Exempt Drug names
- 15 Special Fill Drug names
- 14 Peri-Op Drug names
  
- Drug Formulary list available at  
<https://www.dir.ca.gov/dwc/DWCPropRegs/MTUS-Formulary/MTUS-Formulary.htm>
  
- We mapped the formulary drug names to 183,769 National Drug Codes(NDCs).
- Looked at data in two ways; aggregate and controlling for maturity to address recent sharp decline in opioid prescribing.

# Preliminary Summary of Current Formulary\* Categorization



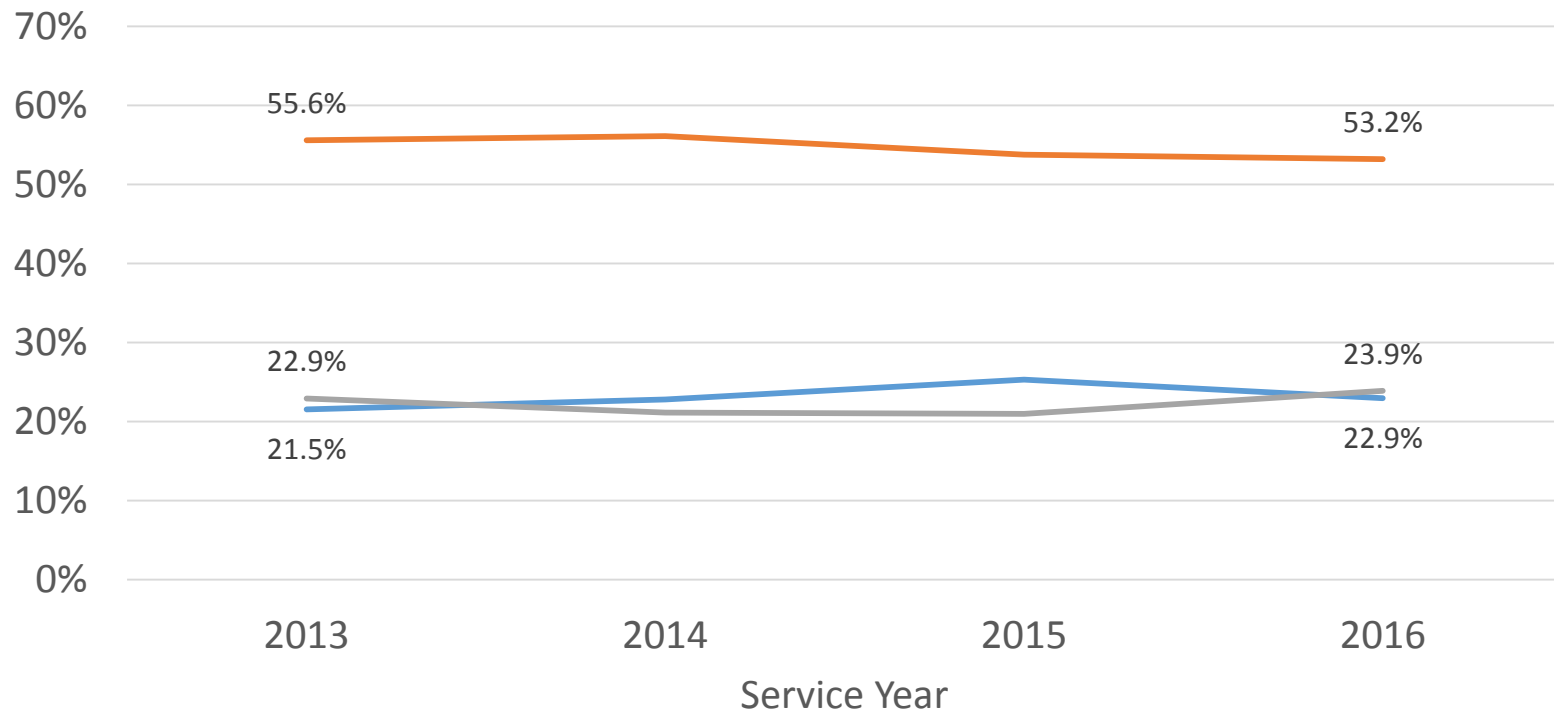
Source: WCIRB Medical Call Data

\*The current drug formulary list as of July 26, 2017 was used. Special Fill and Peri-op not included.  
Percentage calculated by using NDC Paid Transactions in a SY, regardless of AY.



# Preliminary Summary of Current Formulary\* Categorization

% Paid Drug Costs by Formulary Criteria

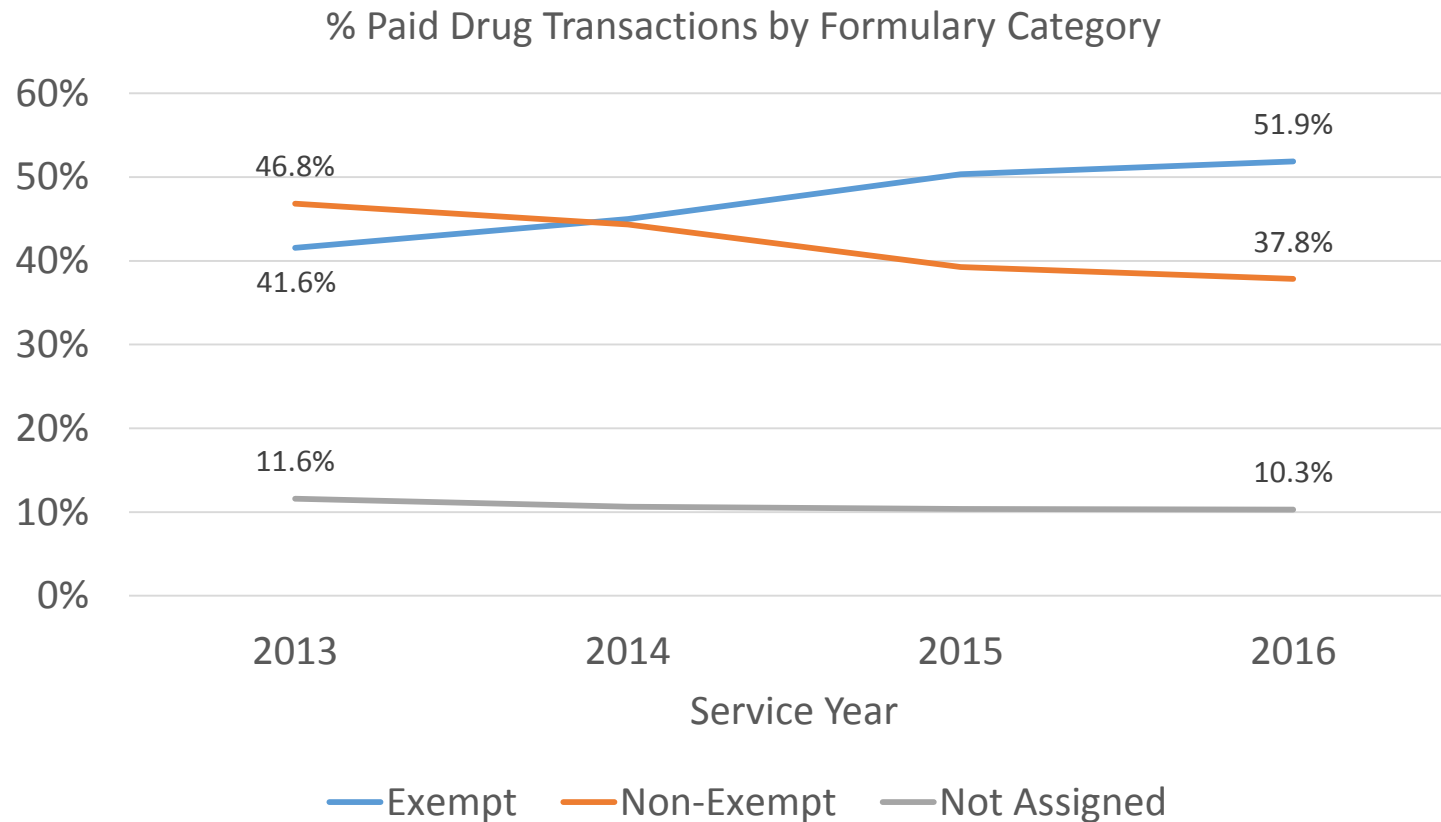


Source: WCIRB Medical Call Data

— Exempt — Non-Exempt — Not Assigned

\*The current drug formulary list as of July 26, 2017 was used. Special Fill and Peri-op not included.  
Percentage calculated by taking all NDC Paid Medical in a SY, regardless of AY.

# Preliminary Summary of Current Formulary\* Categorization – Adjusted to 9 months

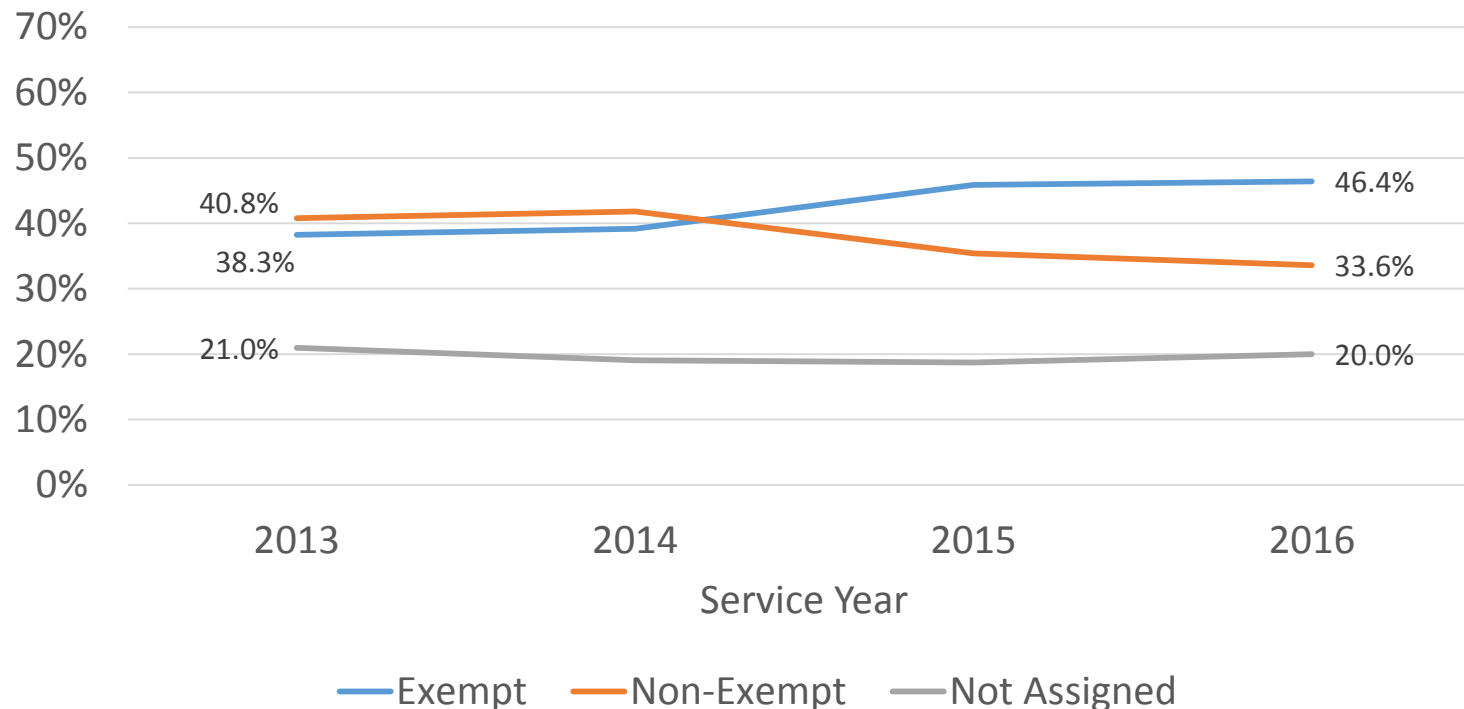


Source: WCIRB Medical Call Data

\*The current drug formulary list as of July 26, 2017 was used. Special Fill and Peri-op not included.  
Percentage calculated by using NDC paid transactions in a SY, for AQ 3Q2012 through 3Q2016, controlled for paid transactions occurring no later than 2Q post accident quarter.

# Preliminary Summary of Current Formulary\* Categorization – Adjusted to 9 months

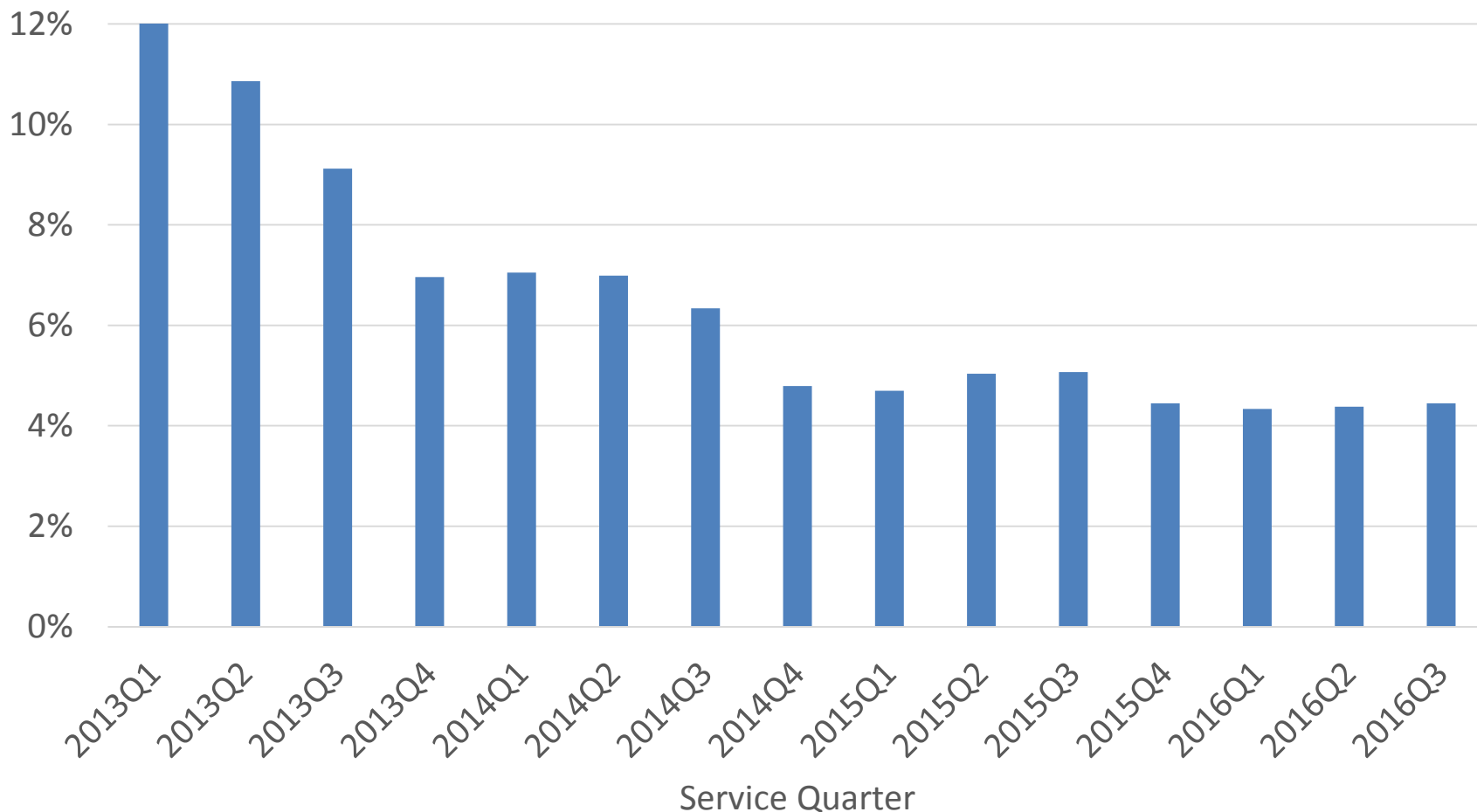
% Paid Drug Costs by Formulary Category



Source: WCIRB Medical Call Data

\*The current drug formulary list as of July 26, 2017 was used. Special Fill and Peri-op not included.  
Percentage calculated by using NDC paid Medical in a SY, for AQ 3Q2012 through 3Q2016, controlled for Paid Medical occurring no later than 2Q post accident quarter.

# % of All Claims with a Special Fill\* within 7 Days of Accident Date – Adjusted to 9 months



Source: WCIRB Medical Call Data

\*Percentage calculated using number of claims with a special drug fill within 7 days of accident in a SQ, controlled for transactions occurring no later than 2Q post accident quarter and divided by total number of MDC claims.

# 3/31/2017 Experience – Review of Methodologies

**WCIRB Actuarial Committee Meeting**  
**August 2, 2017**

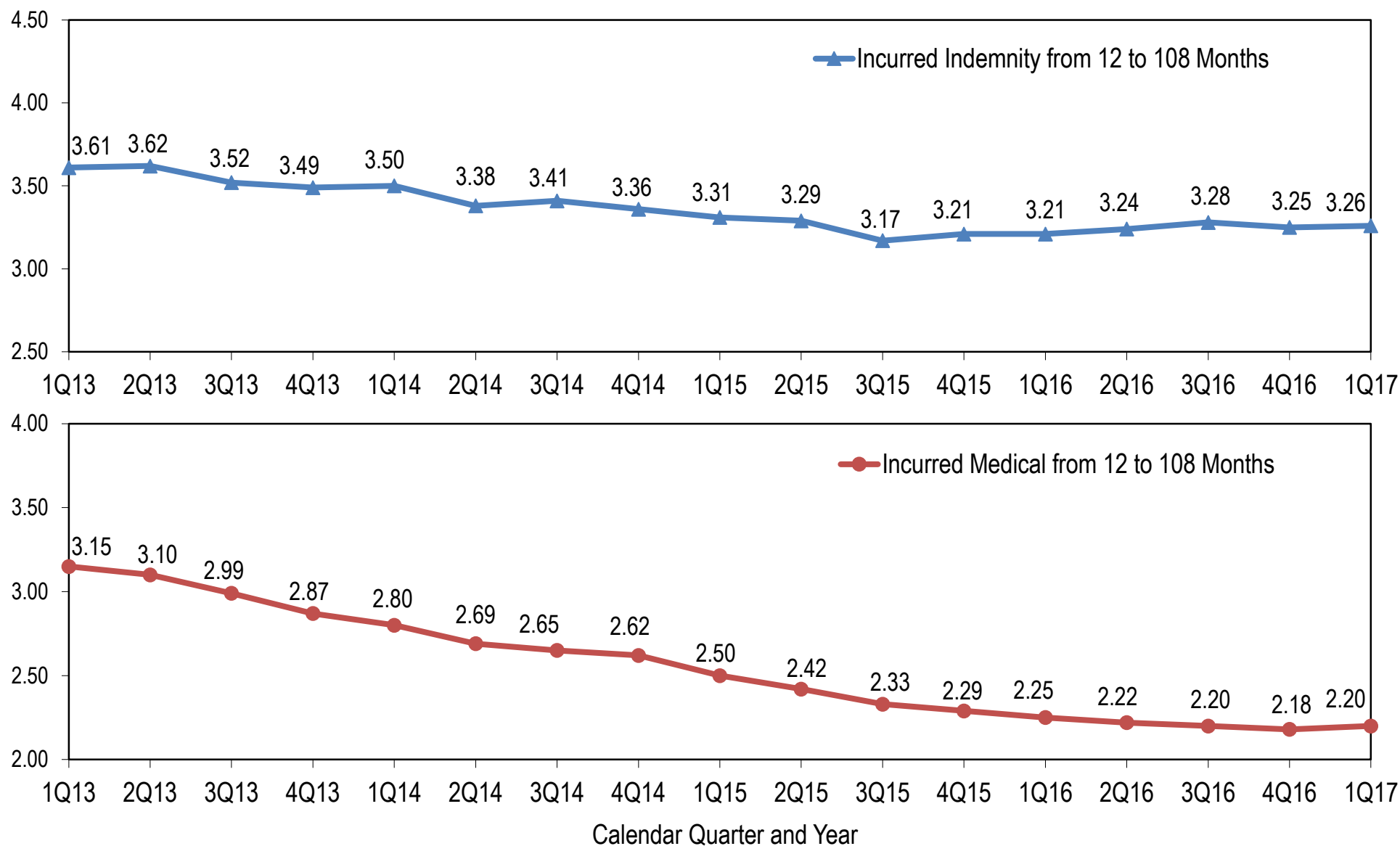
## Summary of March 31, 2017 Experience

- Almost 100% of market reflected
- Same methodologies as in 7/1/17 Filing
  - Includes updated projected medical severity trend (to 3.0%)
  - Does not reflect staff recommended changes to longer-term loss development
- Projected Policy Year 2018 loss ratio: 0.625
  - Projection in 6/16/17 Agenda: 0.612
  - Projection in 7/1/17 Filing (7/1/17 – 12/31/17 Policy Period): 0.626
- Policy Year 2018 projection with staff recommended loss development refinements: 0.638

## Approximate Percentage Point Changes in Projected Loss Ratio

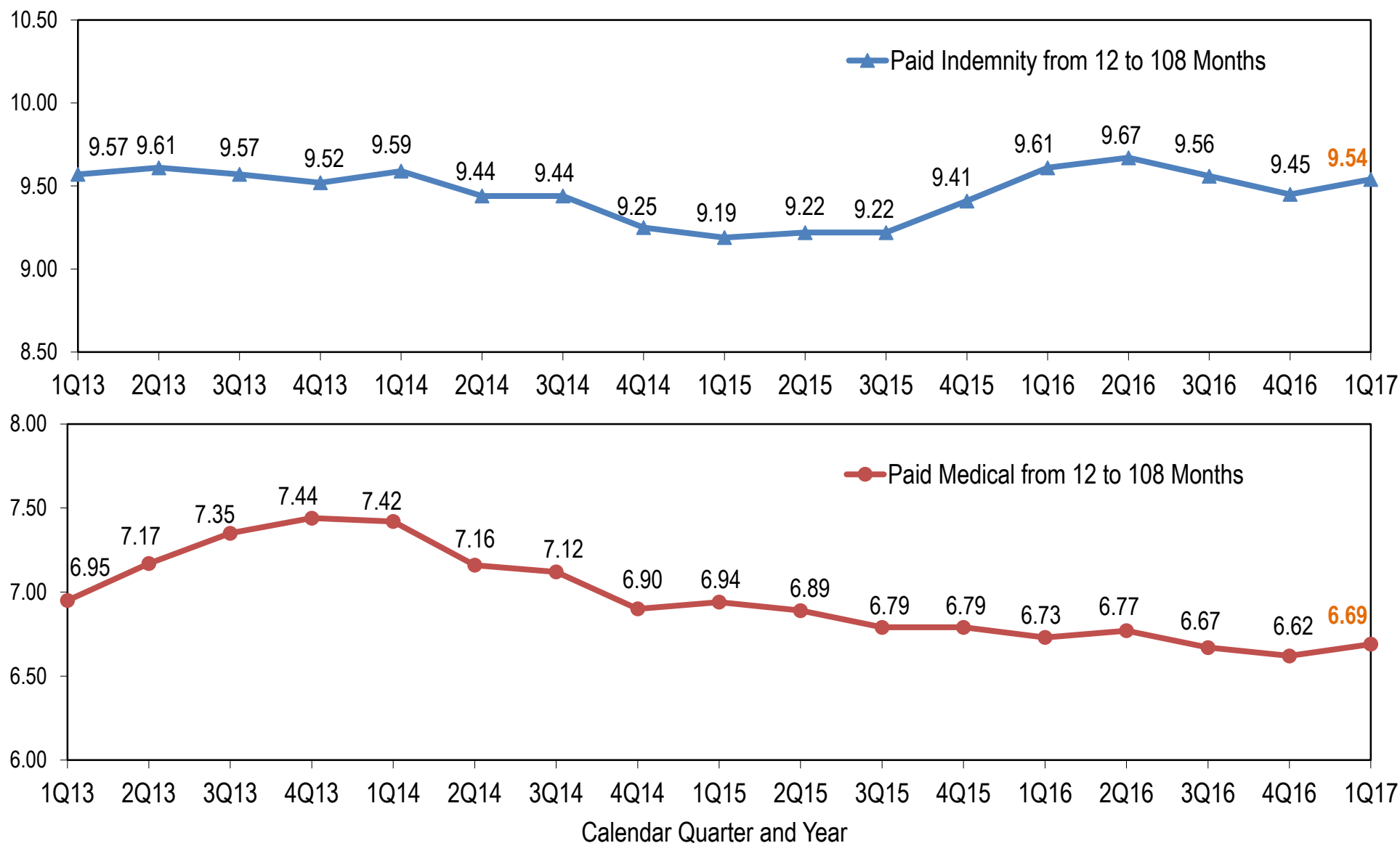
Item	Change from 7/1/17 Filing	Change from 6/16/17 Agenda
Loss Development Experience Change	0.0	0.0
Updated UCLA Wage Forecasts	+0.5	+0.5
Updated Frequency Projections	+0.5	+0.5
Updated Medical Severity Projection	+0.5	+0.5
Trend to Policy Year 2018	-1.5	0.0
<b>Total (to 8/2/17 Agenda Projection)</b>	<b>0.0</b>	<b>+1.5</b>
<i>Staff Recommended Refinements to Longer-Term Loss Development</i>	<i>+1.0</i>	<i>+1.0</i>
<b>Total (to Updated Projection)</b>	<b>+1.0</b>	<b>+2.5</b>

# Cumulative Incurred Development by Quarter

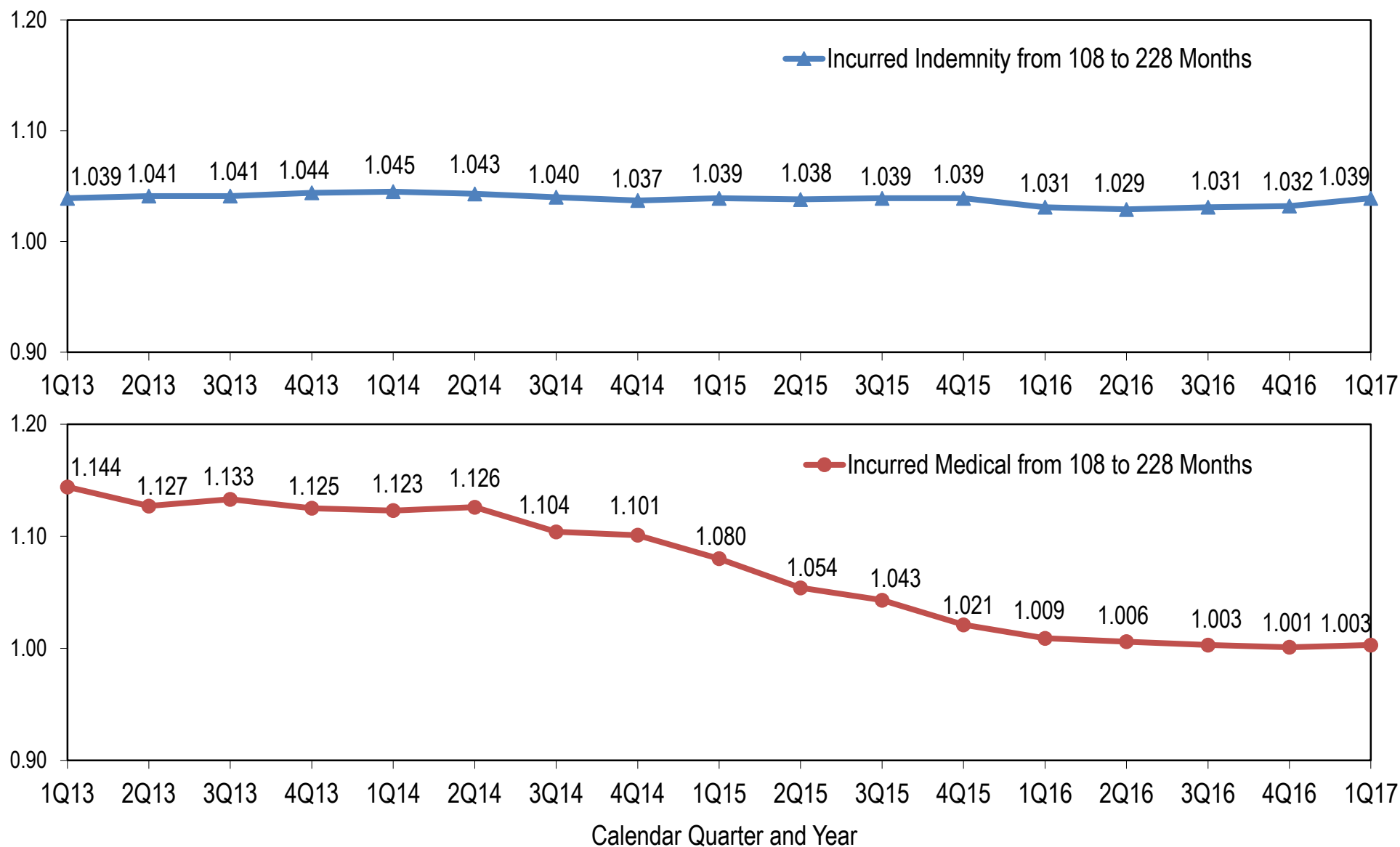




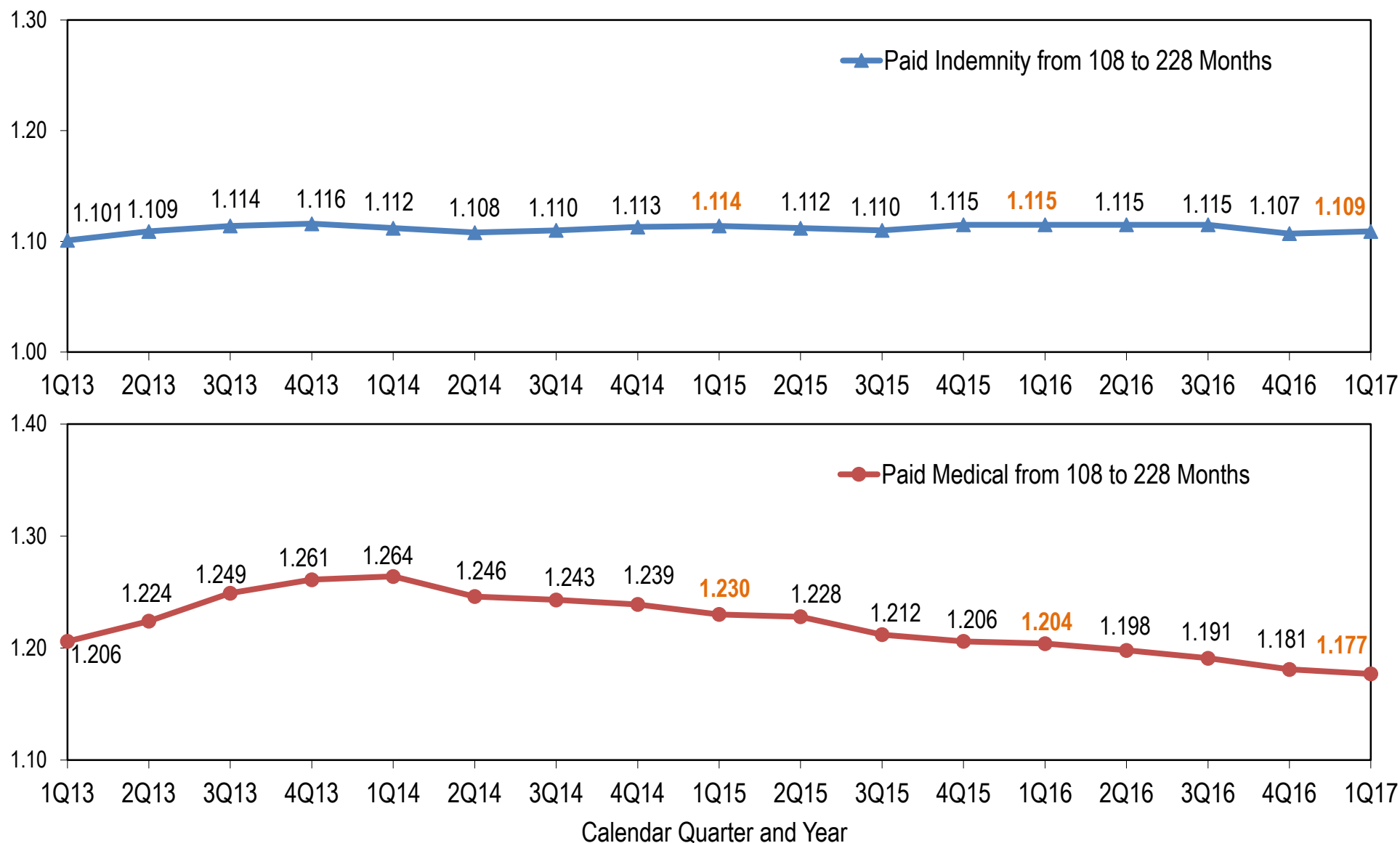
# Cumulative Paid Development by Quarter



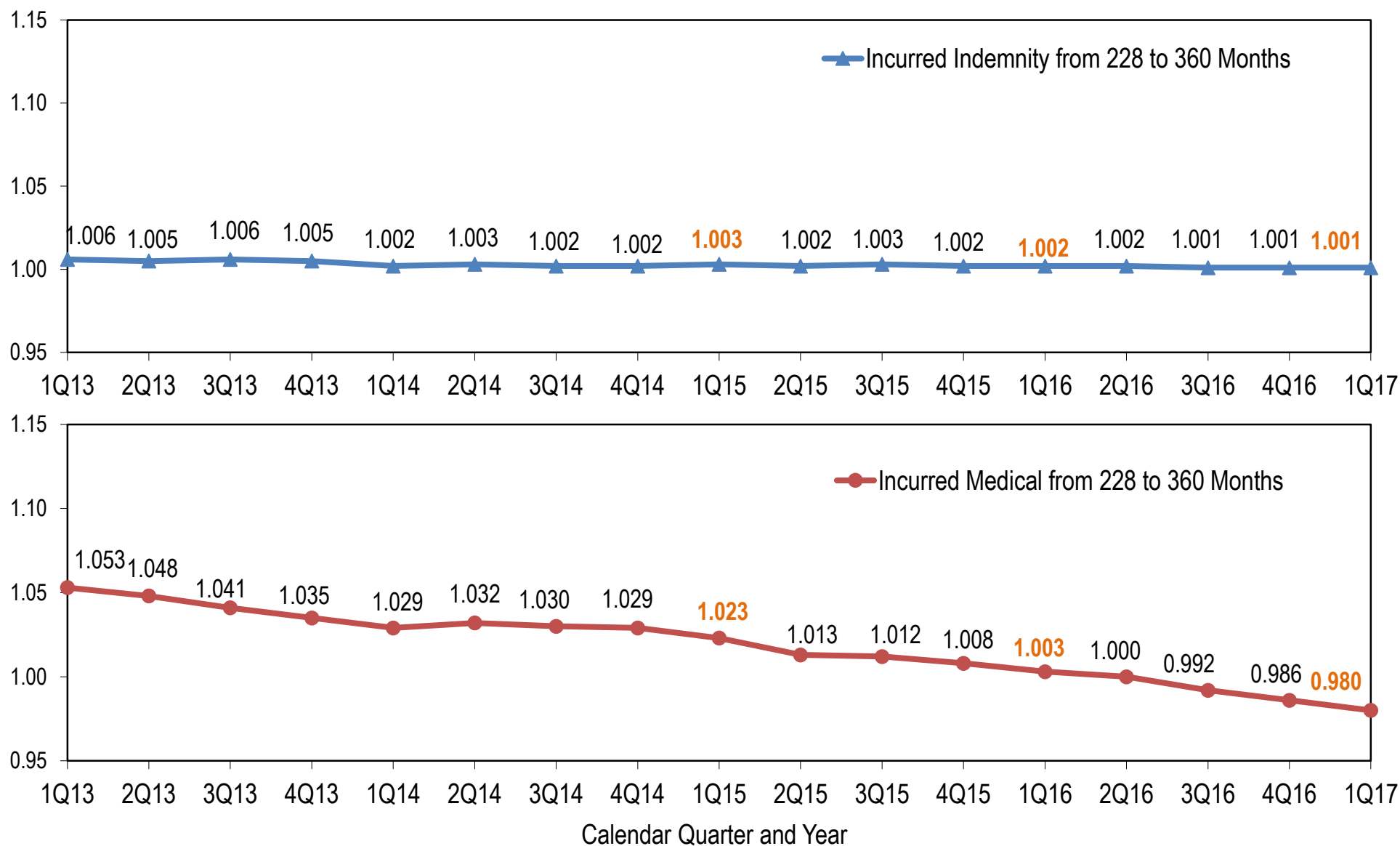
# Cumulative Incurred Development by Quarter



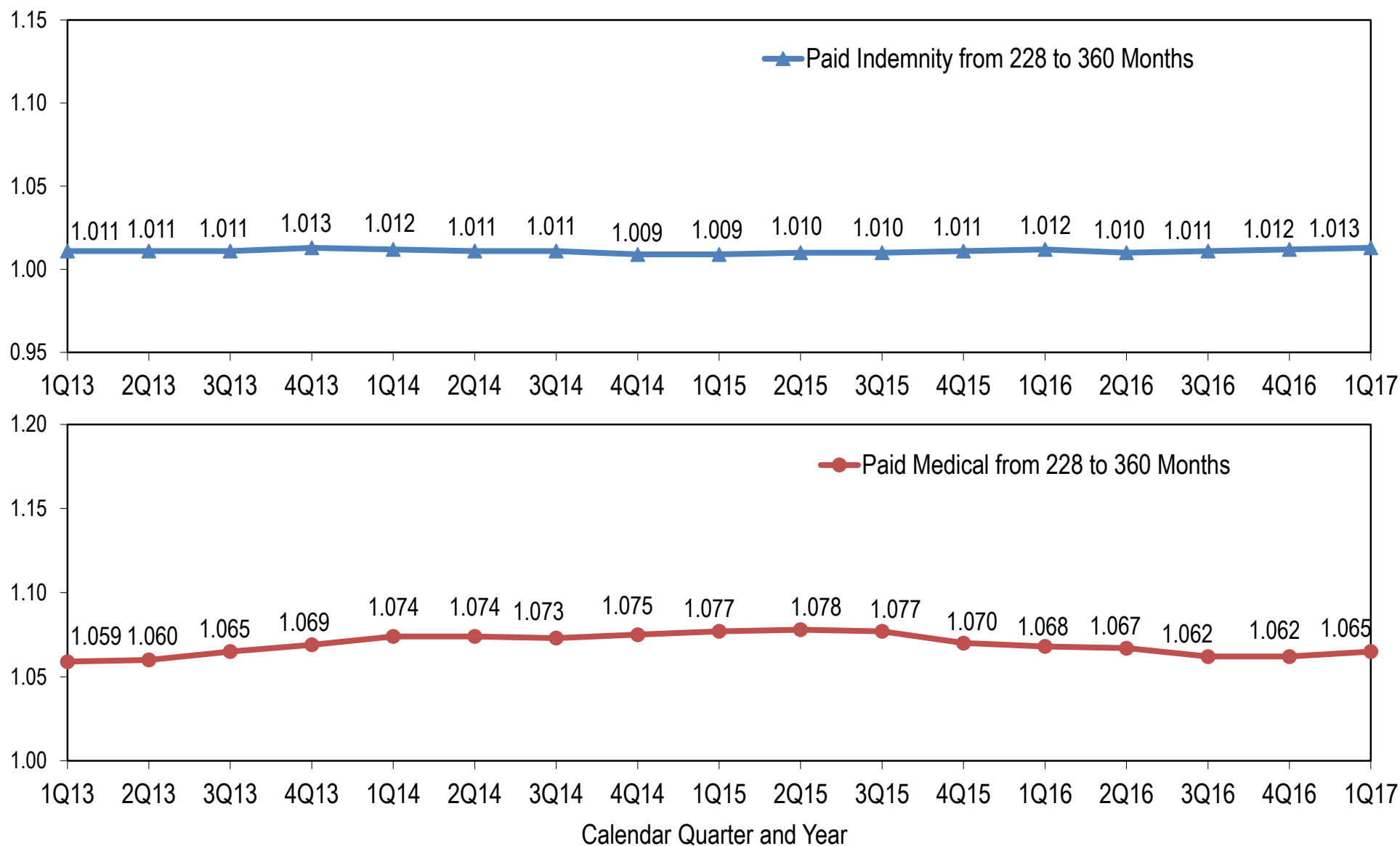
# Cumulative Paid Development by Quarter



# Cumulative Incurred Development by Quarter

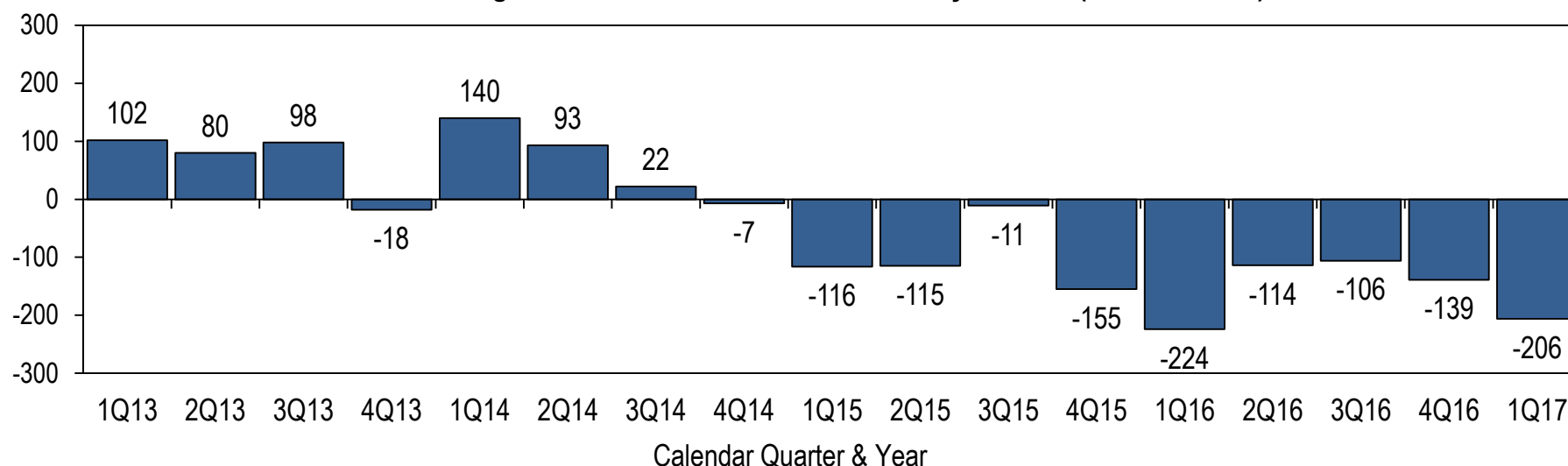


# Cumulative Paid Development by Quarter

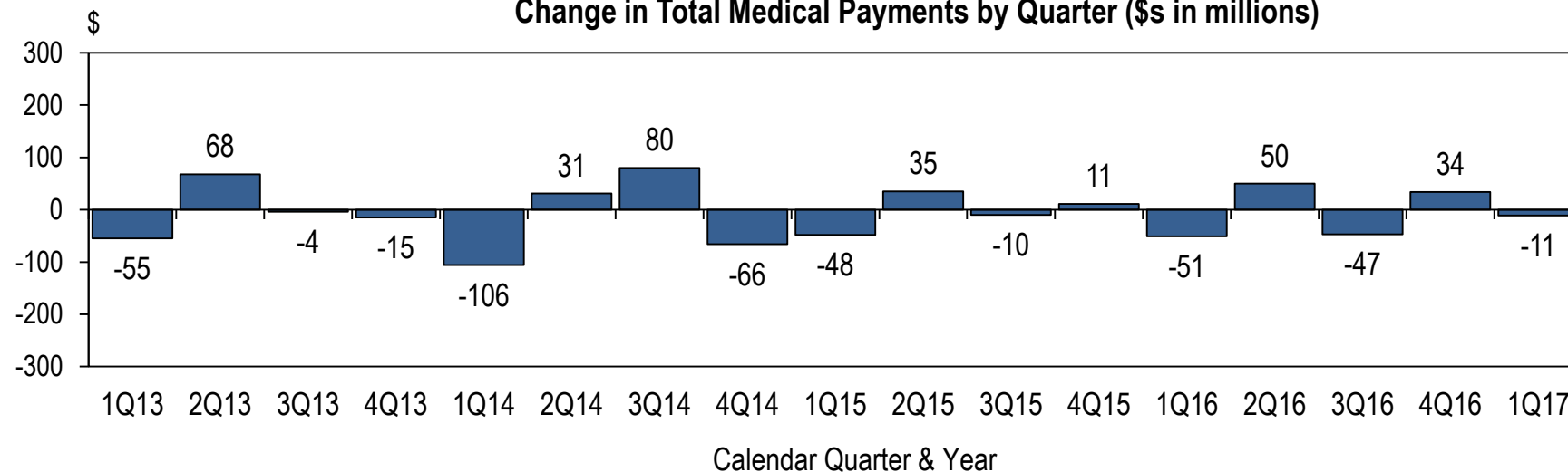


# Change in Total Medical Case Reserves and Payments by Quarter

Change in Total Medical Case Reserves by Quarter (\$s in millions)

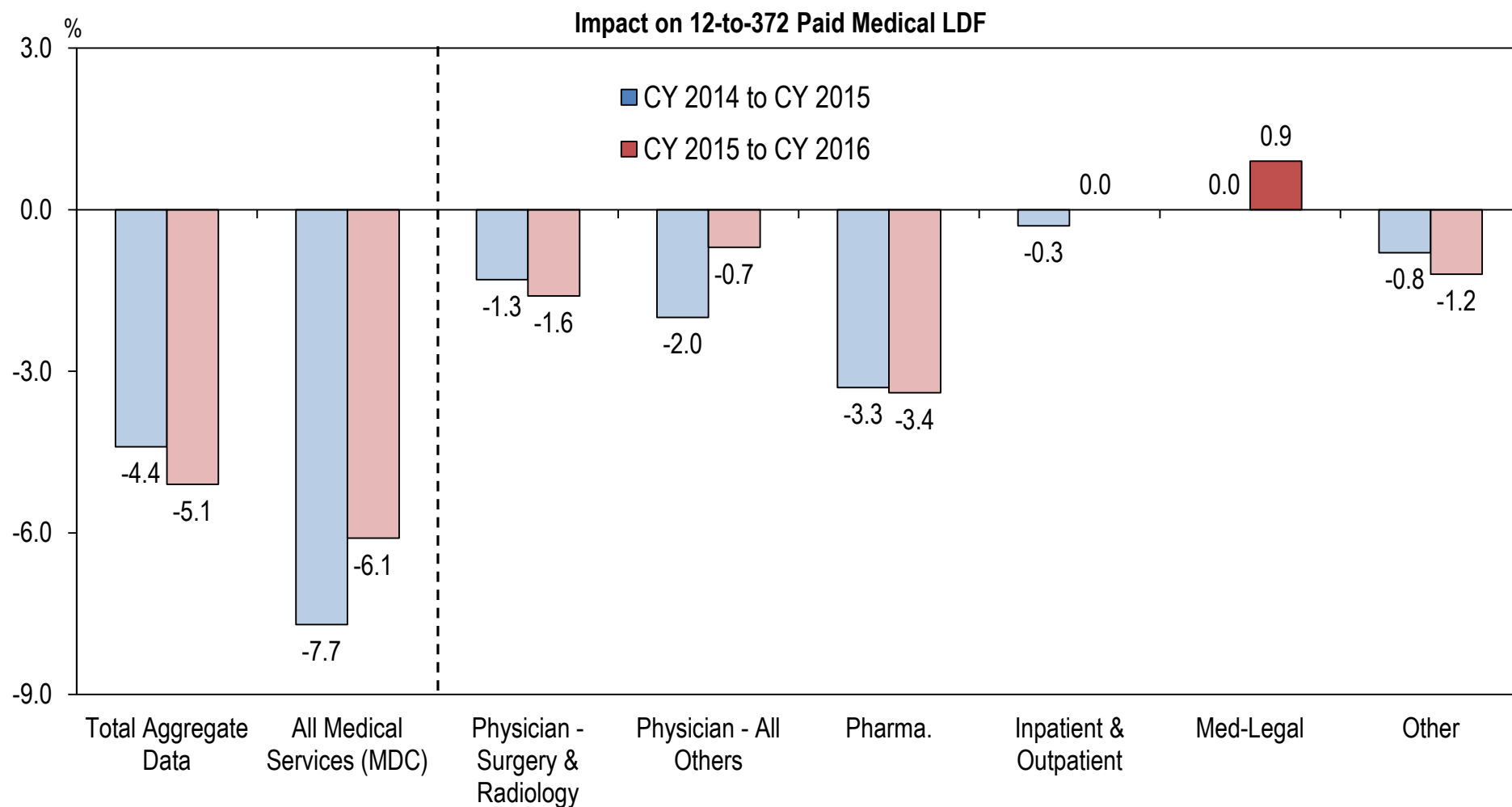


Change in Total Medical Payments by Quarter (\$s in millions)



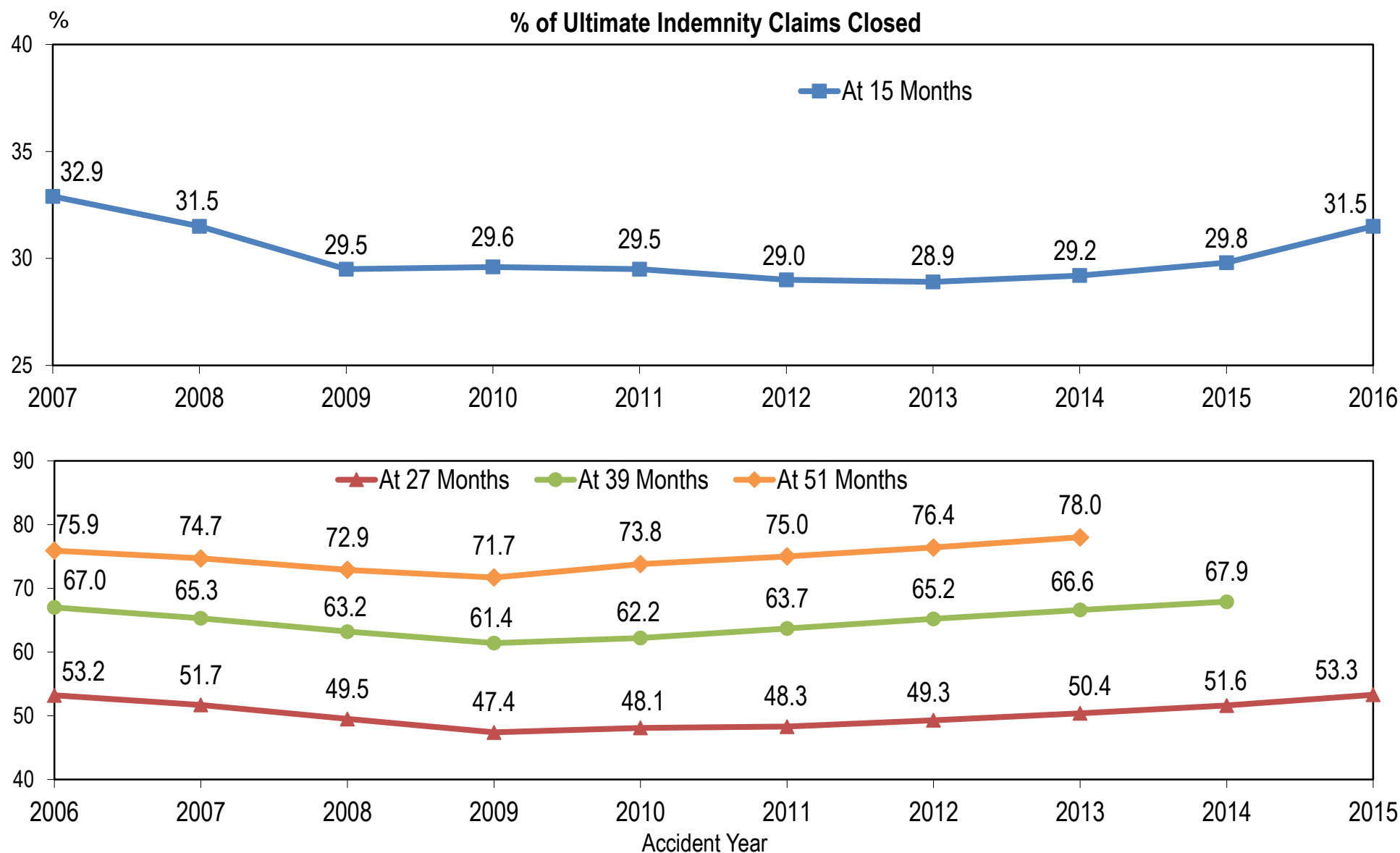
Source: WCIRB Quarterly Calls for Experience

# Change in Paid Medical Development by Medical Service Category – All Periods



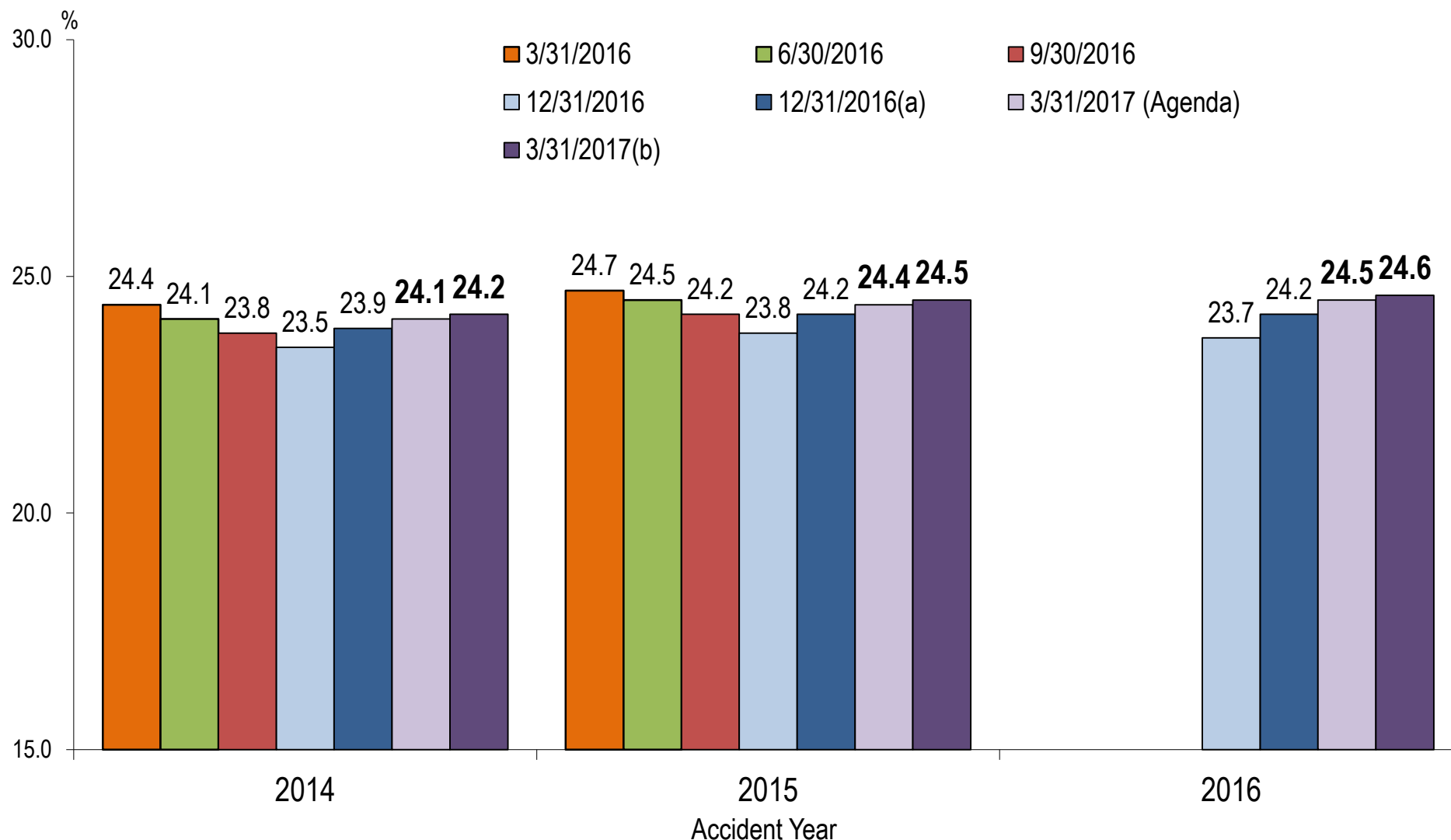
Source: WCIRB Medical Data Call

# Indemnity Claim Settlement Ratios (Exhibit 11.2)





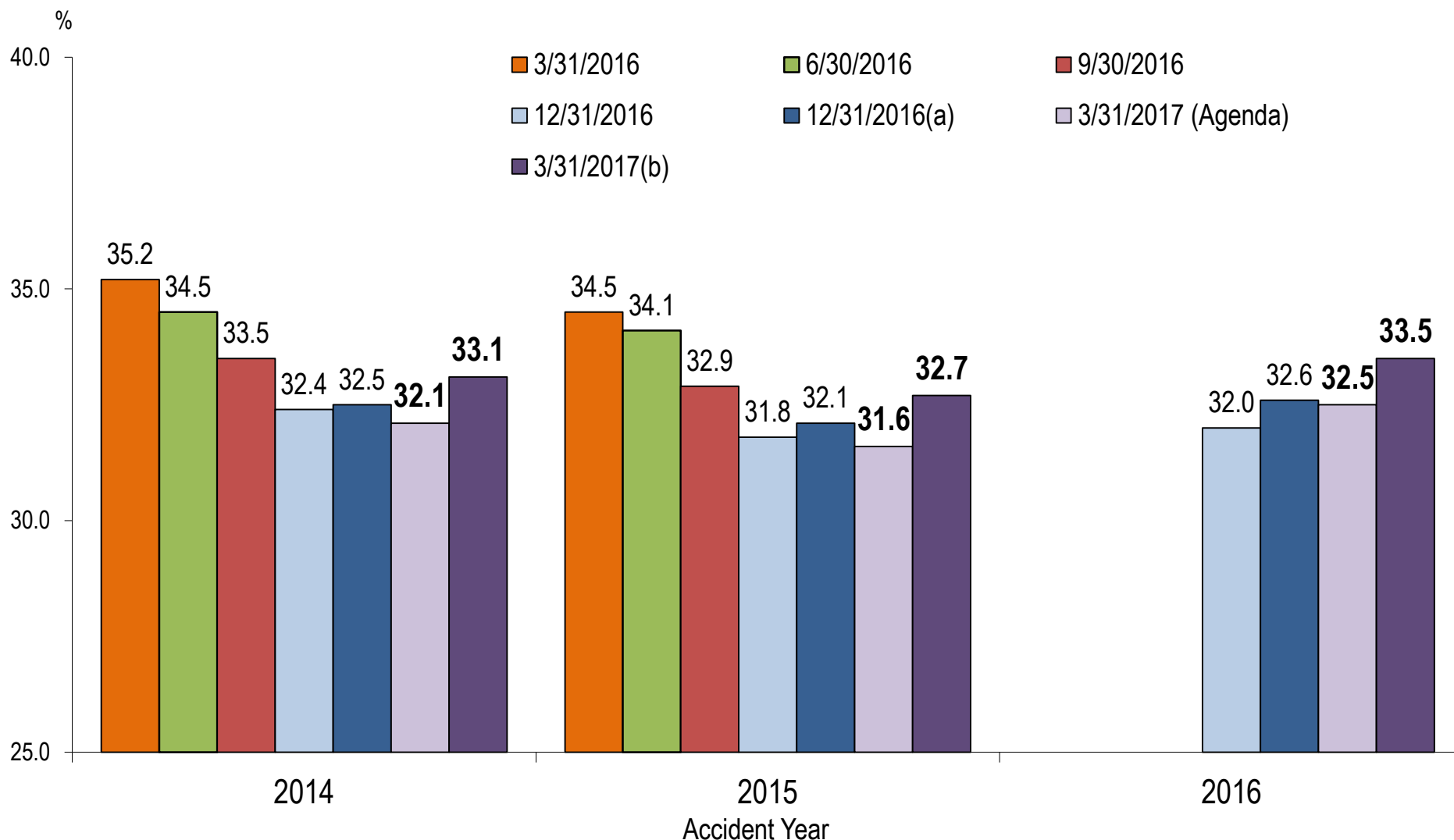
# Projected Ultimate Indemnity Loss Ratios (Exhibit 3.1)



(a) Updated with SB 863 adjustments to loss development adopted at 3/21/17 meeting.

(b) Based on staff recommended refinements to longer-term loss development.

# Projected Ultimate Medical Loss Ratios (Exhibit 3.2)



(a) Updated with SB 863 adjustments to loss development adopted at 3/21/17 meeting.

(b) Based on staff recommended refinements to longer-term loss development.

## **Alternative Loss Development Methodologies (Item AC17-08-03)**

### ***Incurred Methods***

- **Unadjusted Incurred Projections**
  - Best with stable case reserve levels and incurred patterns
  - Can be distorted by changing reserve levels
  - Incurred development more volatile and cyclical than paid development
  - Performed poorly during transition periods
  - Greater variability across insurers than paid method
  - Difficult to impute reform adjustments
  - Treatment of MCCP in medical reserves unknown
  - Recent incurred development has significantly decreased
- **Incurred Adjusted for Changes in Case Reserve Levels**
  - Best with clear evidence of changing case reserve levels
  - Sensitive to severity & on-level adjustments to case reserves
  - Unclear how to impute reform impacts
  - Current projection above unadjusted incurred projection

## **Alternative Loss Development Methodologies**

### ***Incurred Methods (Continued)***

- Insurer Mix-Adjusted Incurred
  - Best with clear evidence of shifting market shares impacting incurred patterns
  - Issues with lack of transparency and application of statewide method to individual insurer experience
  - Current projection 1 point higher than unadjusted incurred projection

# Alternative Loss Development Methodologies

## *Paid Methods*

- Unadjusted Paid Projections
  - Best with stable payment patterns
  - Can be distorted by changing settlement rates or reforms
  - Generally outperformed unadjusted incurred during transition periods
  - Less variability in paid patterns across insurers than in incurred patterns
  - Recent indemnity development has been fairly stable
  - Medical development stabilizing after recent period of decreases
  
- Reform-Adjusted Paid
  - Best with clear evidence of reform impact on payment patterns
  - SB 863 adjustments have been performing well and are reviewed and updated regularly
  - Current projection higher than the latest year unadjusted projection

## **Alternative Loss Development Methodologies**

### ***Paid Methods (Continued)***

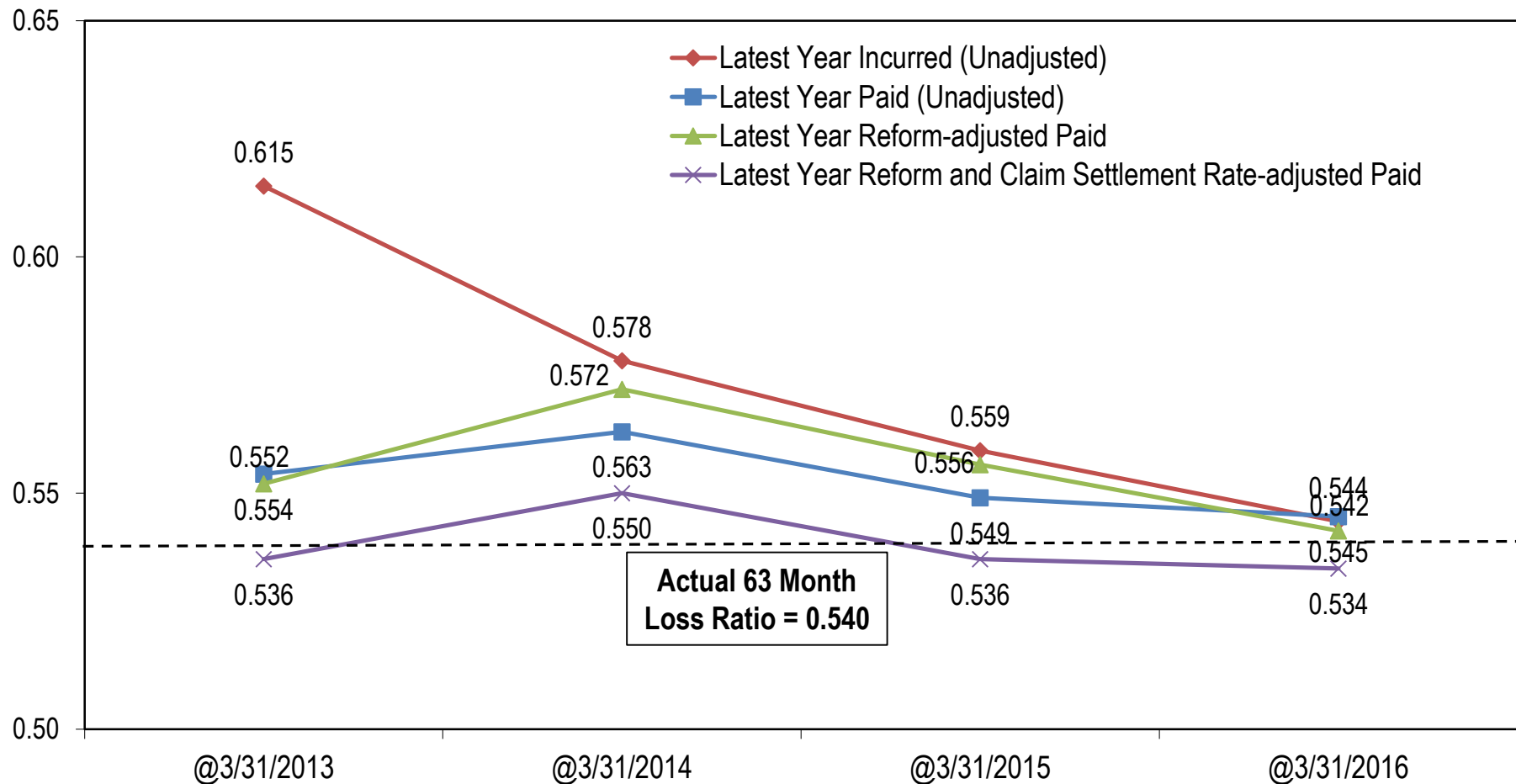
- **Claim Settlement Rate-Adjusted Paid**
  - Best with clear evidence of changes in claim settlement rate affecting loss development
  - Improved projection during periods of significant settlement rate change
  - Primary assumptions of method reasonable based on recent review
  - Claim settlement rates have increased significantly over past year
  
- **Insurer Mix-Adjusted Paid**
  - Best with clear evidence of shifting market shares impacting paid patterns
  - Issues with lack of transparency and application of statewide method to individual insurer experience
  - Current projection somewhat lower than unadjusted paid projection

## **Alternative Loss Development Methodologies**

### ***Paid Methods (Continued)***

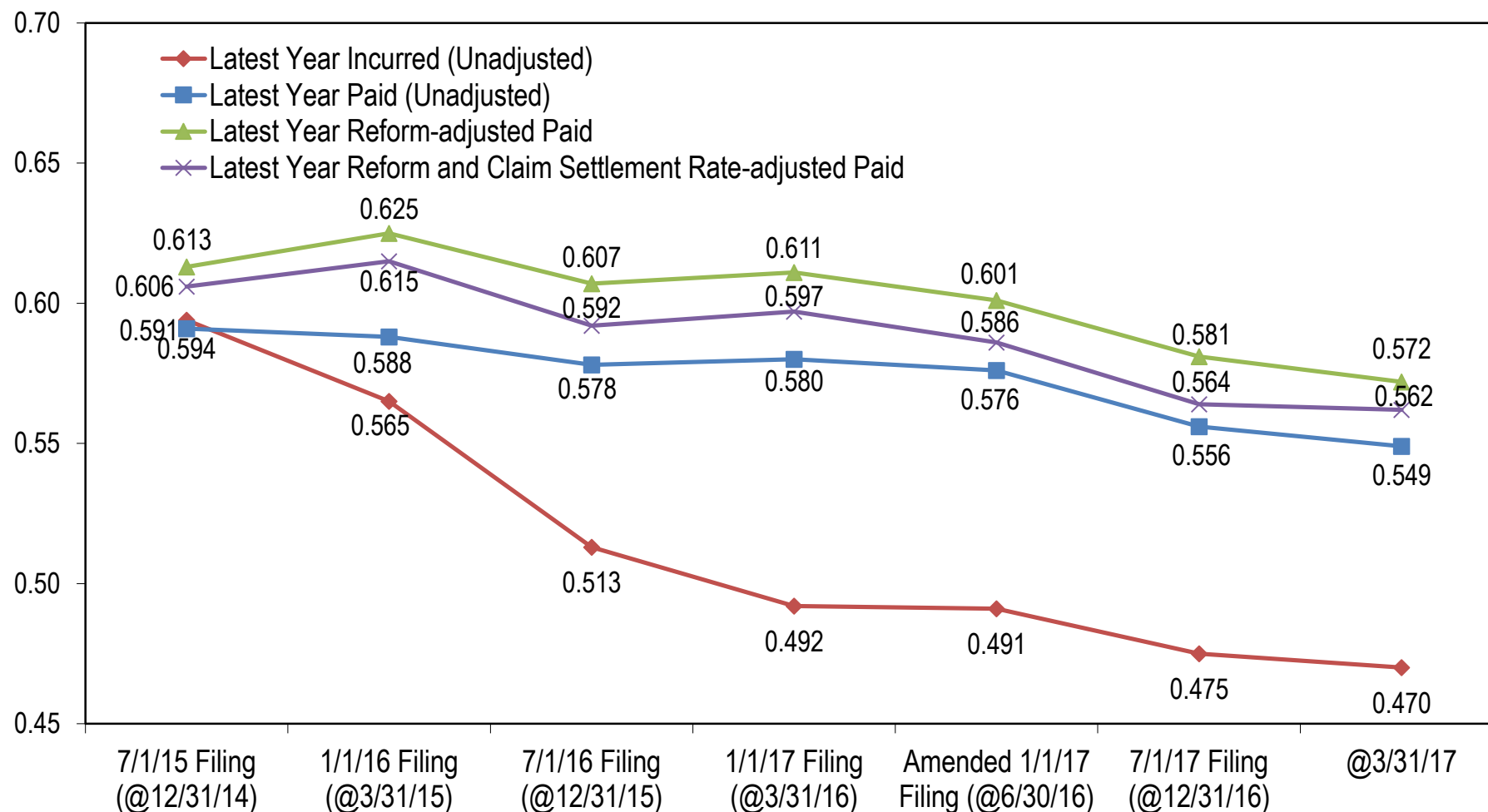
- Bornhuetter-Ferguson (BF) Adjusted Paid
  - Best when early loss development is highly leveraged and volatile
  - Requires assumptions of trend and on-leveling in expected loss ratio projection
  - Reviewed in 2016 and found to be generally less accurate than chain-ladder method historically
  - Current projection generally consistent with chain-ladder projections

# Accident Year 2012 Total Loss Ratios Projected to 63 Months – Methodology Comparison





# Accident Year 2014 Projected Total Ultimate Loss Ratios – Methodology Comparison

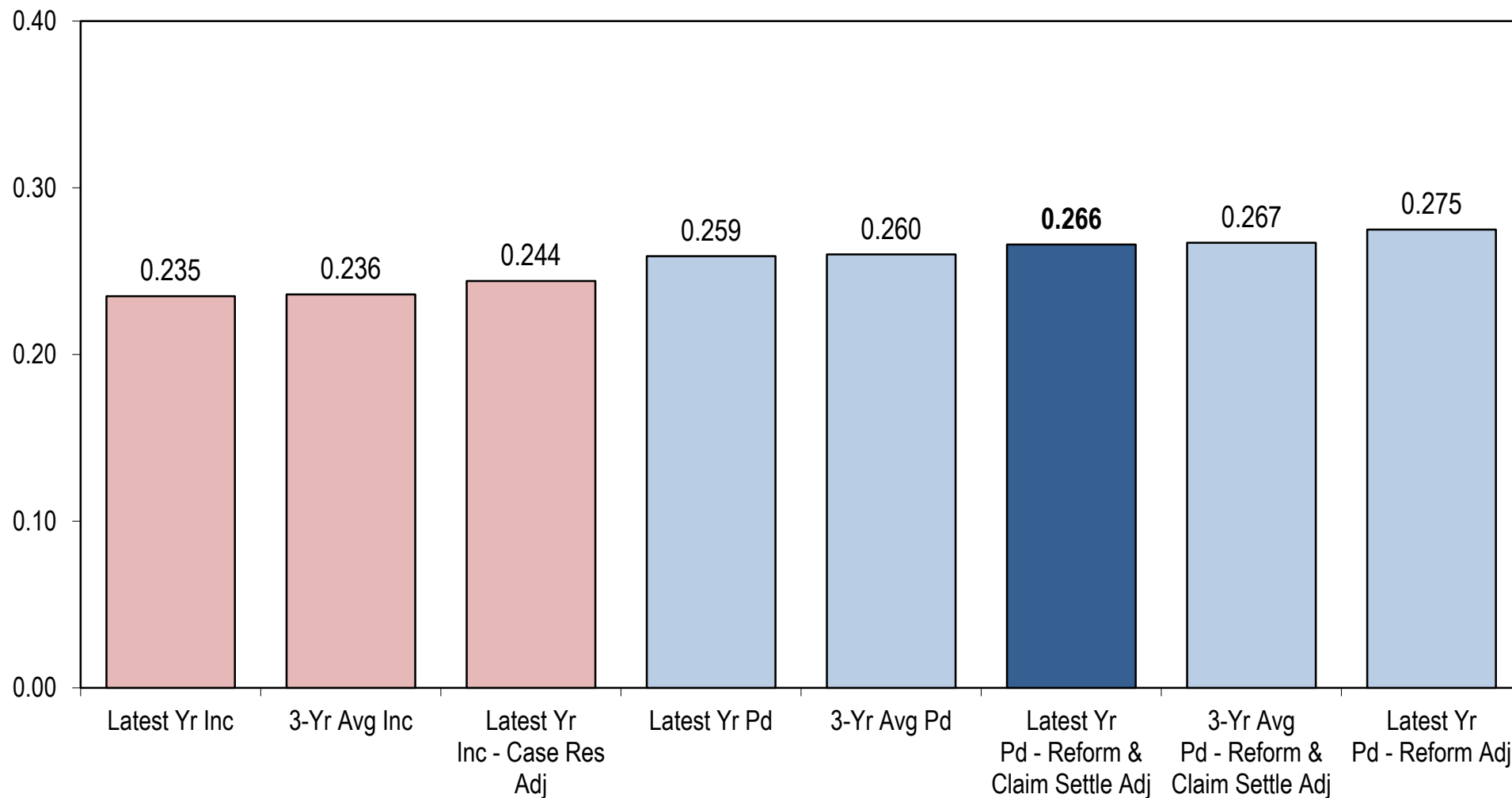


# Indemnity On-Level Loss Ratios for Policy Year 2018 under Alternative Loss Development Methods\*

Method	Projection
<i><b>Paid Latest Year Adj. for Reforms &amp; Claim Settle. w/ Refined Incurred Tail</b></i>	<b>0.267</b>
<b>Paid Latest Year Adjusted for Reforms &amp; Claim Settlement Rate (Agenda)</b>	<b>0.266</b>
Incurred 3-Year Average Unadjusted	0.236
Incurred Latest Year Unadjusted	0.235
Incurred Latest Year Adjusted for Case Reserves	0.244
Incurred Latest Year Adjusted for Insurer Mix	0.238
Paid 3-Year Average Unadjusted	0.260
Paid Latest Year Unadjusted	0.259
Paid Latest Year Adjusted for Reforms	0.275
Paid 3-Year Average Adjusted for Reforms & Claim Settlement Rate	0.267
Paid Latest Year Adjusted for Insurer Mix	0.258
Bornheutter-Ferguson Paid	0.263

\*All methodologies reflect three-year average factors after 111 months. All paid methodologies reflect three-year average incurred factors after 231 months.

## Indemnity On-Level Loss Ratios for Policy Year 2018 under Alternative Loss Development Methods

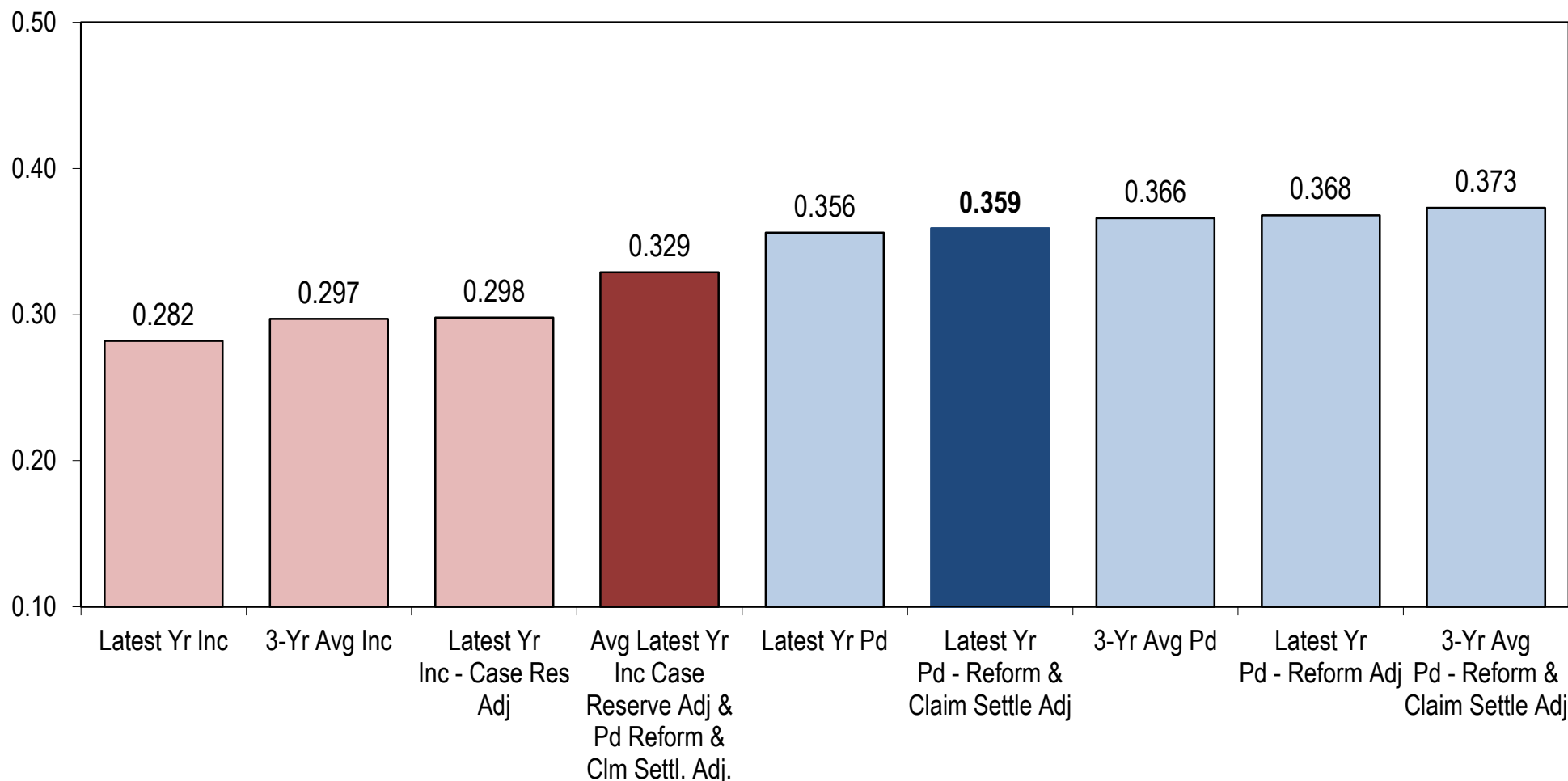


## Medical On-Level Loss Ratios for Policy Year 2018 under Alternative Loss Development Methods\*

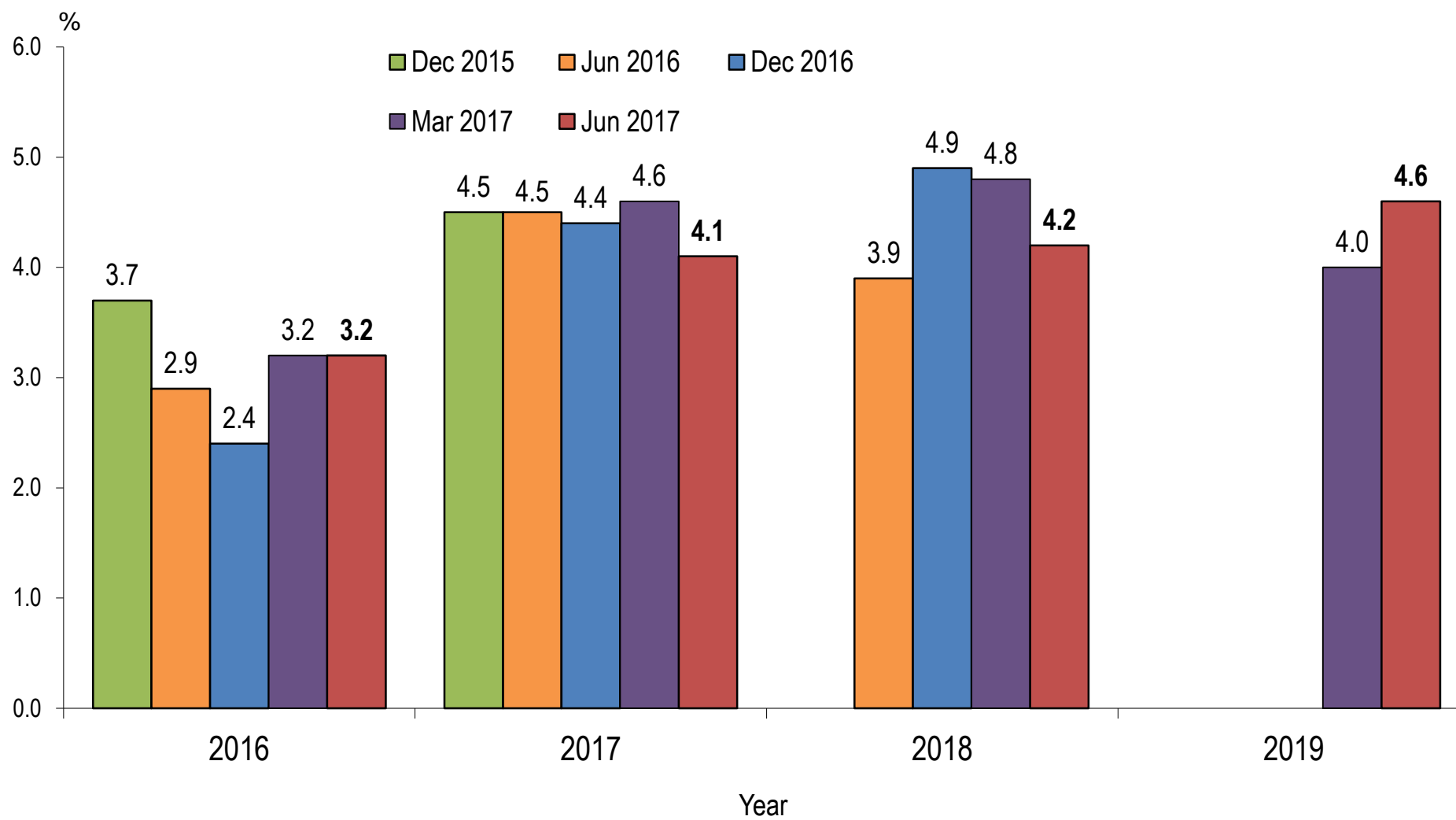
Method	Projection
<b><i>Paid Latest Year Adj. for Reforms &amp; Claim Settle. w/ Refined Incurred Tail</i></b>	<b>0.371</b>
<b>Paid Latest Year Adjusted for Reforms &amp; Claim Settlement Rate (Agenda)</b>	<b>0.359</b>
Incurred 3-Year Average Unadjusted	0.297
Incurred Latest Year Unadjusted	0.282
Incurred Latest Year Adjusted for Case Reserves	0.298
Incurred Latest Year Adjusted for Insurer Mix	0.288
Paid 3-Year Average Unadjusted	0.366
Paid Latest Year Unadjusted	0.356
Paid Latest Year Adjusted for Reforms	0.368
Paid 3-Year Average Adjusted for Reforms & Claim Settlement Rate	0.373
Paid Latest Year Adjusted for Insurer Mix	0.351
Bornheutter-Ferguson Paid	0.356

\*All methodologies reflect three-year average factors after 111 months. All paid methodologies reflect three-year average incurred factors after 231 months.

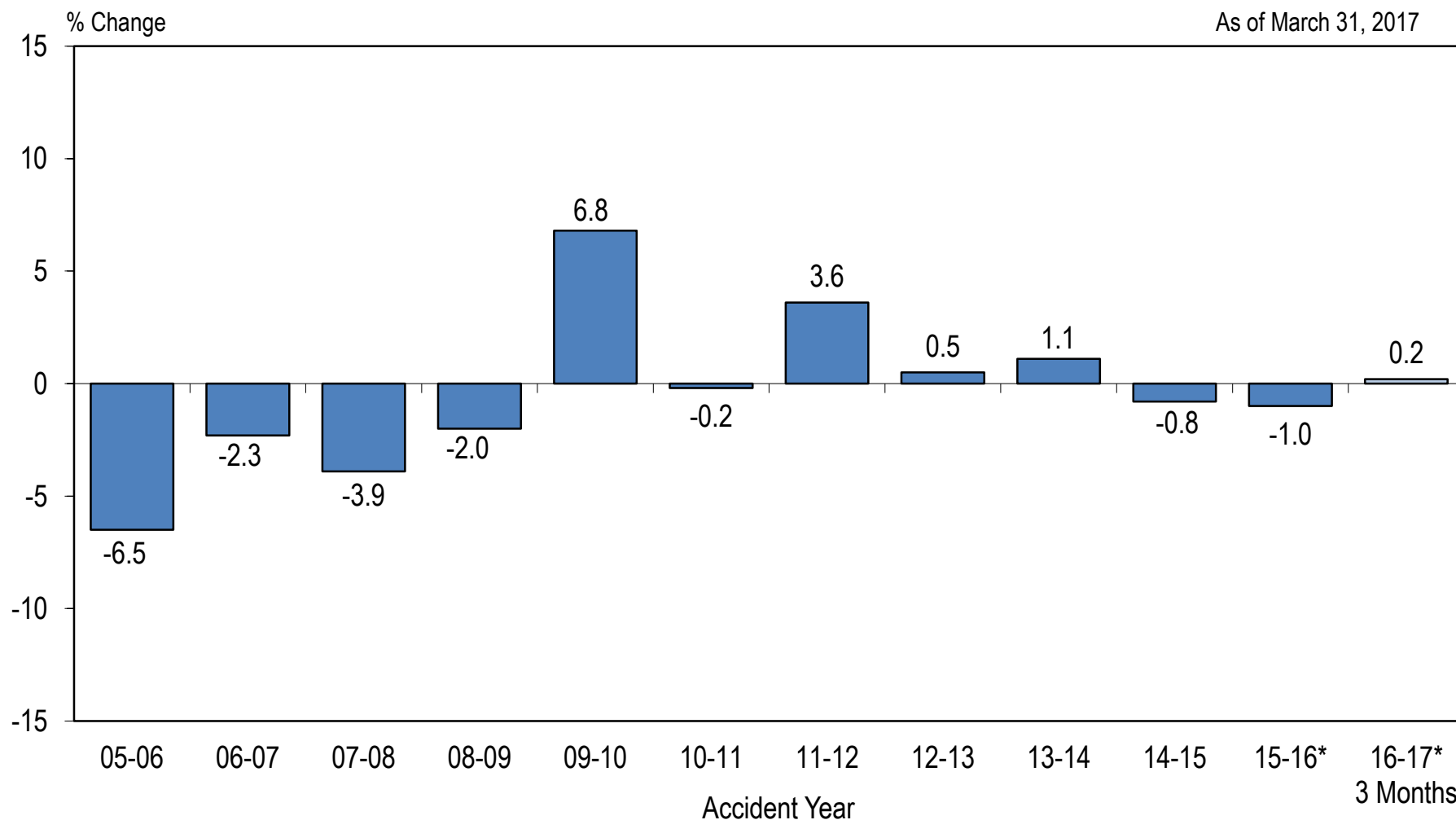
## Medical On-Level Loss Ratios for Policy Year 2018 under Alternative Loss Development Methods



# UCLA Forecasts of Wage Level Changes (Exhibit 5.1)

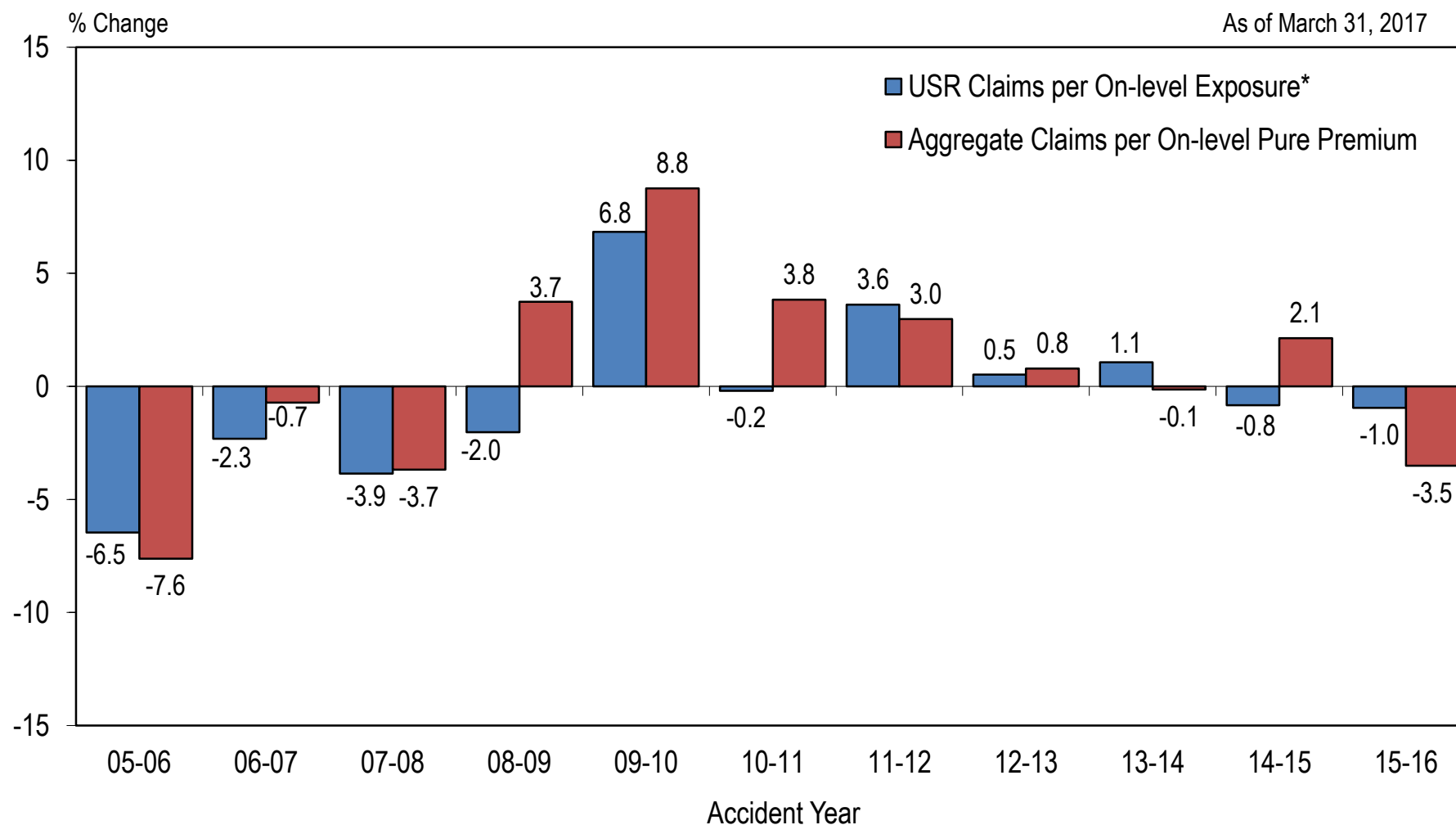


# Estimated Change in Indemnity Claim Frequency (Exhibit 12)



\* Based on changes in reported aggregate indemnity claim counts compared to changes in statewide employment. All other estimates based on unit statistical indemnity claims compared to reported insured payroll.

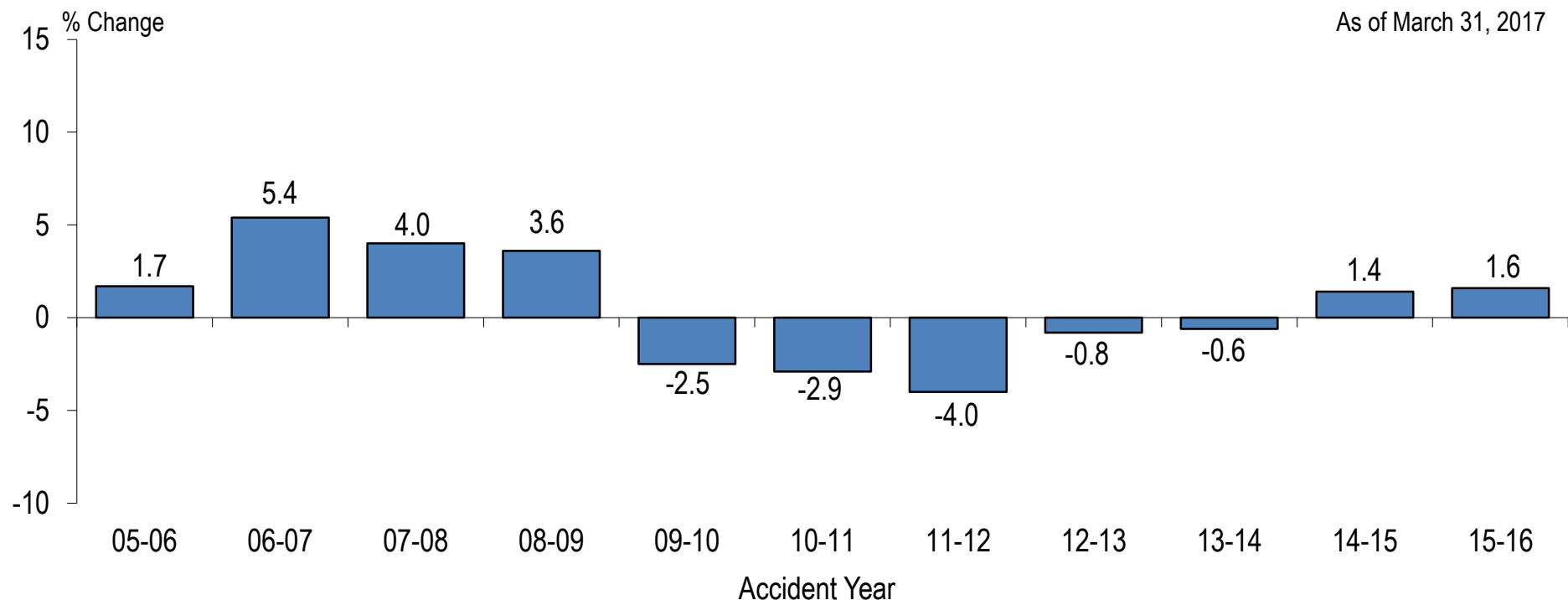
# Comparison of Changes in Indemnity Claim Frequency



\* 2015-2016 change based on changes in reported aggregate indemnity claim counts compared to changes in statewide employment.



## Change in On-Level Indemnity Severity (Exhibit 6.2)



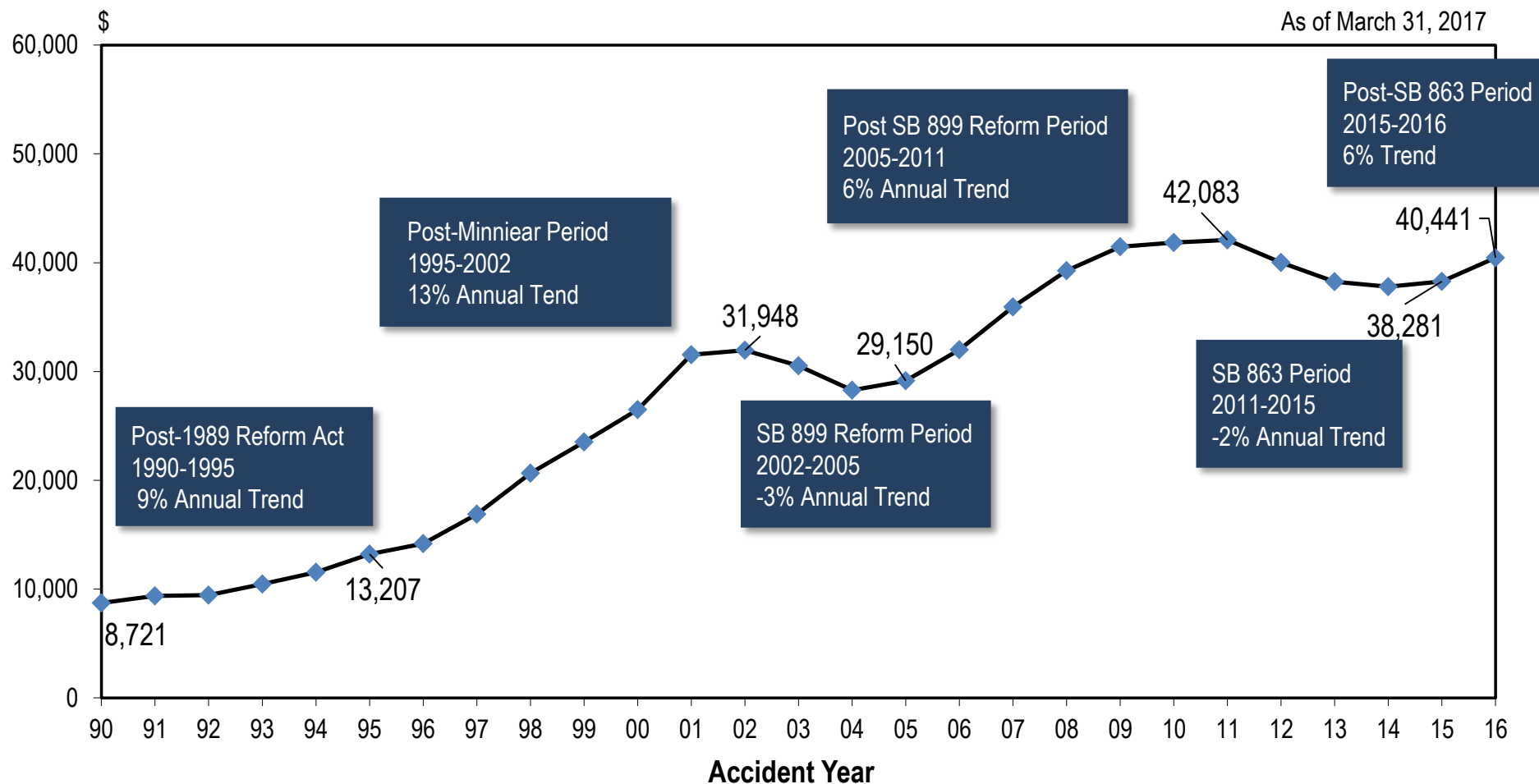
**Annual Exponential Trend Based on:**

**2005 to 2016: 0.0%**

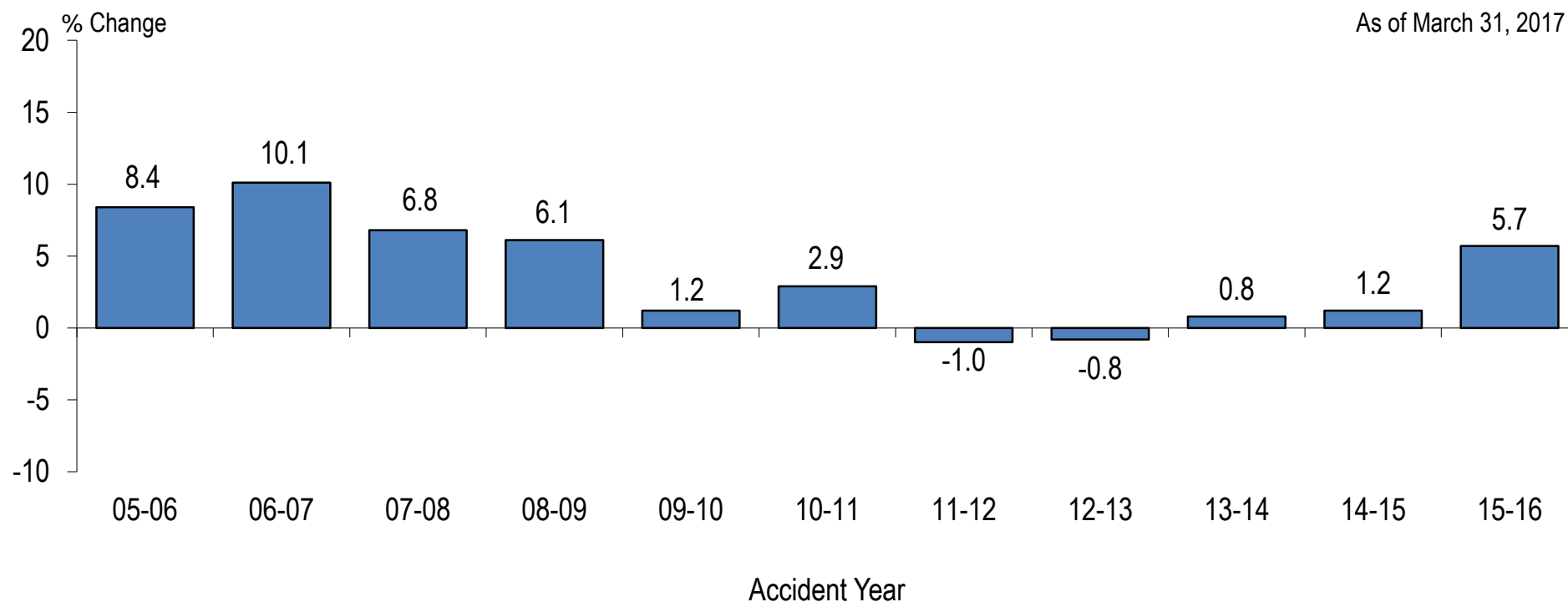
**2011 to 2016: -0.4%**

**Agenda Selected: 0.0%**

# Estimated Ultimate Medical (Incl. MCCP) Per Indemnity Claim (Exhibits 6.3 & 6.4)



## Change in On-Level Medical Severity – Excluding MCCP (Exhibit 6.4)



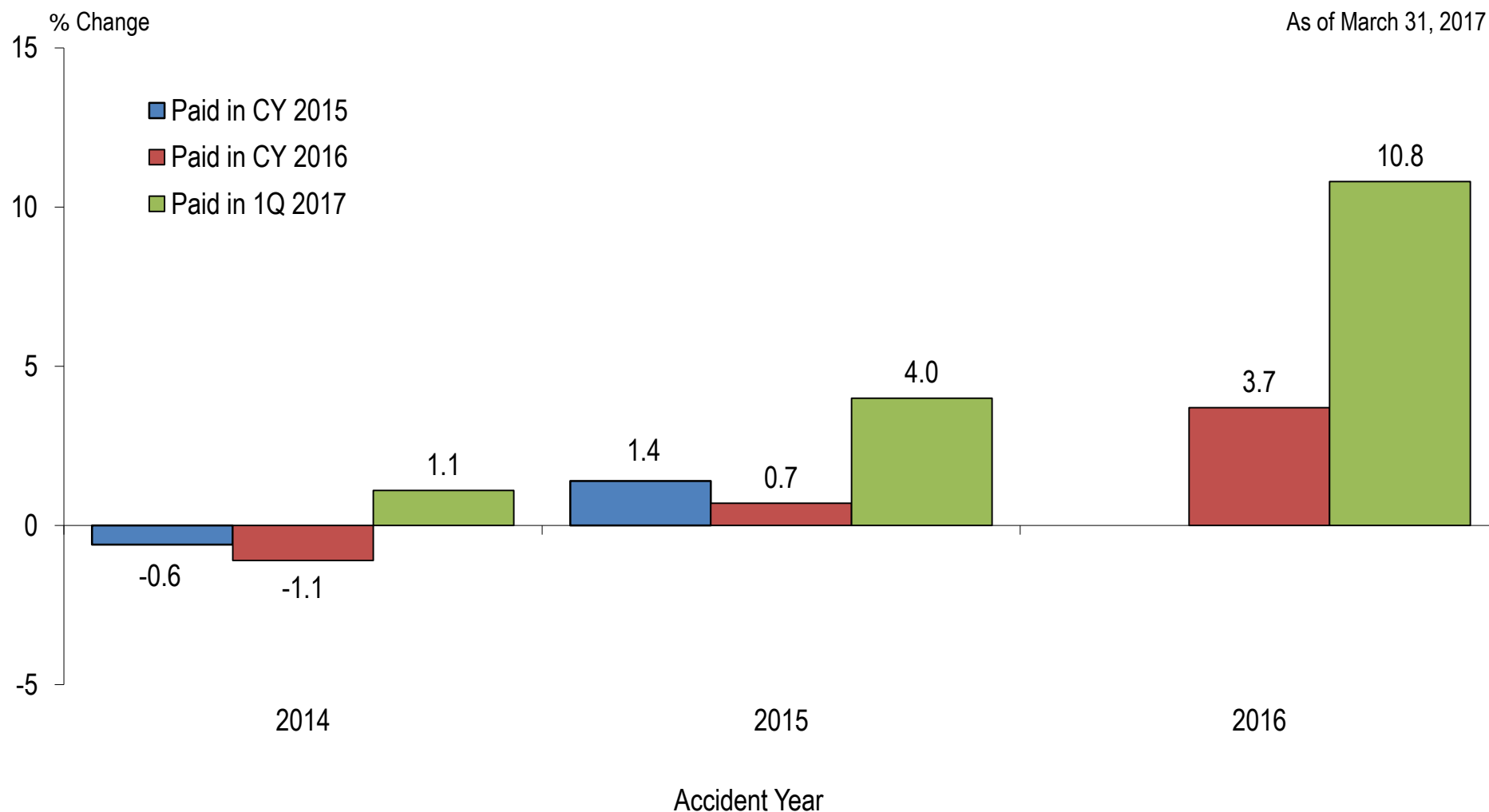
**Annual Exponential Trend Based on:**

**2005 to 2016: +3.0%**

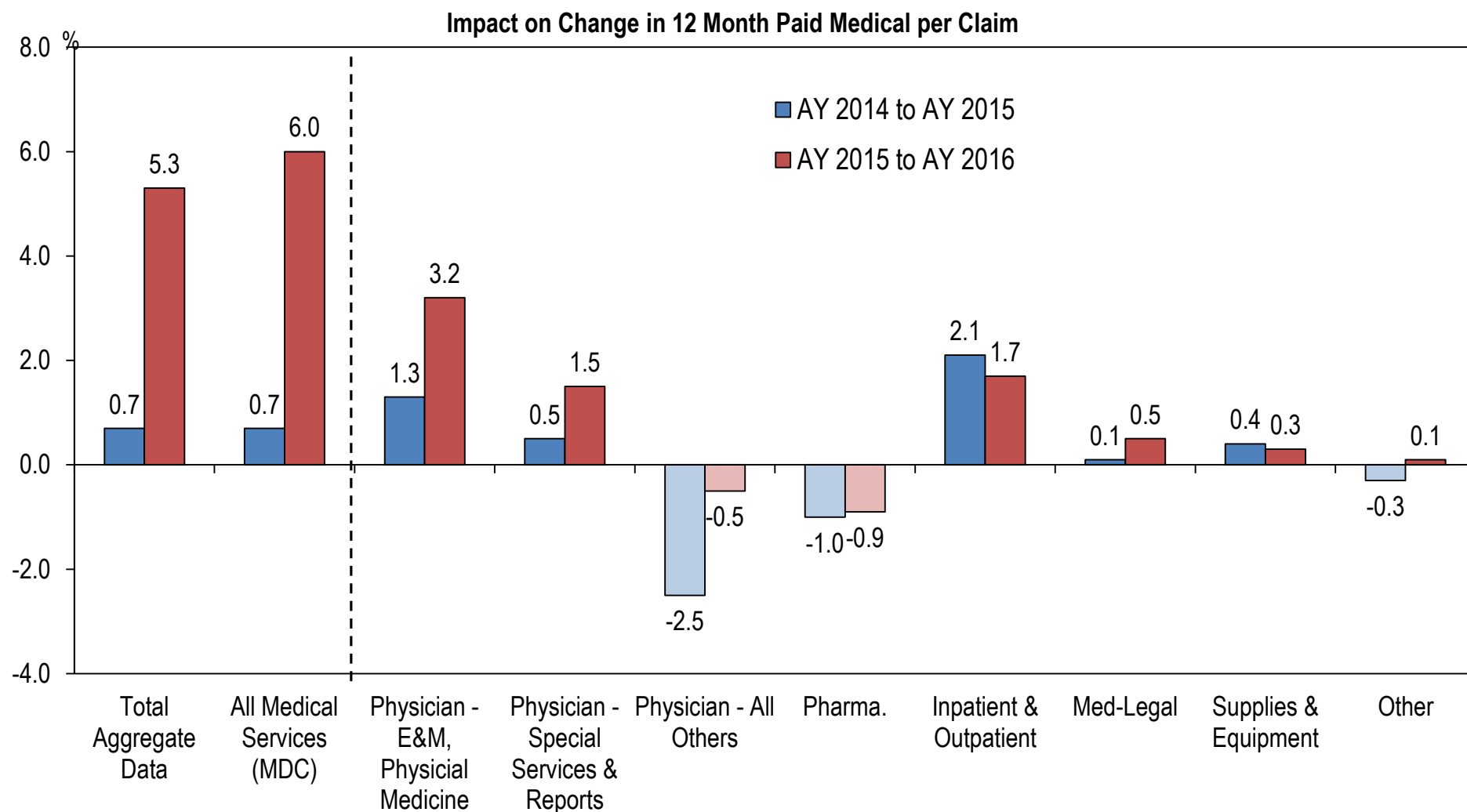
**2011 to 2016: +0.9%**

**Agenda Selected: 3.0%**

## Change in Paid Medical (Including MCCP) to Indemnity Claims Inventory



# Change in Paid Medical per Claim by Medical Service Category



Source: WCIRB Medical Data Call

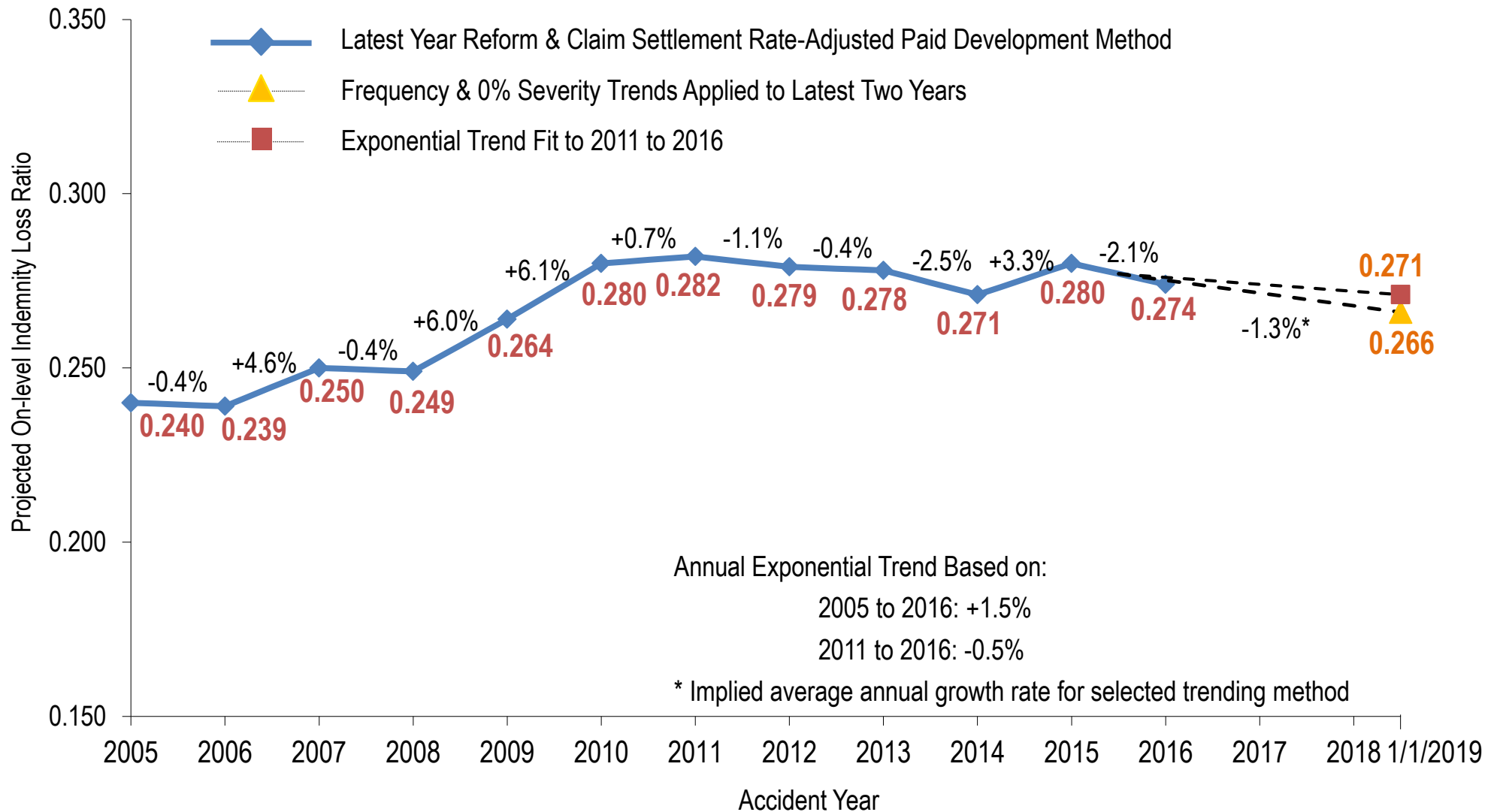
## Alternative Trending Methodologies (Item AC17-08-03)

- Separate Frequency & Severity Trends Projections
  - Best during periods when loss ratios are volatile
  - Frequency and severity are affected by differing underlying forces
  - Allows for separate assumptions and judgment about future trends
  - Assumes frequency & severity not highly correlated
  - Performed well during 2002-2004 reform and SB 863 transition periods but not recession period
  - Also performed well in most recent study of trending methods
  - Recent small frequency decreases consistent with model forecasts
  - On-level indemnity severity relatively flat over last several years
  - On-level medical severity starting to increase after declines during SB 863 transition period
  - Significant medical inflation has historically followed periods of reform

## Alternative Trending Methodologies (Continued)

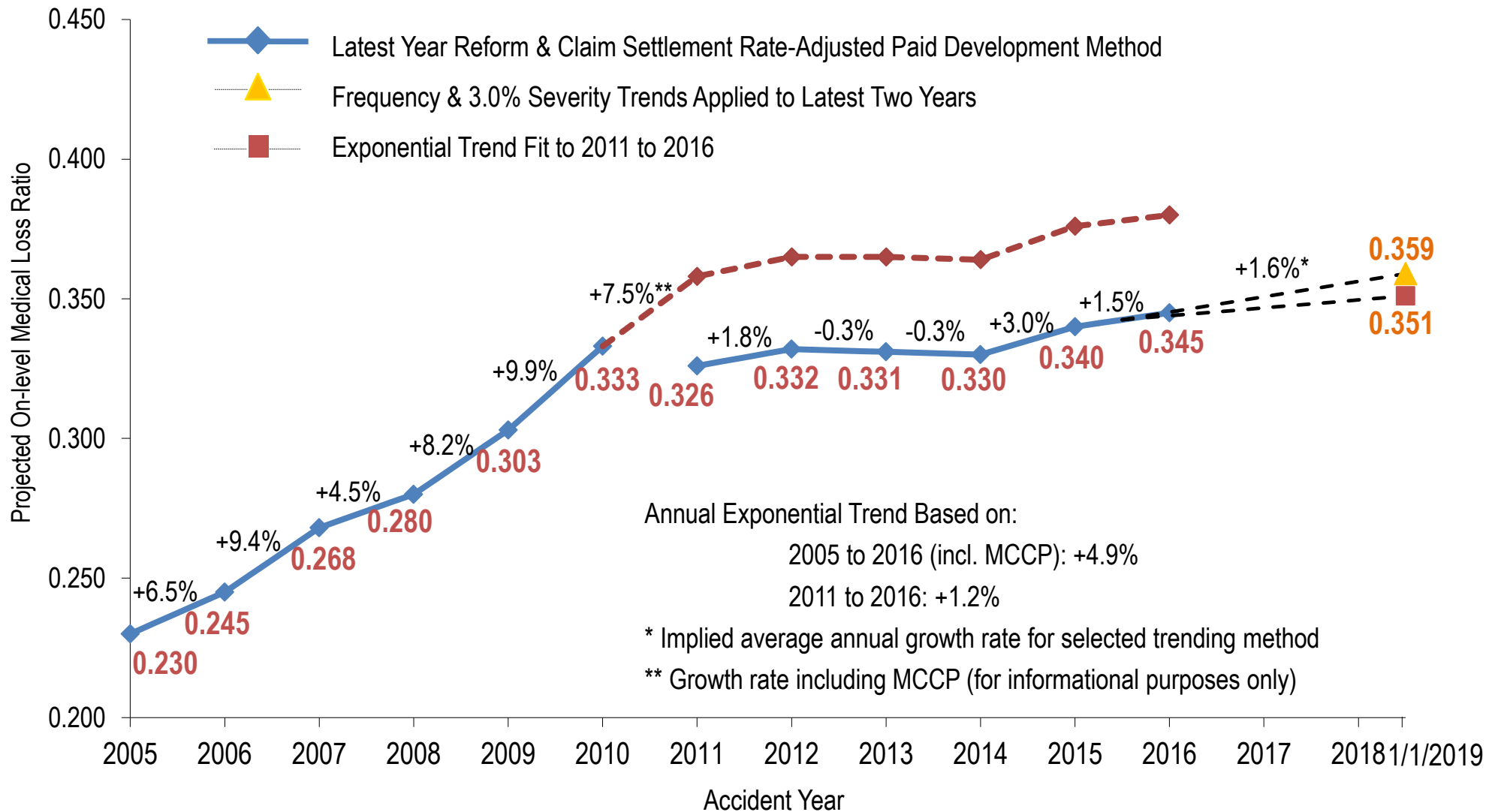
- Loss Ratio Trend Projections
  - Best during periods with stable loss ratio trends
  - Historical loss ratios fit reasonably well to exponential curve
  - Rely on accurate on-leveling adjustments
  - Performed well during recent recession period
  - Did not perform well during 2002 to 2004 reform and SB 863 transition periods when trends moderate
  - Generally not as accurate as frequency & severity method in most recent trending study
  - Recent trends have moderated with SB 863 reforms
  - Current shorter-term loss ratio projections generally comparable to separate frequency & severity projections

# Indemnity Loss Trend & Projections (Exhibit 7.1)





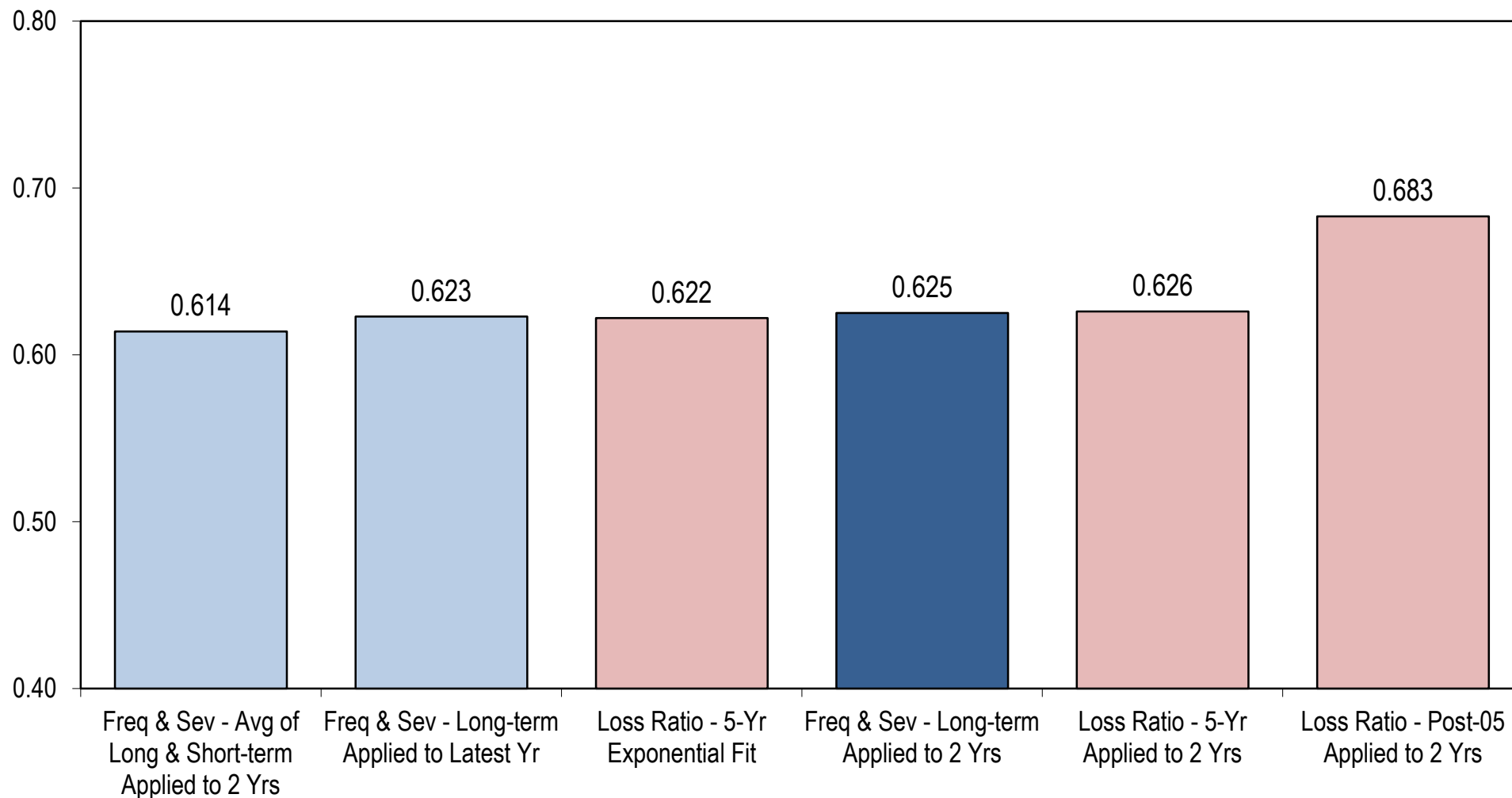
# Medical Loss Trend & Projections (Exhibit 7.3)



## Projected On-Level Loss Ratios for Policy Year 2018 under Alternative Trending Methods

Method	Projection
<b>Separate Frequency &amp; Severity Projections (0% Indemnity &amp; 3% Medical) Applied to Latest Two Years (Agenda)</b>	<b>0.625</b>
Separate Freq. & Severity (0% Ind. & 3% Med.) Applied to Latest Year	0.623
Separate Freq. & Avg. of Long and Short-Term Severity (-0.2% Ind. & 2.0% Med.) Applied to Latest Two Years	0.614
Post-2005 Avg. On-Level Loss Ratio Exp. Trend Applied to Latest Two Years	0.683
5-Year Avg. On-Level Loss Ratio Exp. Trend Applied to Latest Two Years	0.626
On-Level Loss Ratio Exponential Trend Fit to 2011-2016	0.622

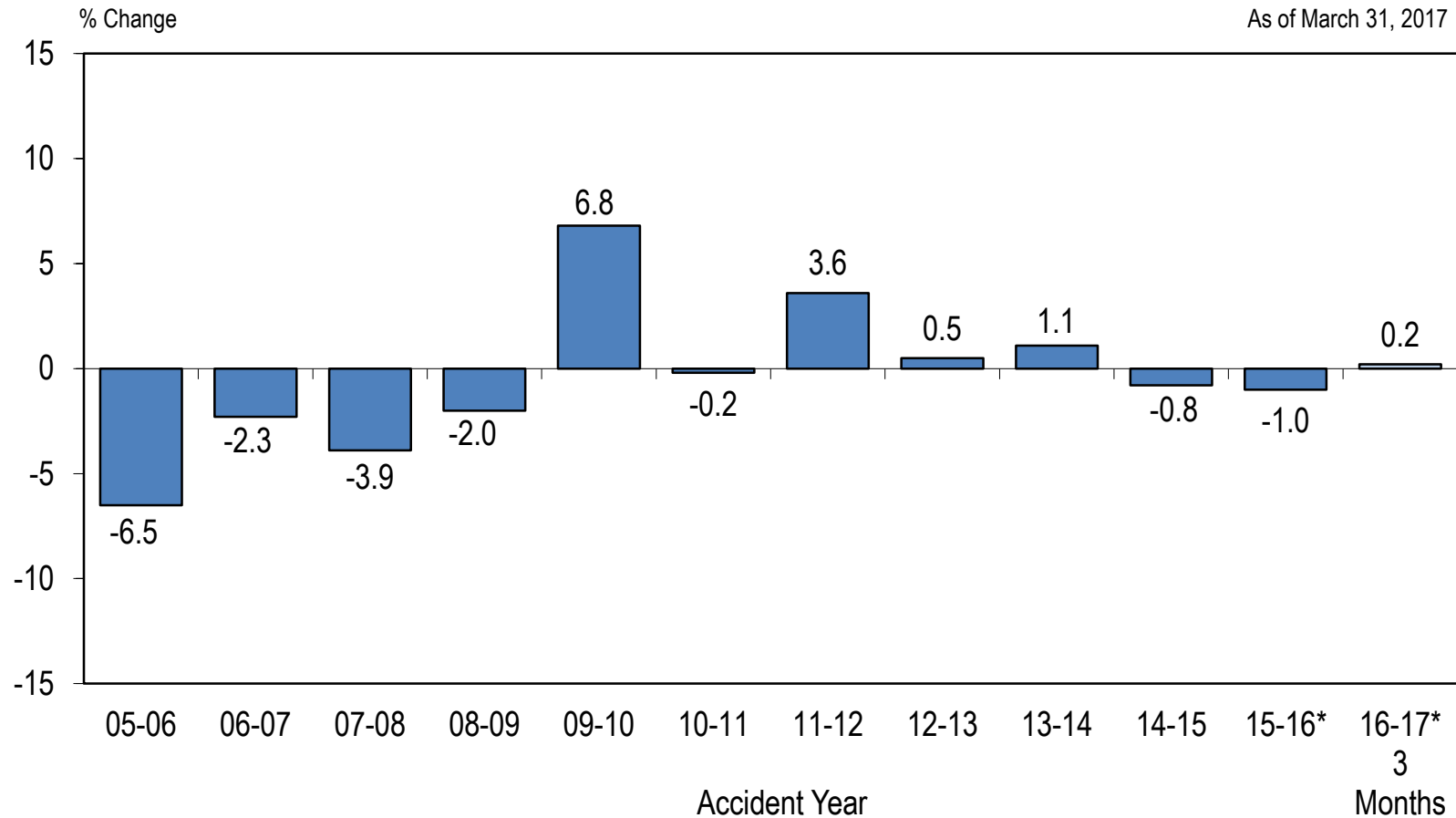
## Projected On-Level Loss Ratios for Policy Year 2018 under Alternative Trending Methods



# **Third Quarter 2017 Review of Diagnostics**

**Actuarial Committee Meeting  
August 2, 2017**

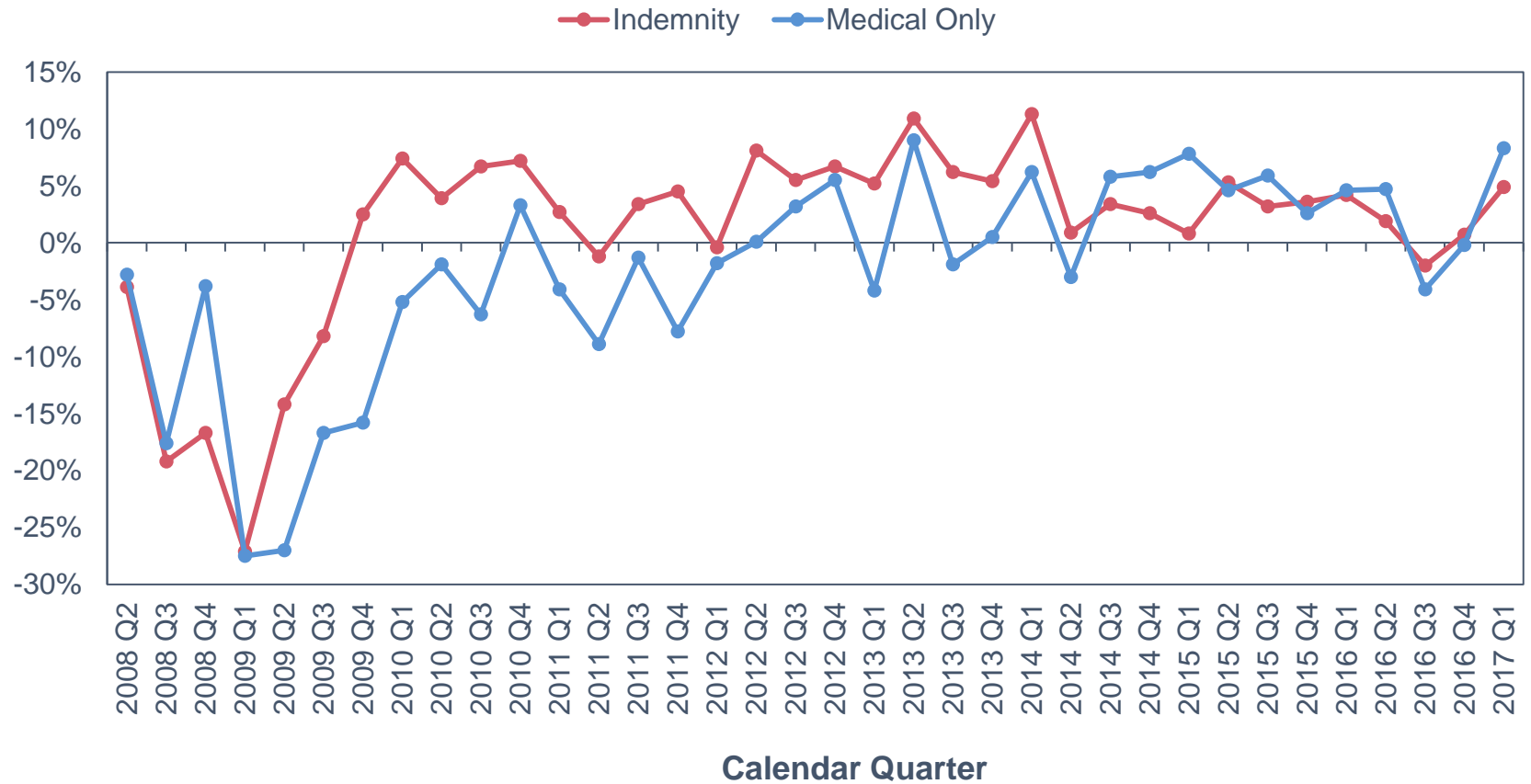
# Indemnity Claim Frequency (Exhibit C6; pg. IV-A-29)



\* Based on changes in reported aggregate indemnity claim counts compared to changes in statewide employment. All other estimates based on unit statistical indemnity claims compared to reported insured payroll.

# Changes in Incremental Claim Counts (Exhibit C11; pg. IV A-35)

Change in Quarterly Incremental Claim Count from Same Quarter at Prior Calendar Year

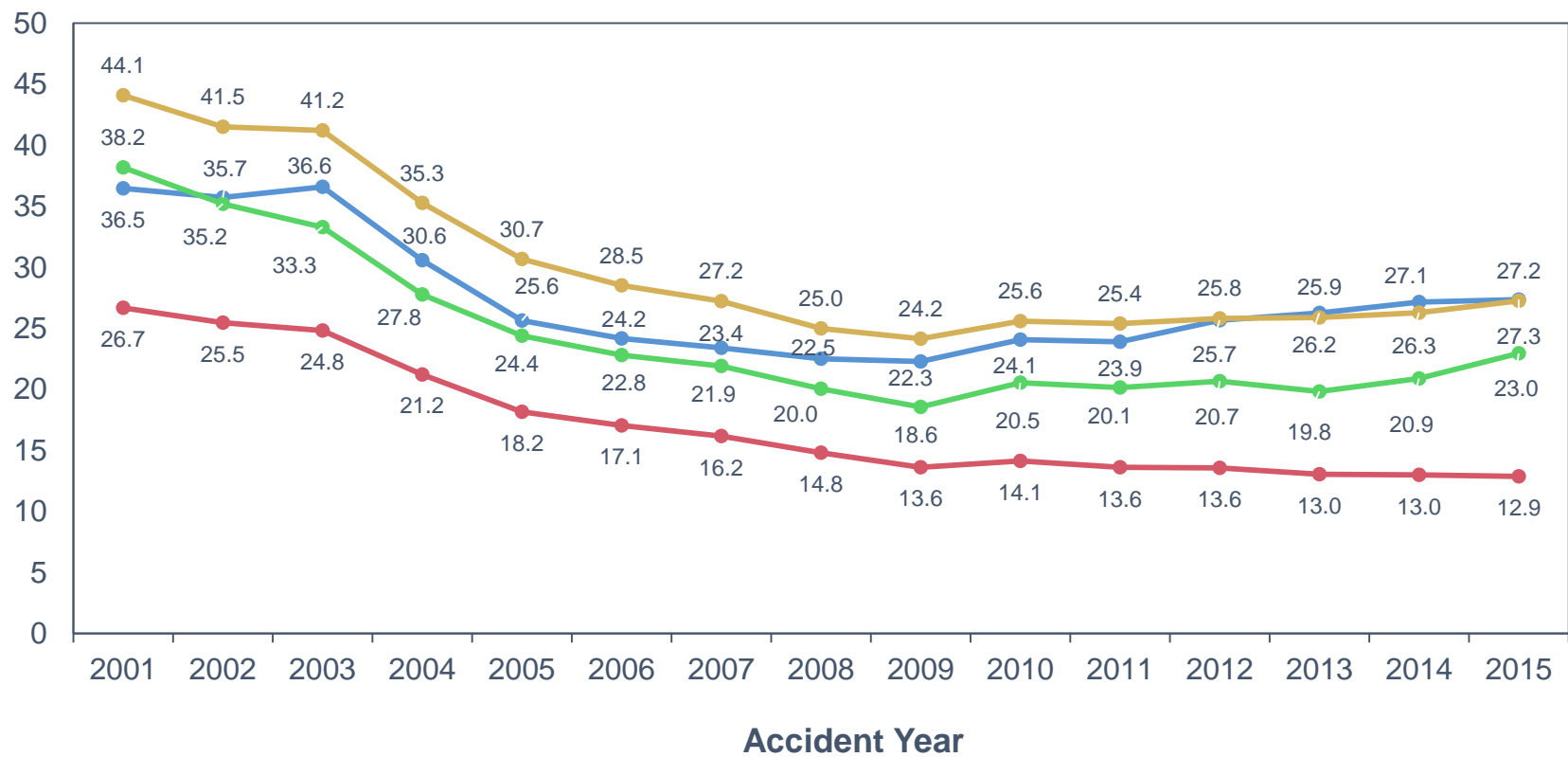


Source: WCIRB quarterly calls for experience

# Indemnity Claim Frequency (Exhibit C21; pg. IV-A-43)

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

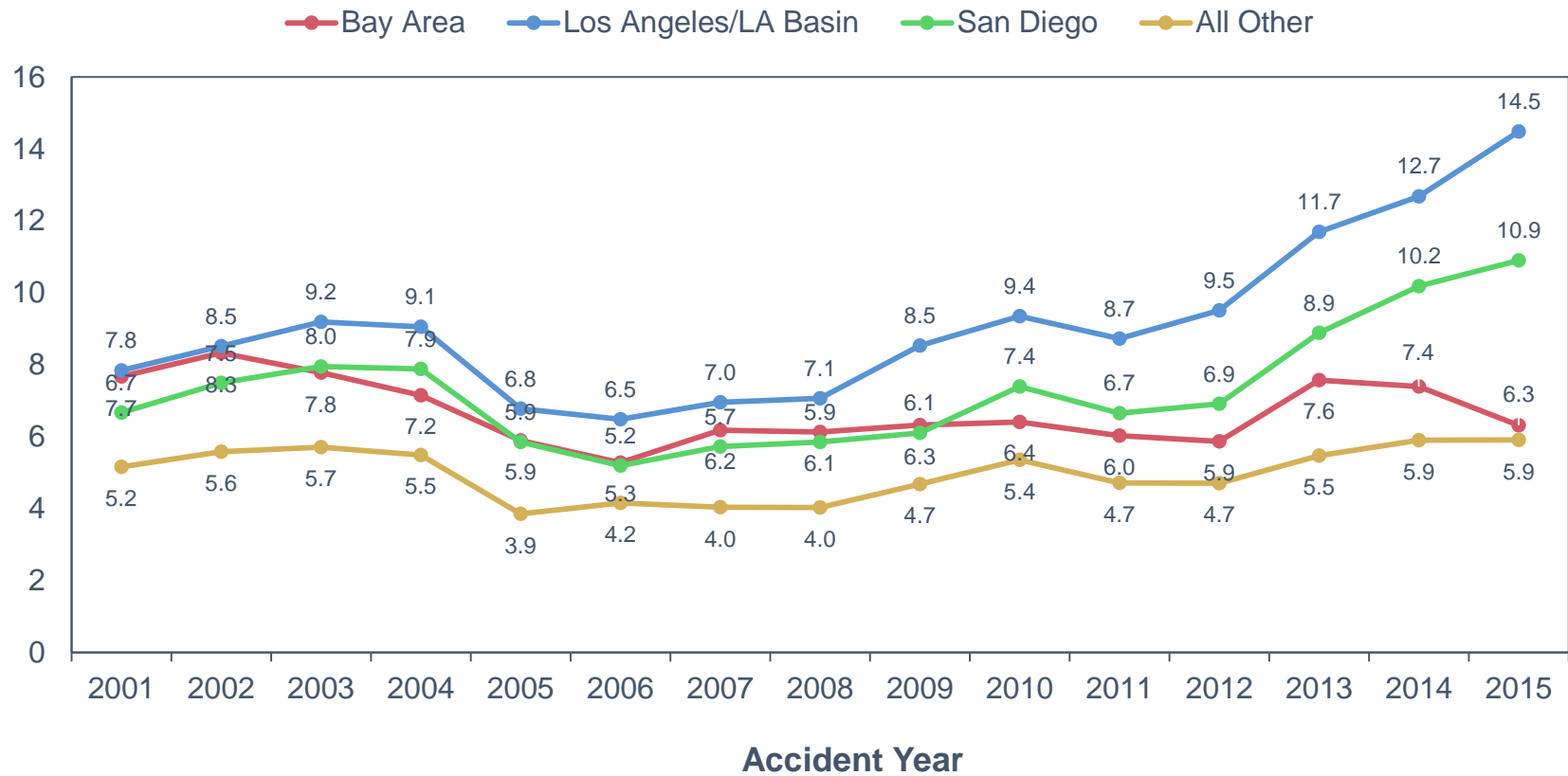
Bay Area Los Angeles/LA Basin San Diego All Other



Source: WCIRB unit statistical data

# Cumulative Injury Claim Count Ratios (Exhibit C17; pg. IV-A-40)

Ratio of Cumulative Injury Claims per 100 Indemnity Claims at First Unit Statistical Report Level

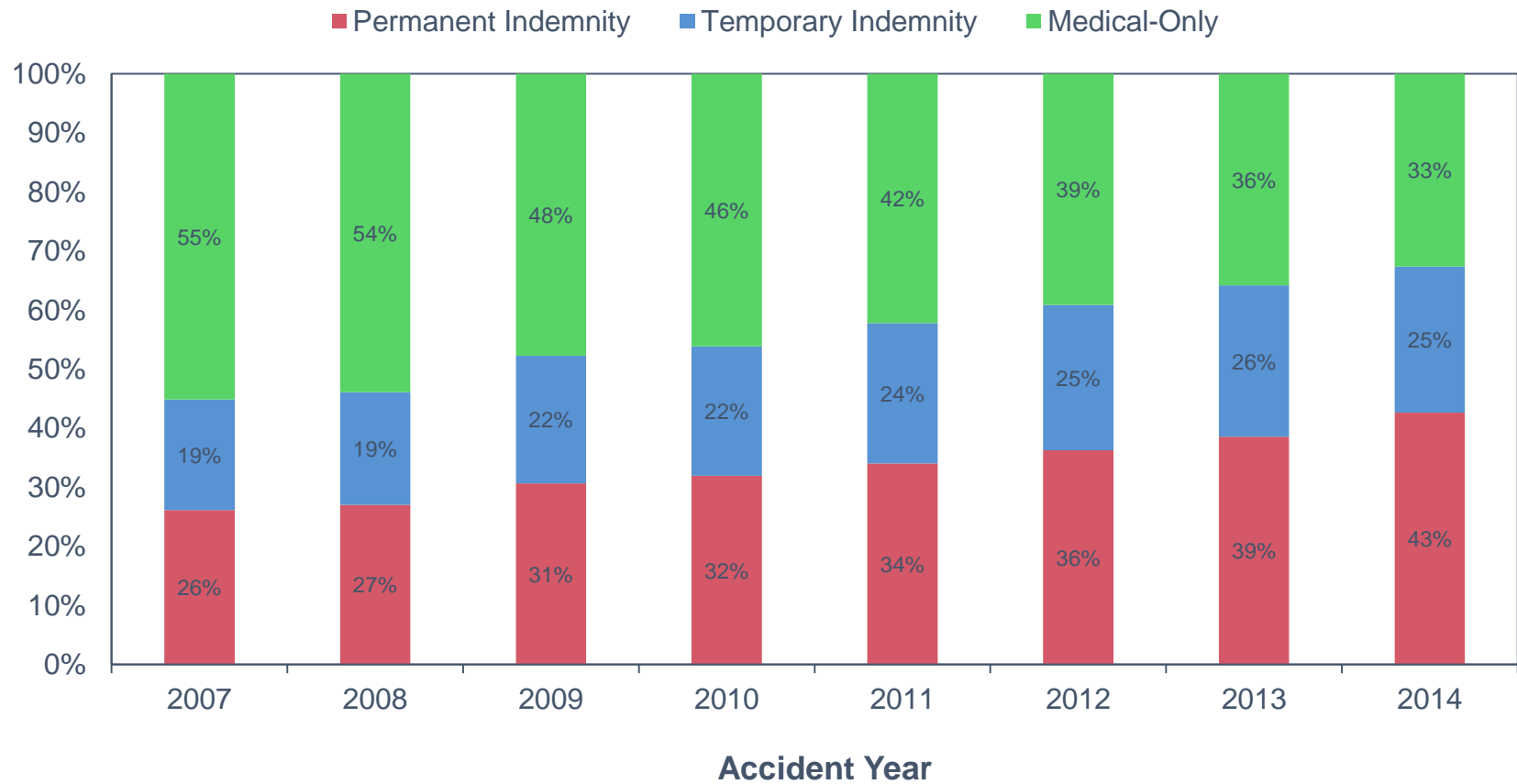


Source: WCIRB unit statistical data



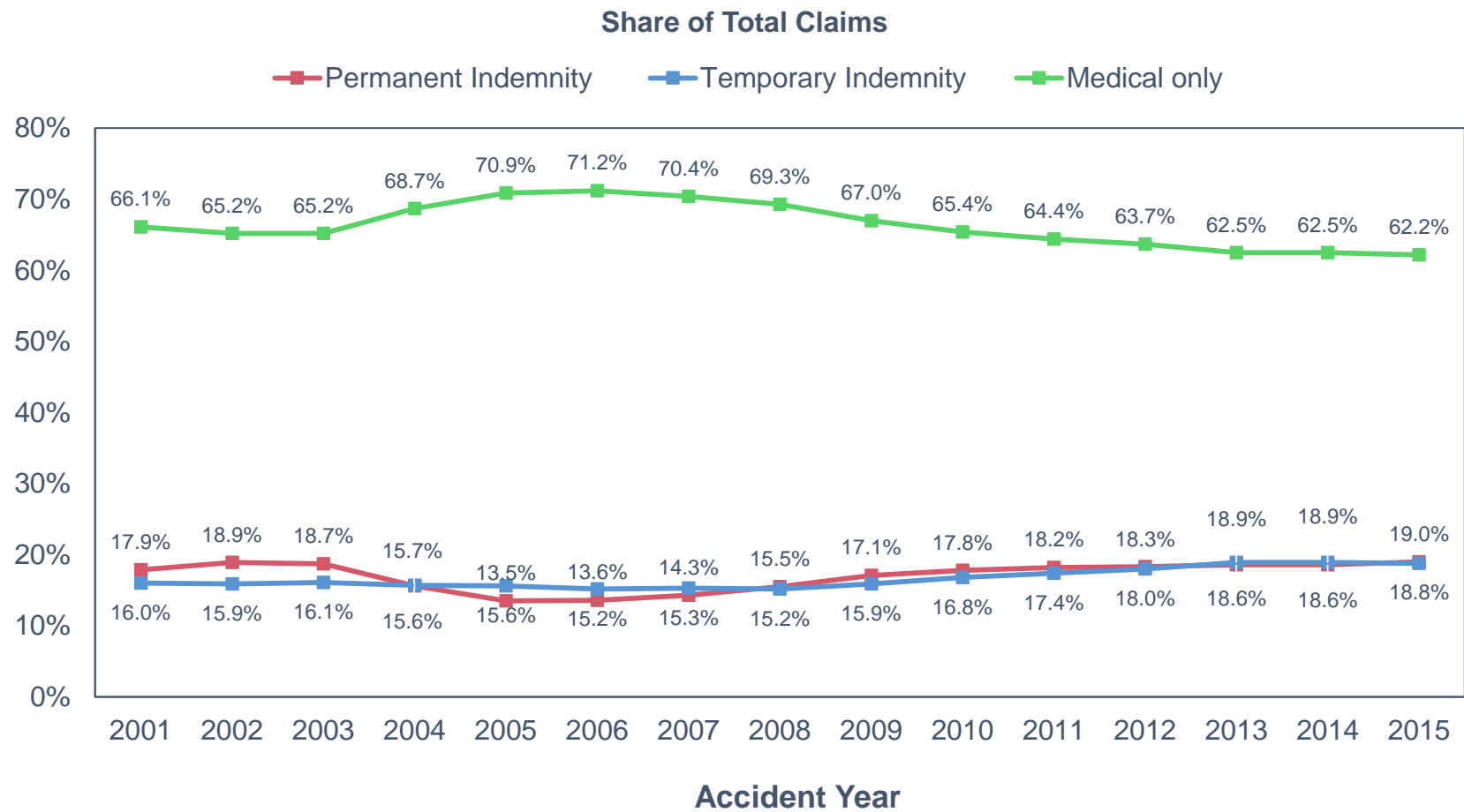
# Cumulative Injury Claims by Injury Type (Exhibit C19; pg. IV-A-42)

Cumulative Injury Claims by Injury Type at Second Report Level



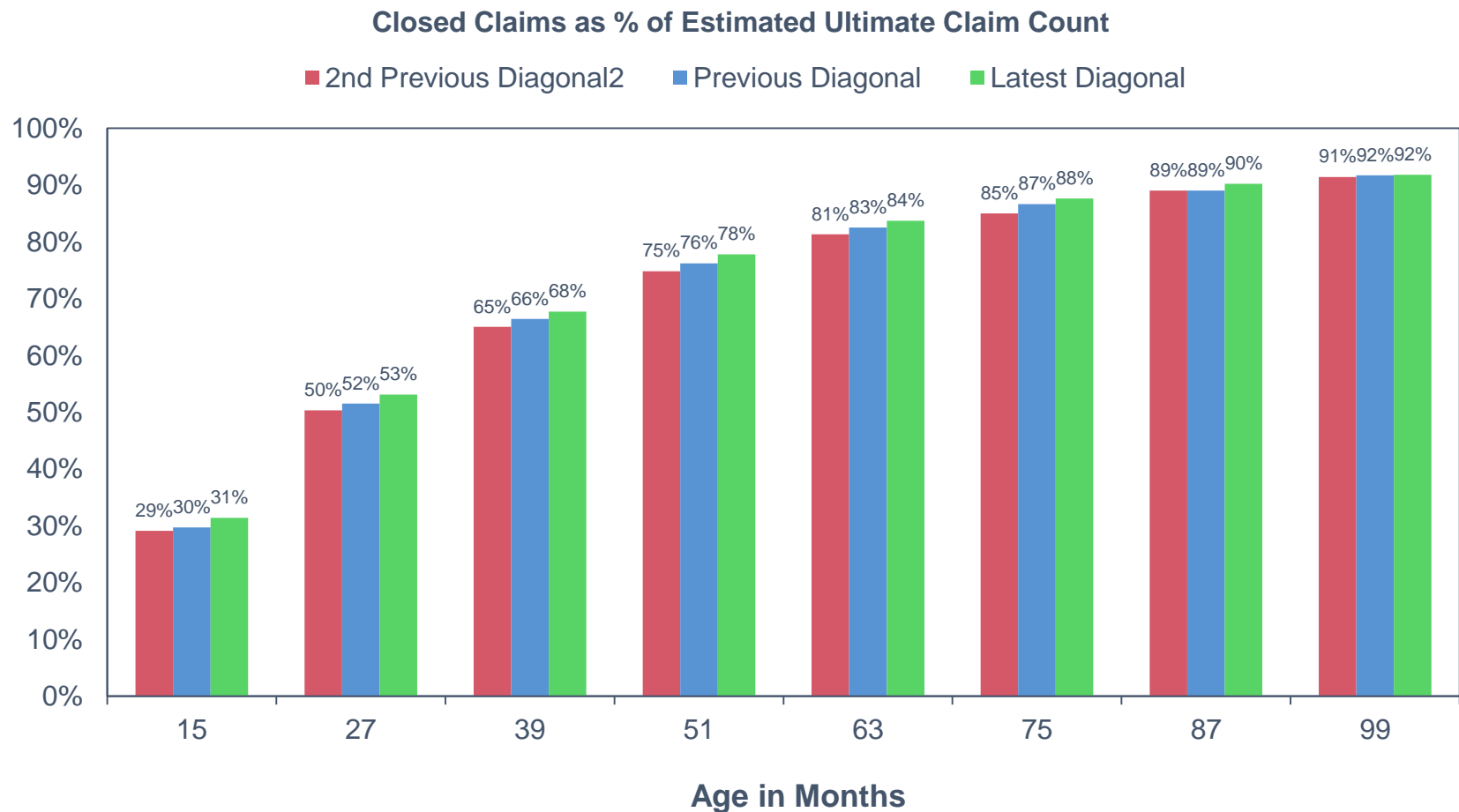
Source: WCIRB unit statistical data

# Estimated Ultimate Injury Type Distribution (Exhibit M4; pg. IV-A-4)



Source: WCIRB unit statistical data

# Percent Closed—Indemnity (Exhibit C2.1; pg. IV-A-21, Updated)

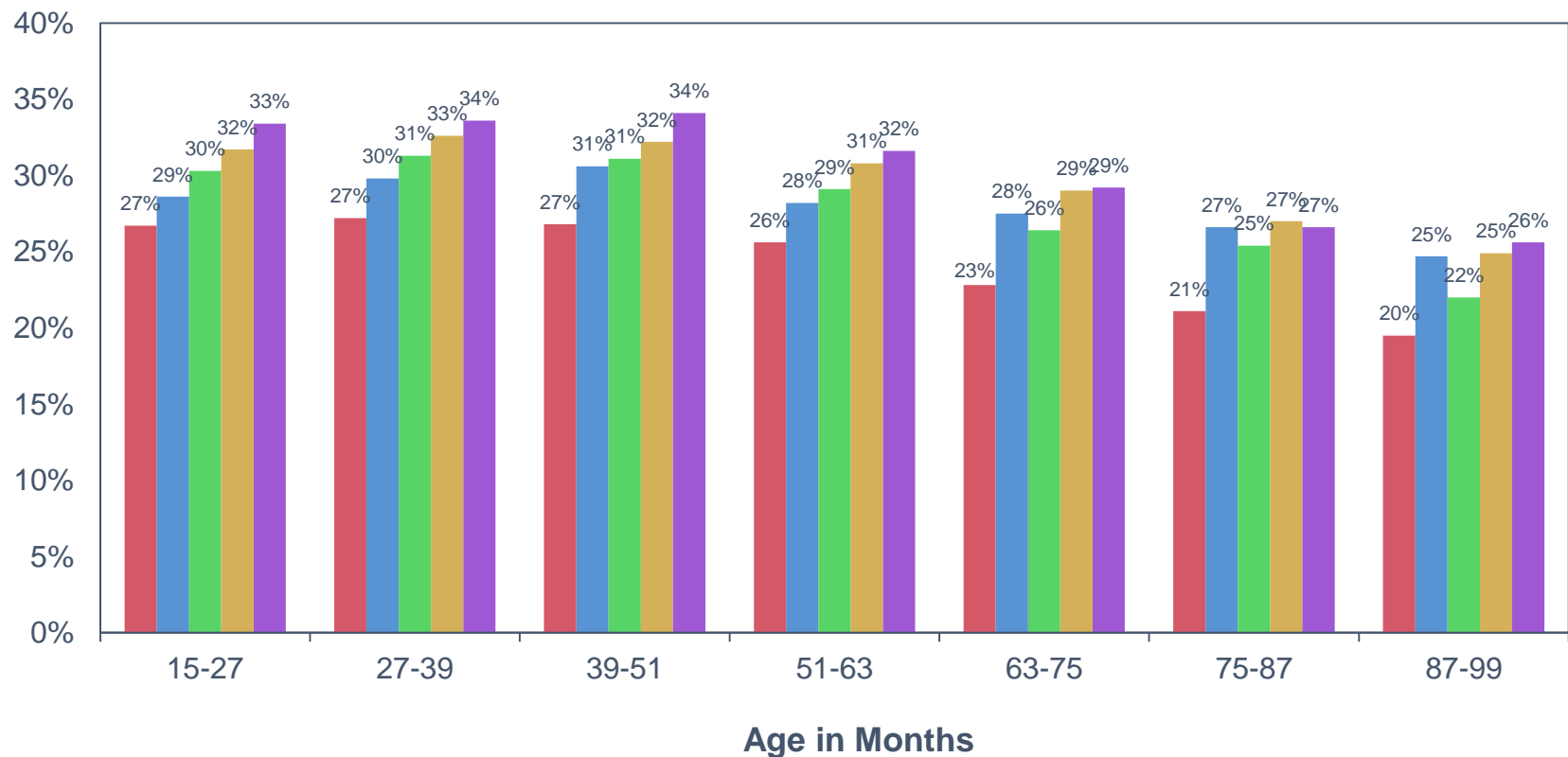


Source: WCIRB quarterly calls for experience

# Percent of Open Indemnity Claims Closing (Exhibit C3.1; pg. IV-A-24)

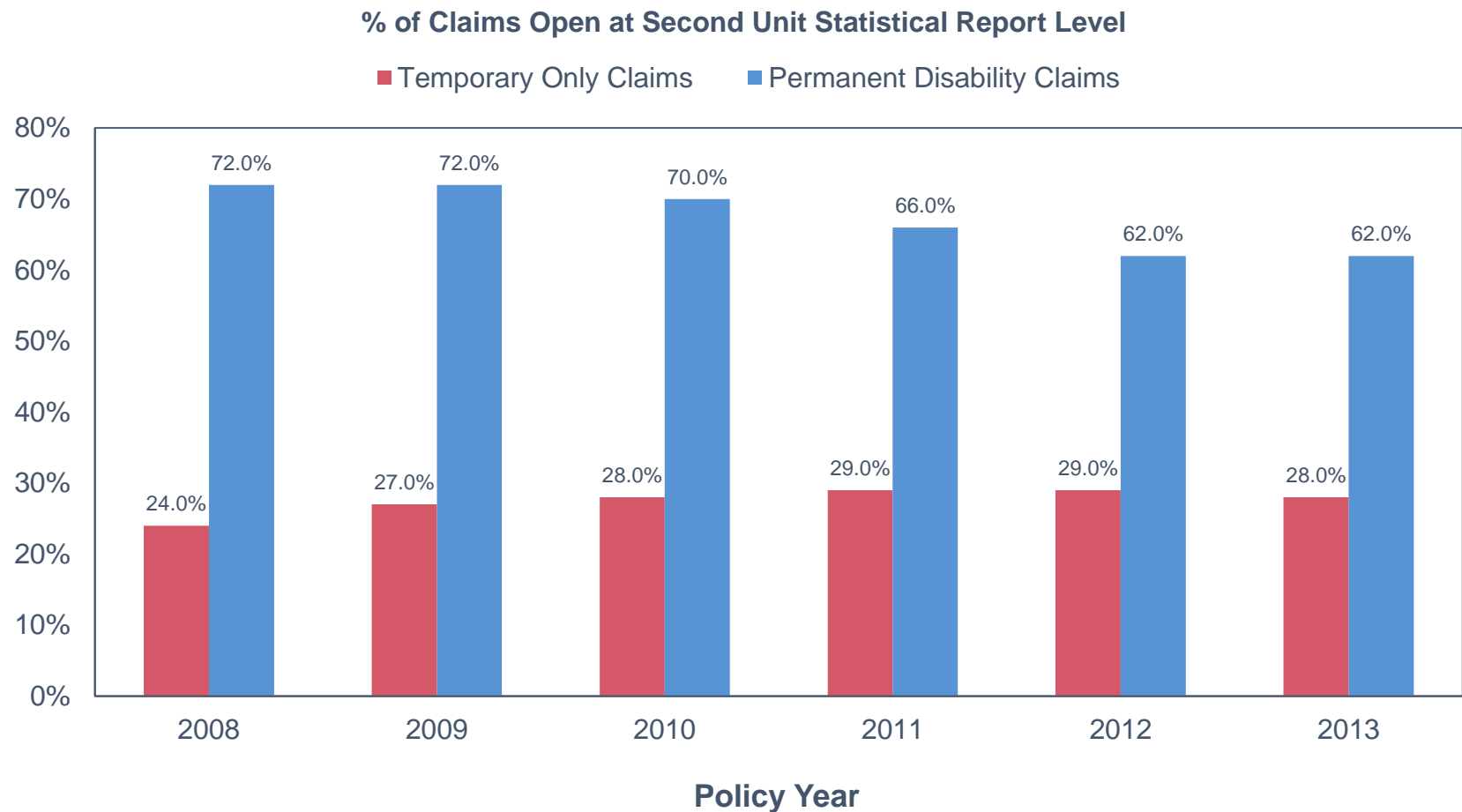
Ratio of Incremental Closed Indemnity Claims to Prior Open Indemnity Claims

■ 4th Previous ■ 3rd Previous ■ 2nd Previous ■ Previous ■ Latest Diagonal



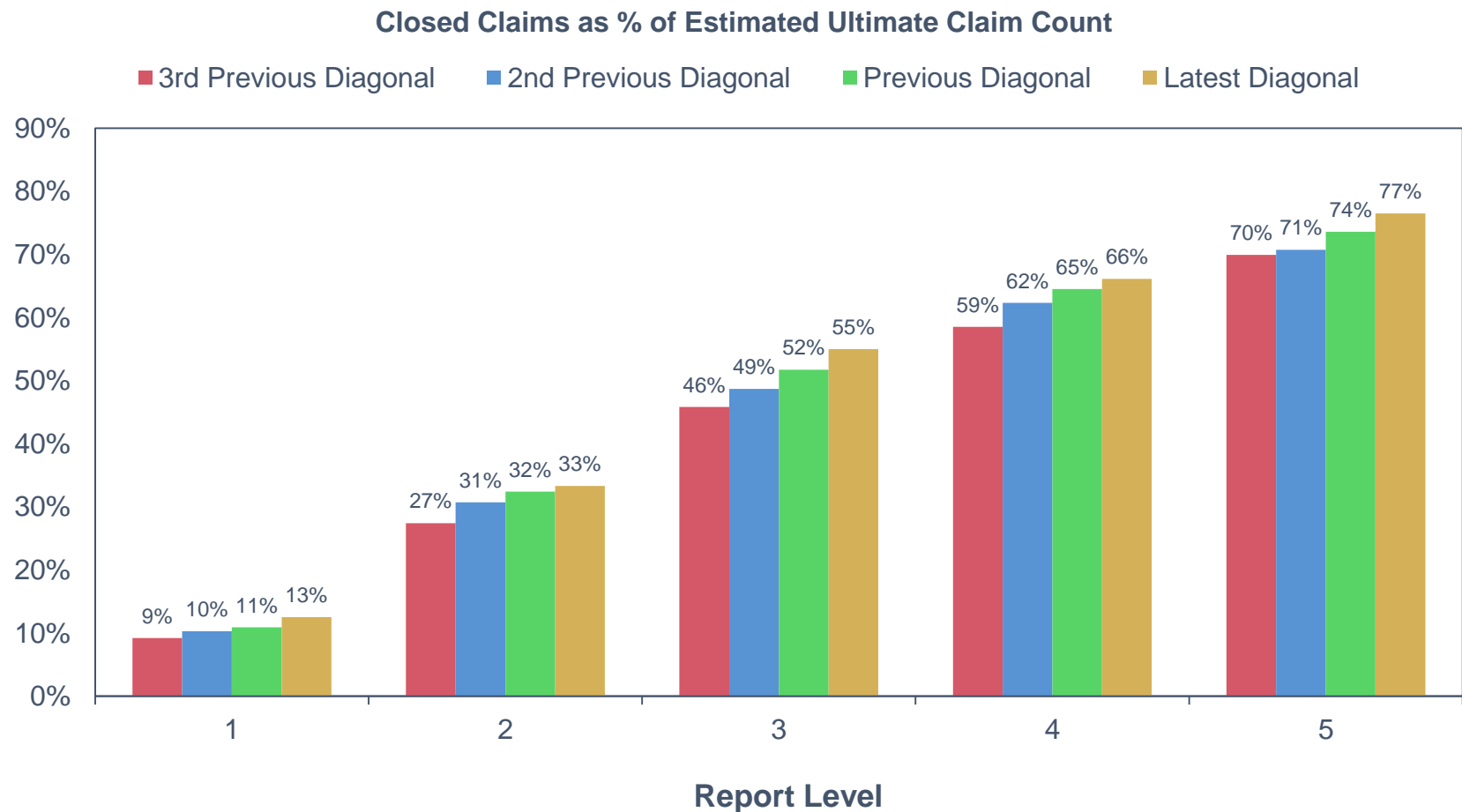
Source: WCIRB quarterly calls for experience

# Percentage of Claims Open by Injury Type (Exhibit M5; pg. IV-A-5)



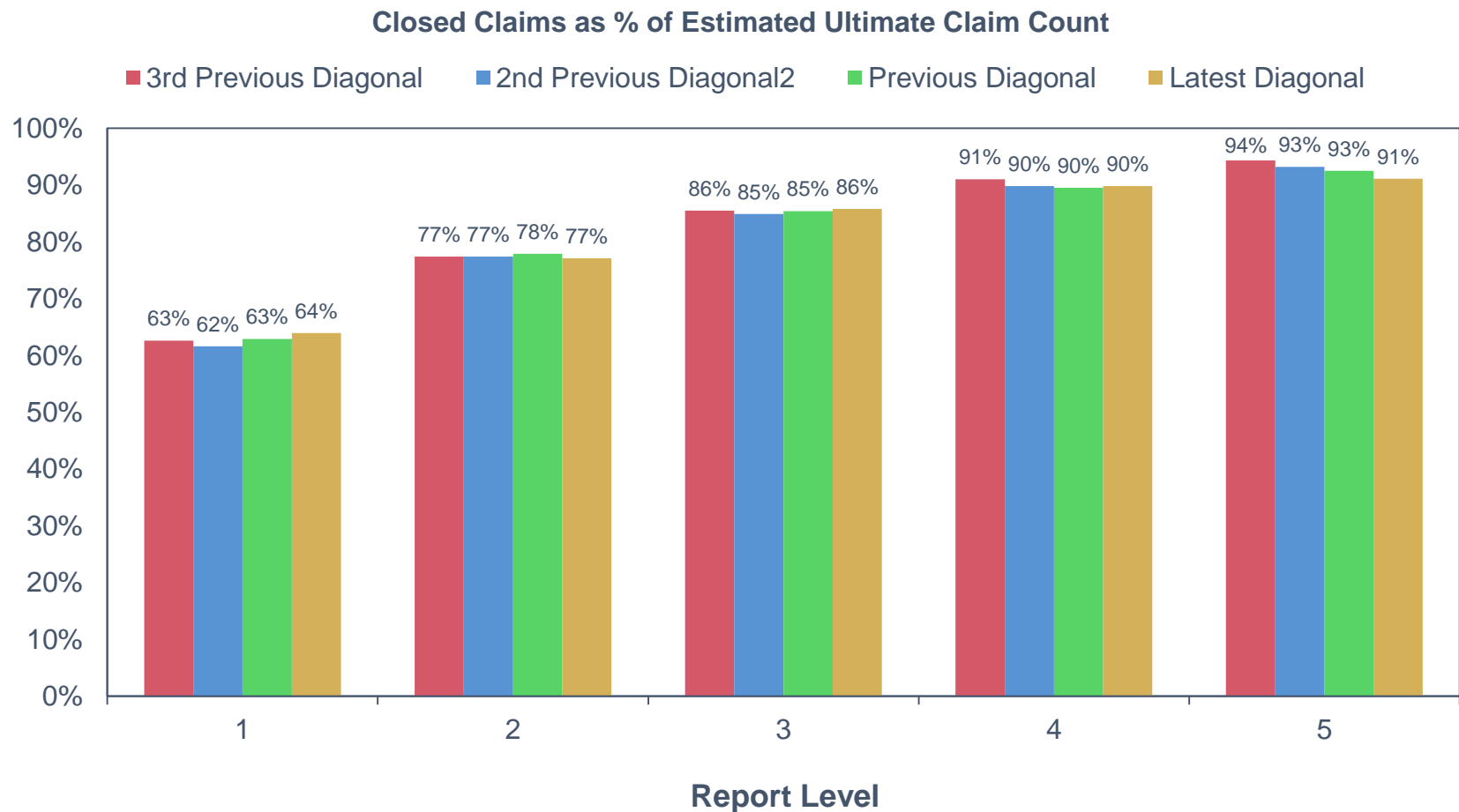
Source: WCIRB unit statistical data

# Percent Closed—Permanent Indemnity (Exhibit C2.2; pg. IV-A-22)



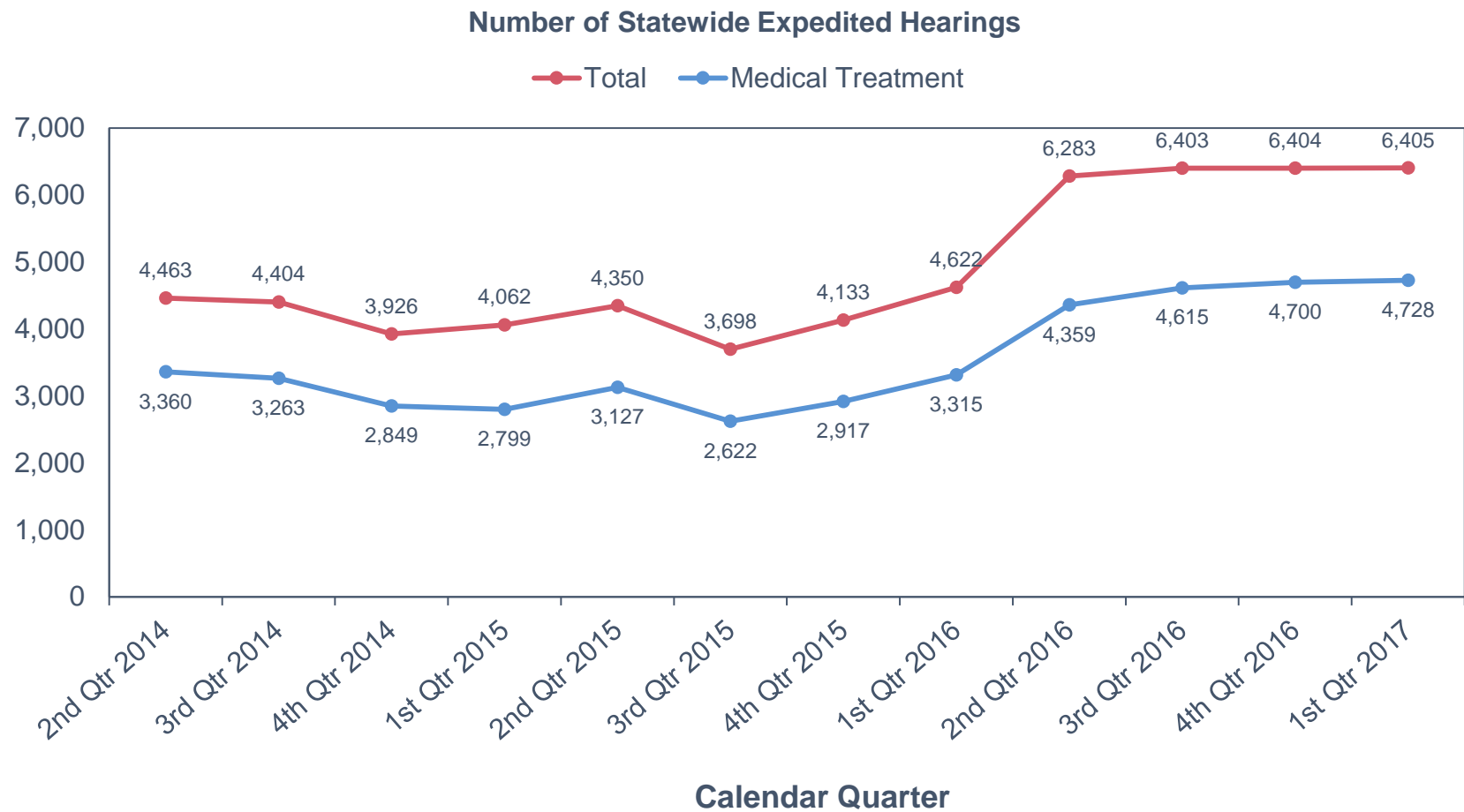
Source: WCIRB unit statistical data

# Percent Closed—Temporary Indemnity (Exhibit C2.2; pg. IV-A-22)



Source: WCIRB unit statistical data

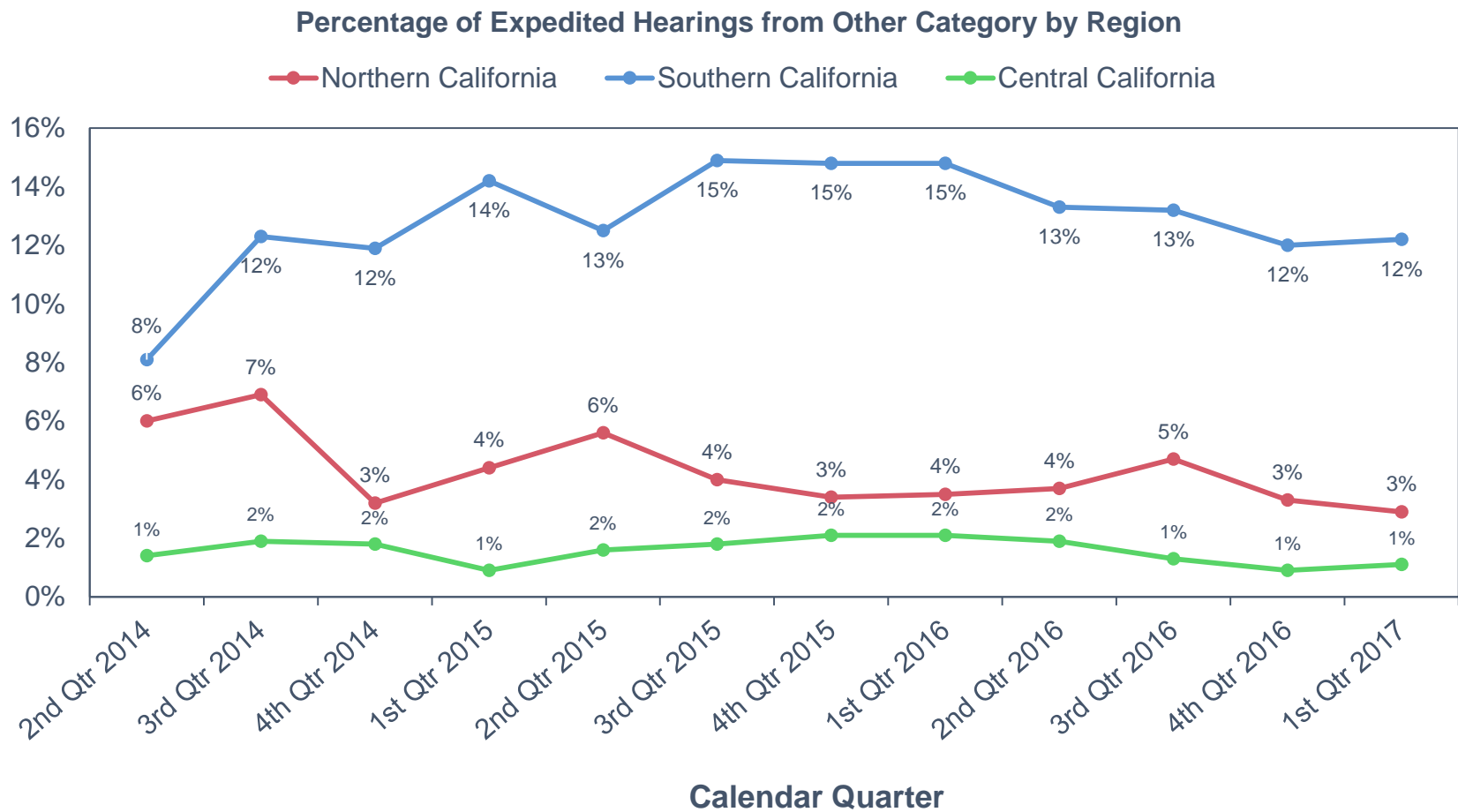
# Expedited Hearings (Exhibit M8.2; pg. IV-A-12)



Source: DWC

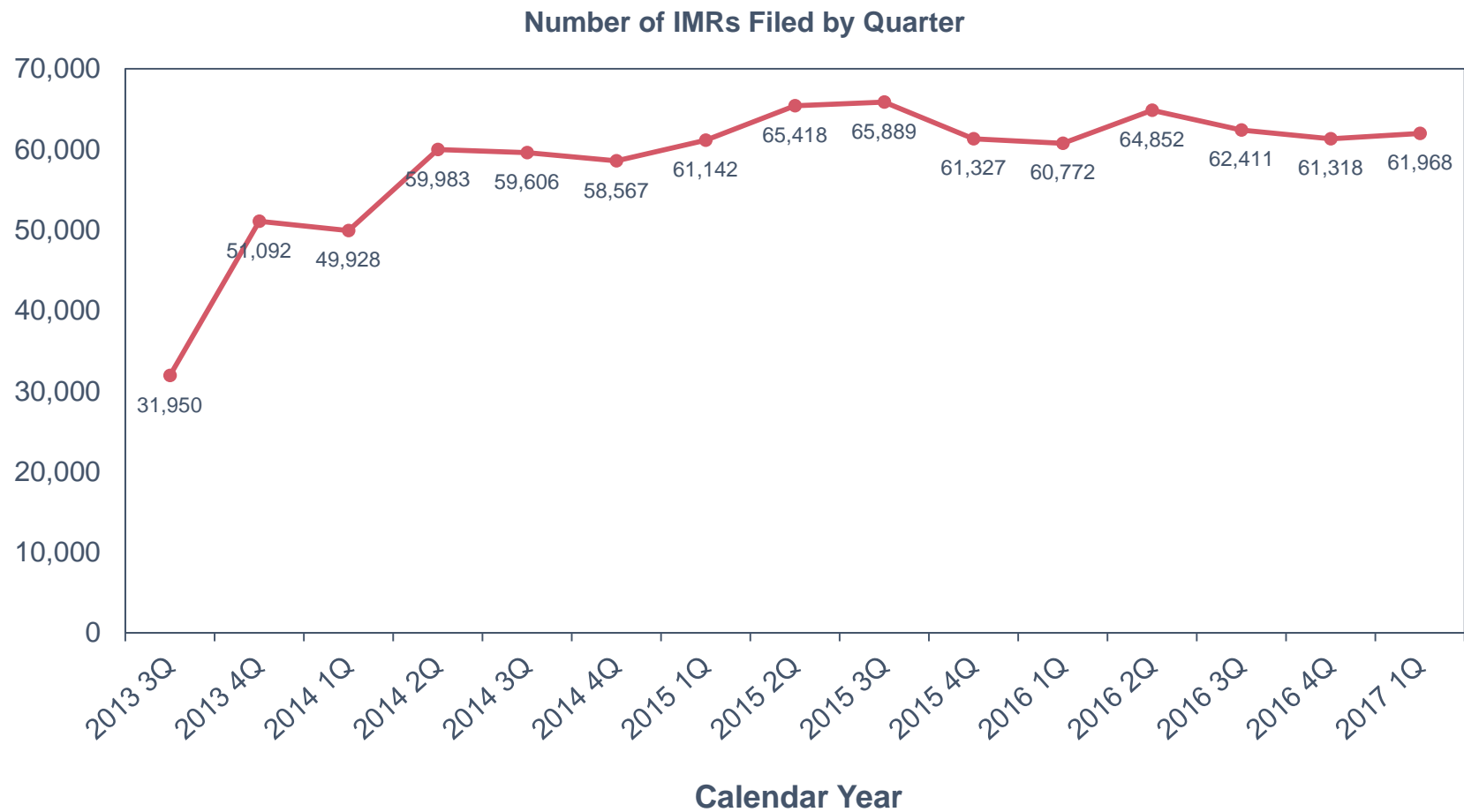


# Expedited Hearings—Category Other (Exhibit M8.2; pg. IV-A-13)



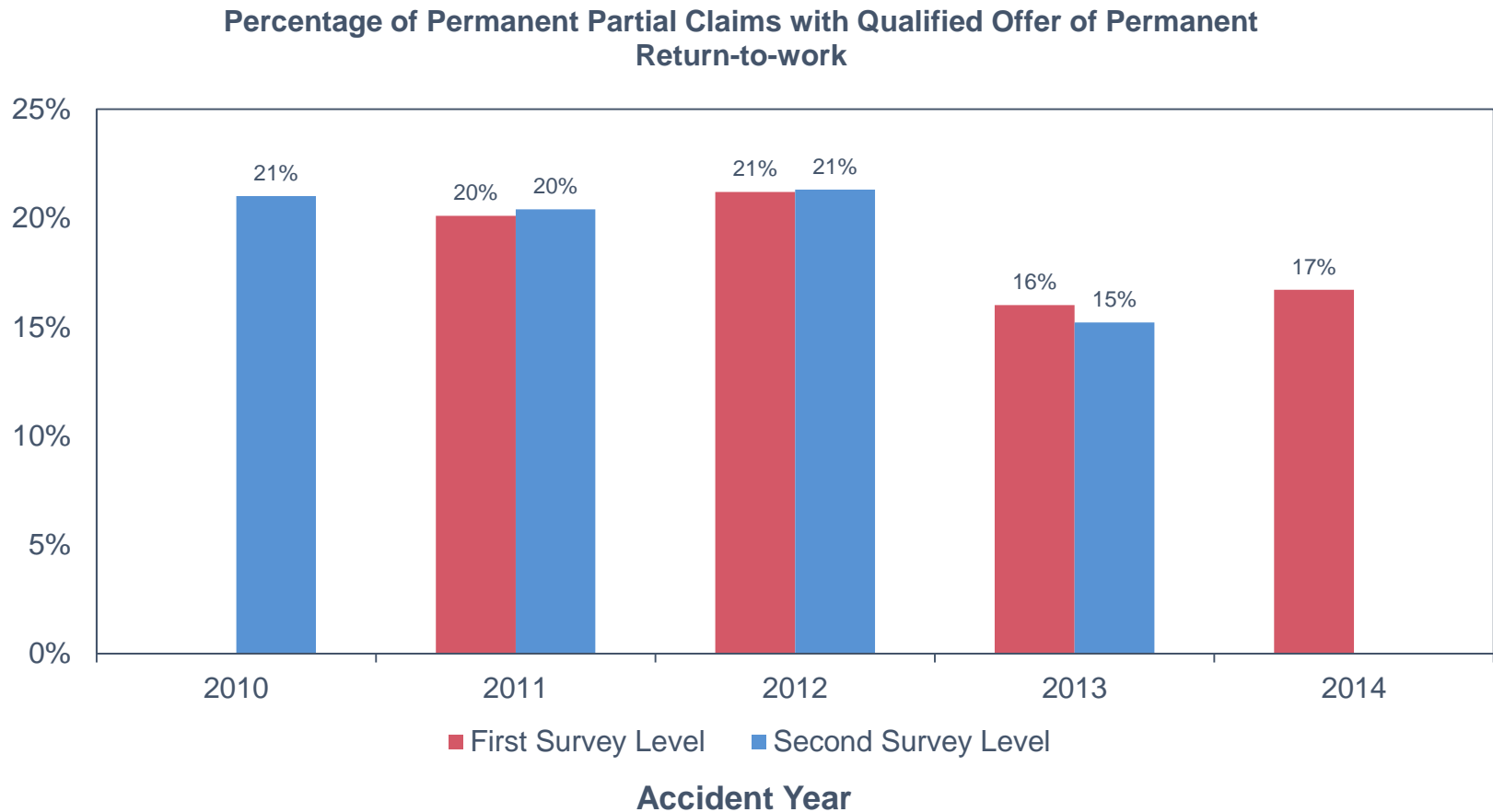
Source: DWC

# Independent Medical Review (Exhibit M14; pg. IV-A-19)



Source: DWC collected from IMR vendor

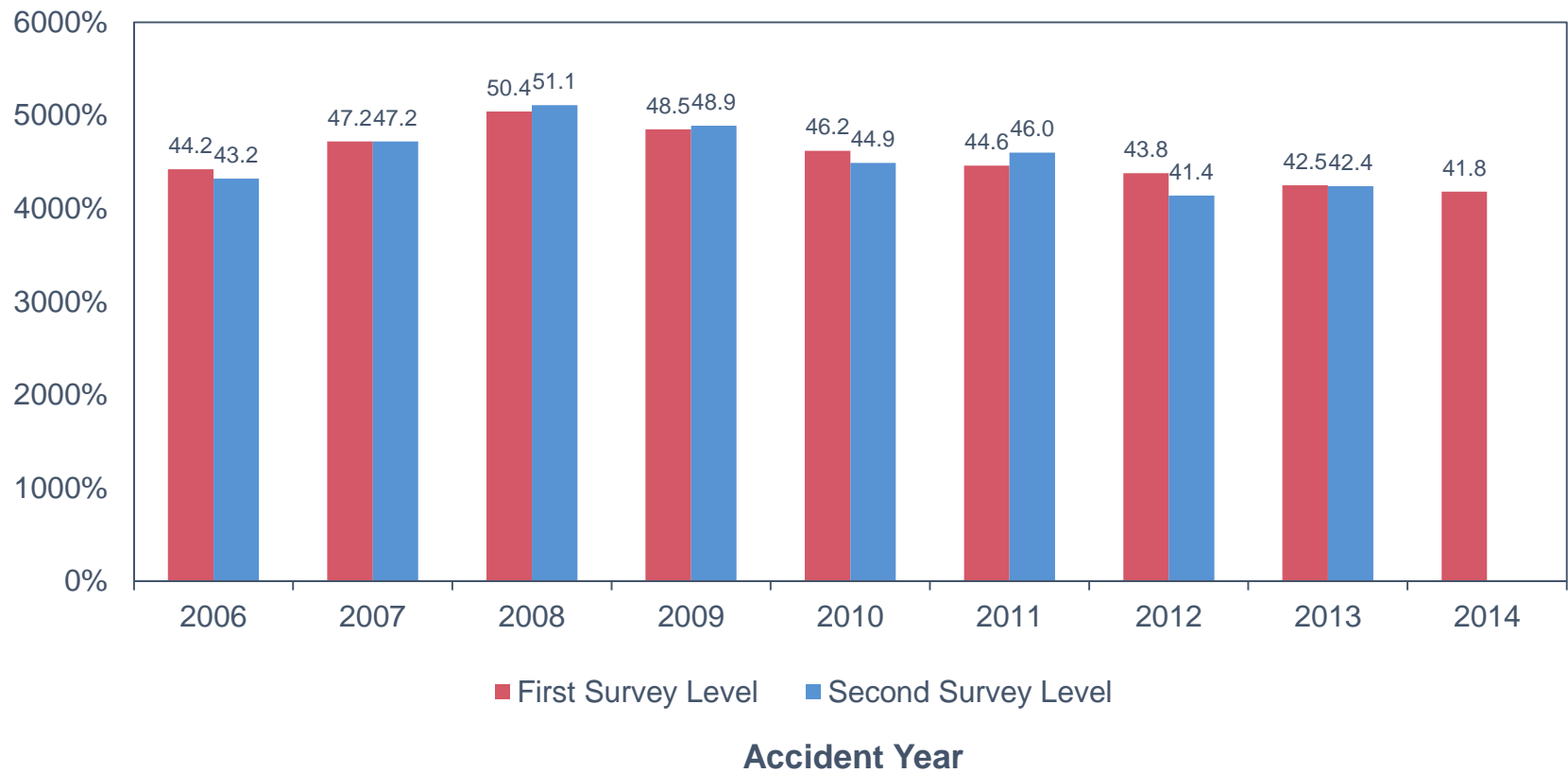
# Qualified Offer of Return-to-work (Exhibit M11; pg. IV-A-18)



Source: DWC collected from IMR vendor

# Temporary Disability Duration (Exhibit S10.2; pg. IV-A-65)

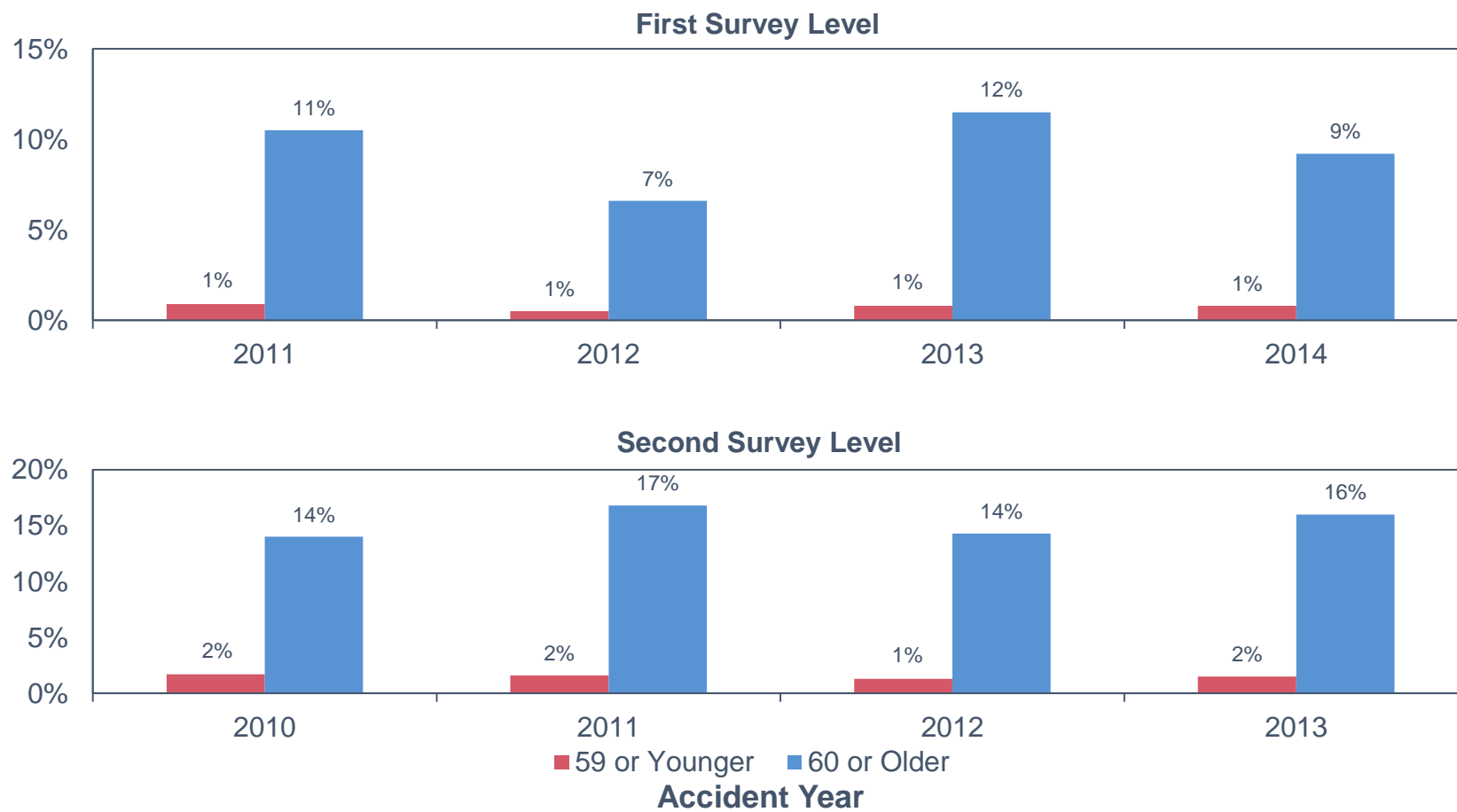
Median TD Duration on Permanent Disability Claims



Source: DWC collected from IMR vendor

# Medicare Set-aside (Exhibit M10.1; pg. IV-A-16)

## Percent of Permanent Disability Claims Involving Set-aside by Age Range

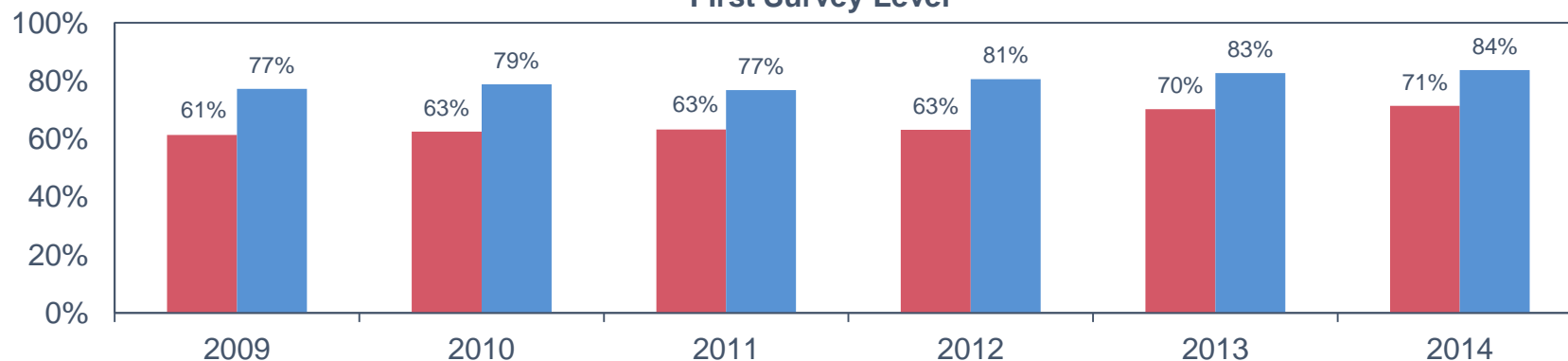


Source: WCIRB permanent disability claim survey

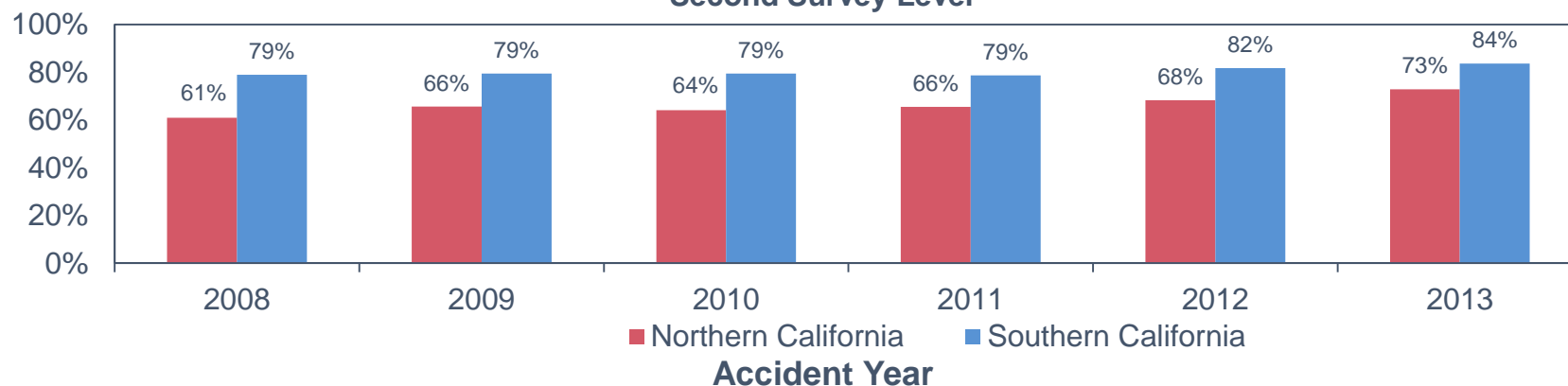
# Permanent Disability Representation (Exhibit E7; pg. IV-A-84)

## Percent of Permanent Disability Claims with Representation by Region

### First Survey Level

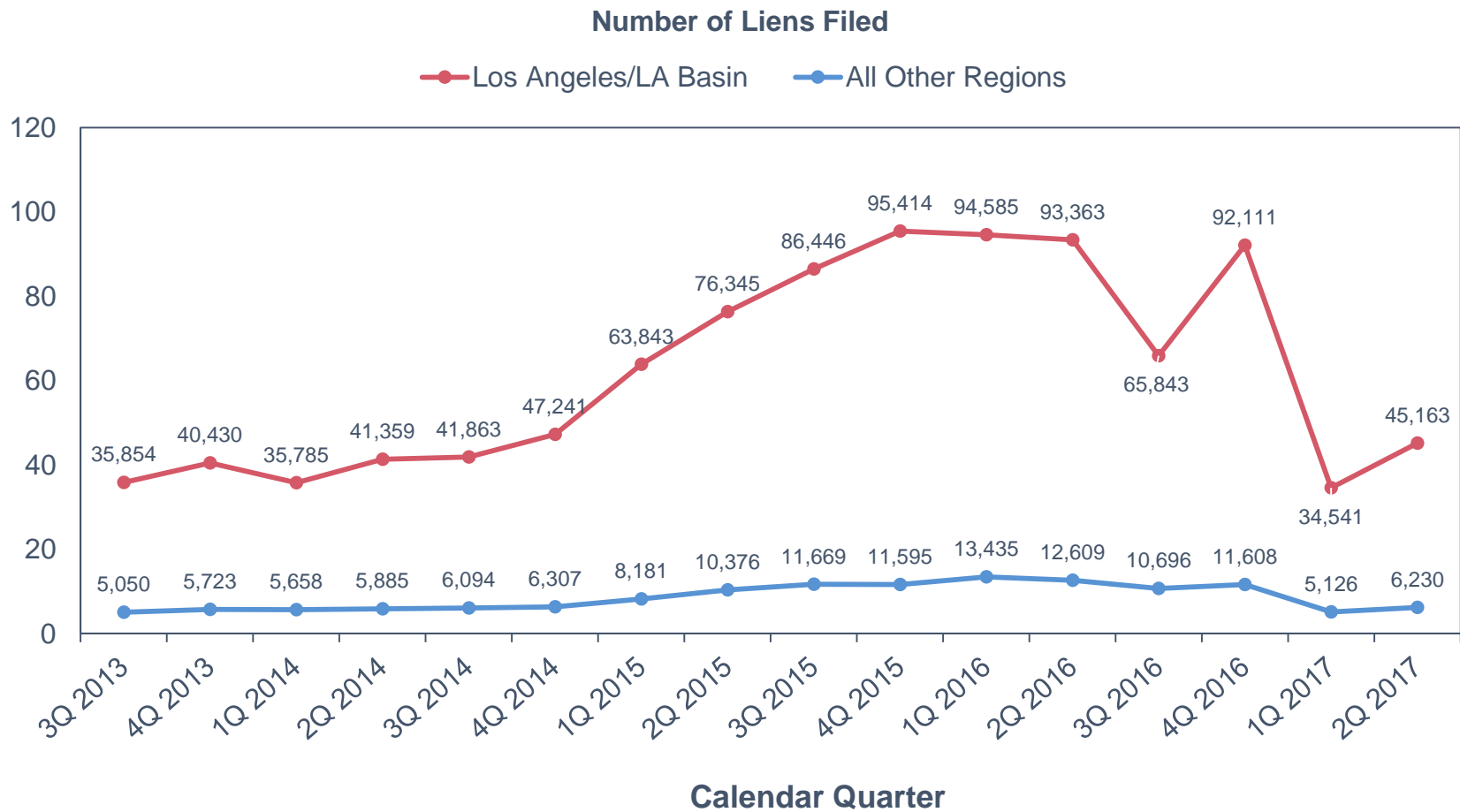


### Second Survey Level



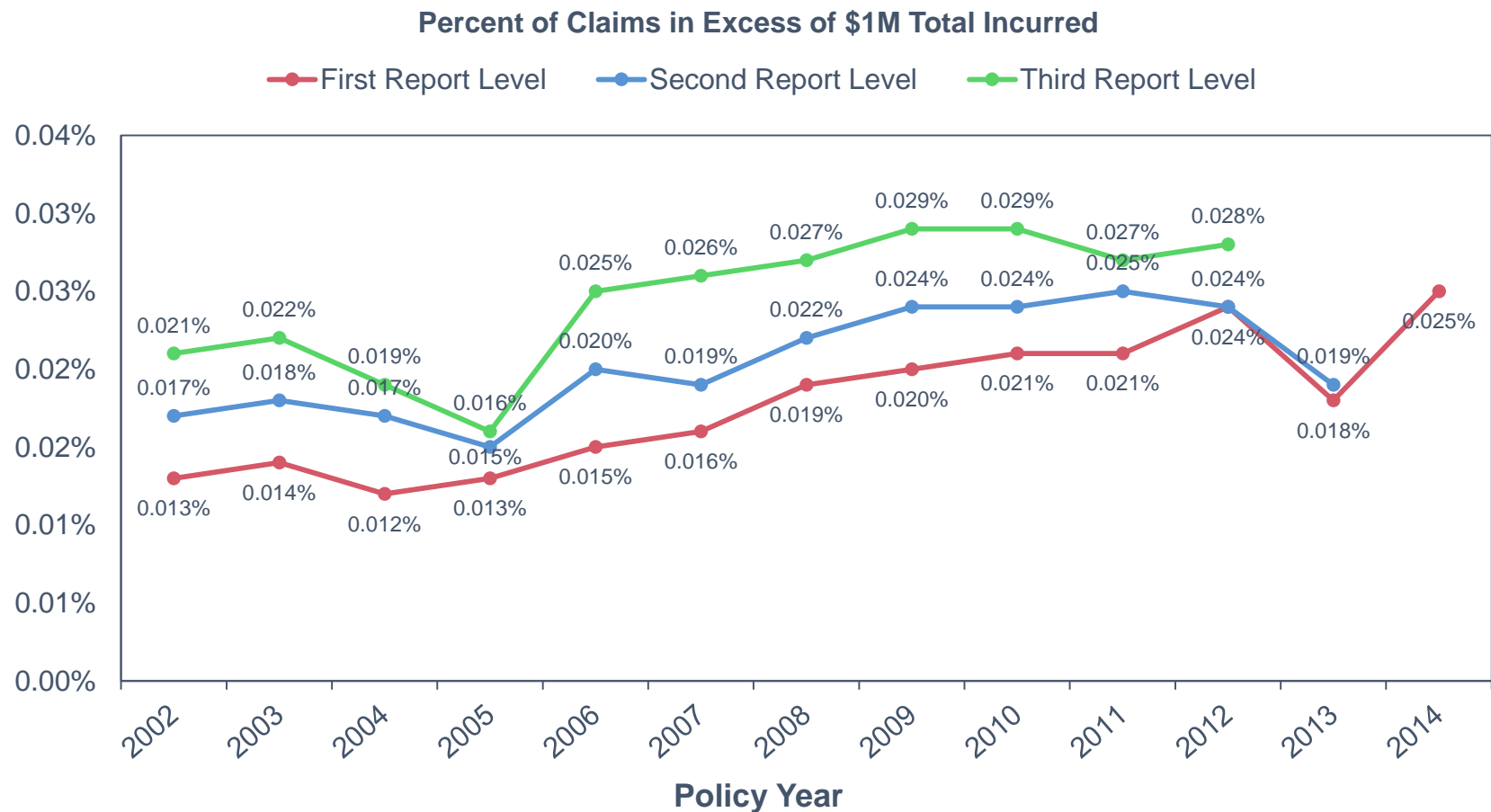
Source: WCIRB permanent disability claim survey

# Filed Lien Counts (Exhibit M9.2 Updated); pg. IV-A-15)



Source: EAMS liens data

# Large Claims (Exhibit S16.3; pg. IV-A-71)

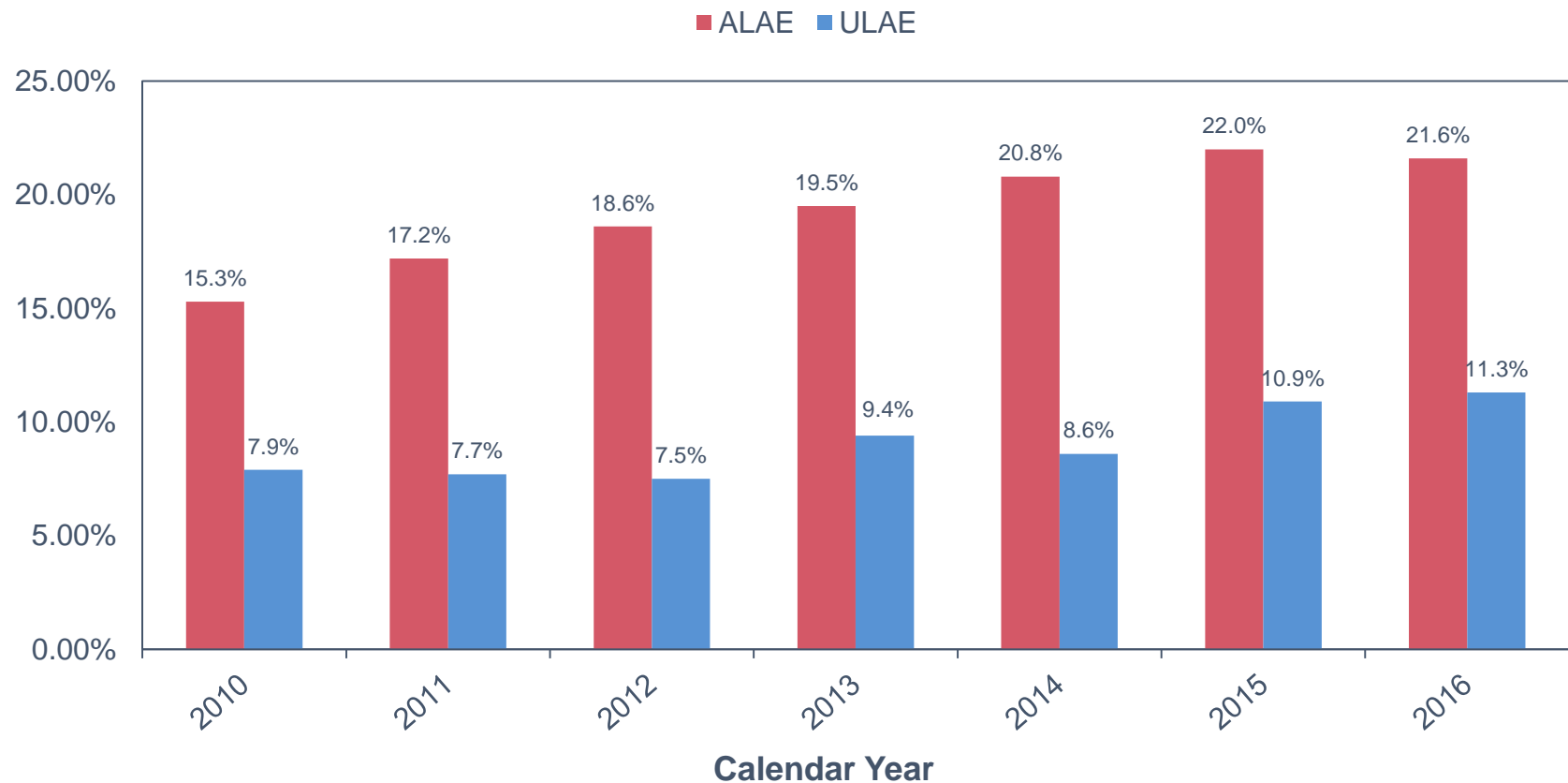


Source: WCIRB unit statistical data



# Paid Loss Adjustment Expense (Exhibit E1.2; pg. IV-A-76)

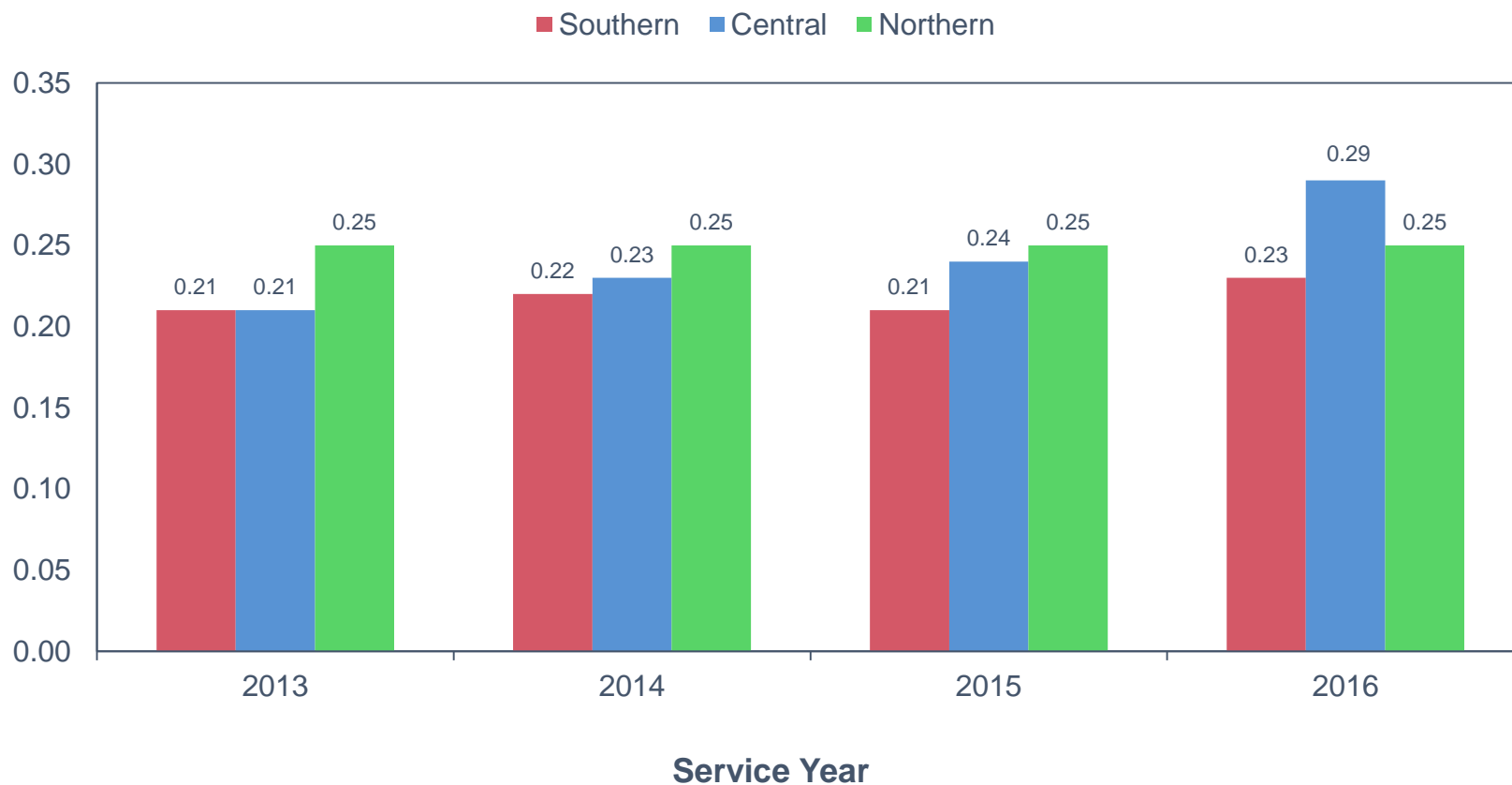
Private Insurers Ratio of Paid LAE to Paid Loss



Source: WCIRB expense calls and quarterly calls for experience

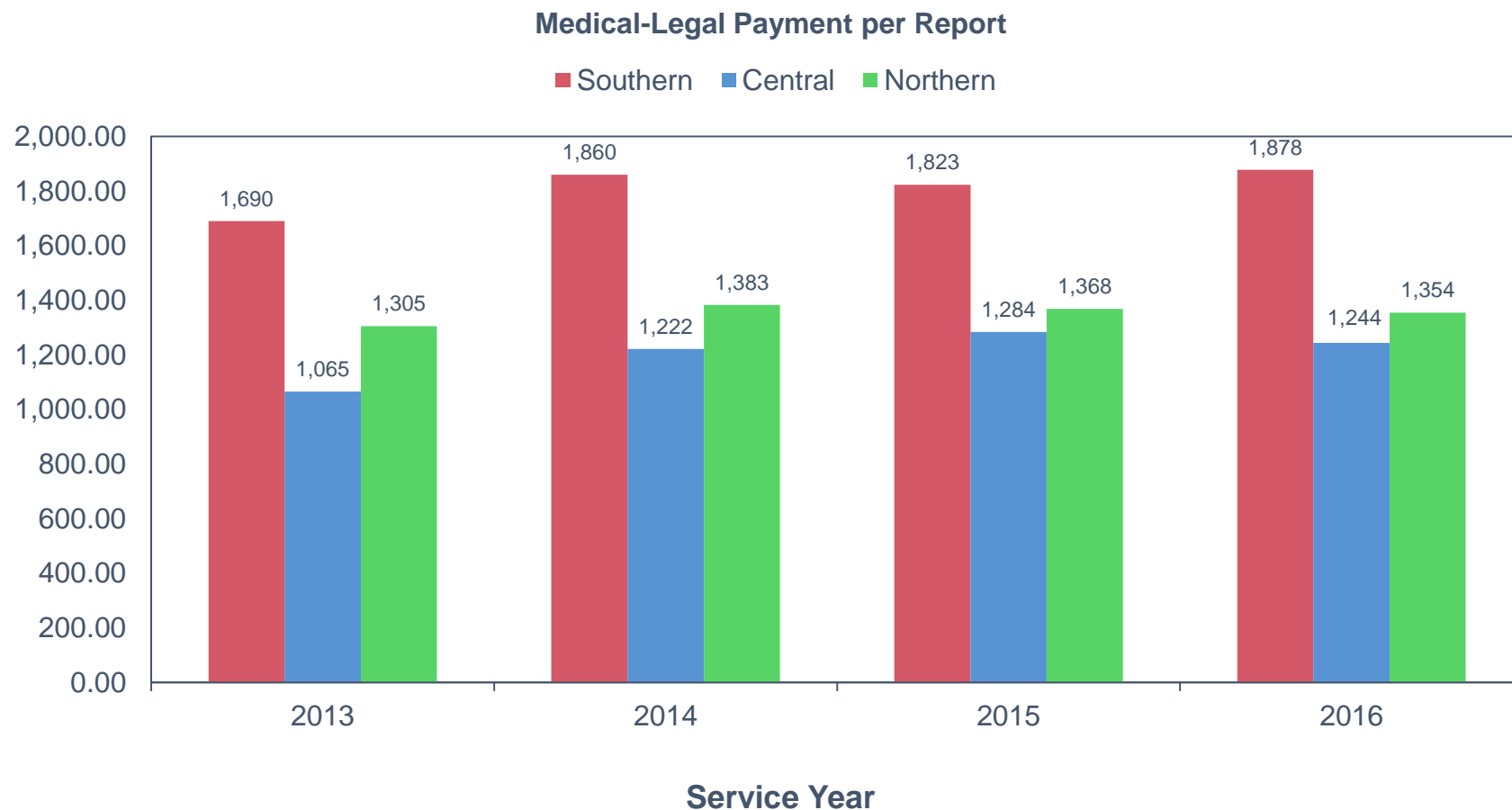
# Medical-Legal Reports (Exhibit E13; pg. IV-A-89)

Number of Medical Legal Reports per Claim



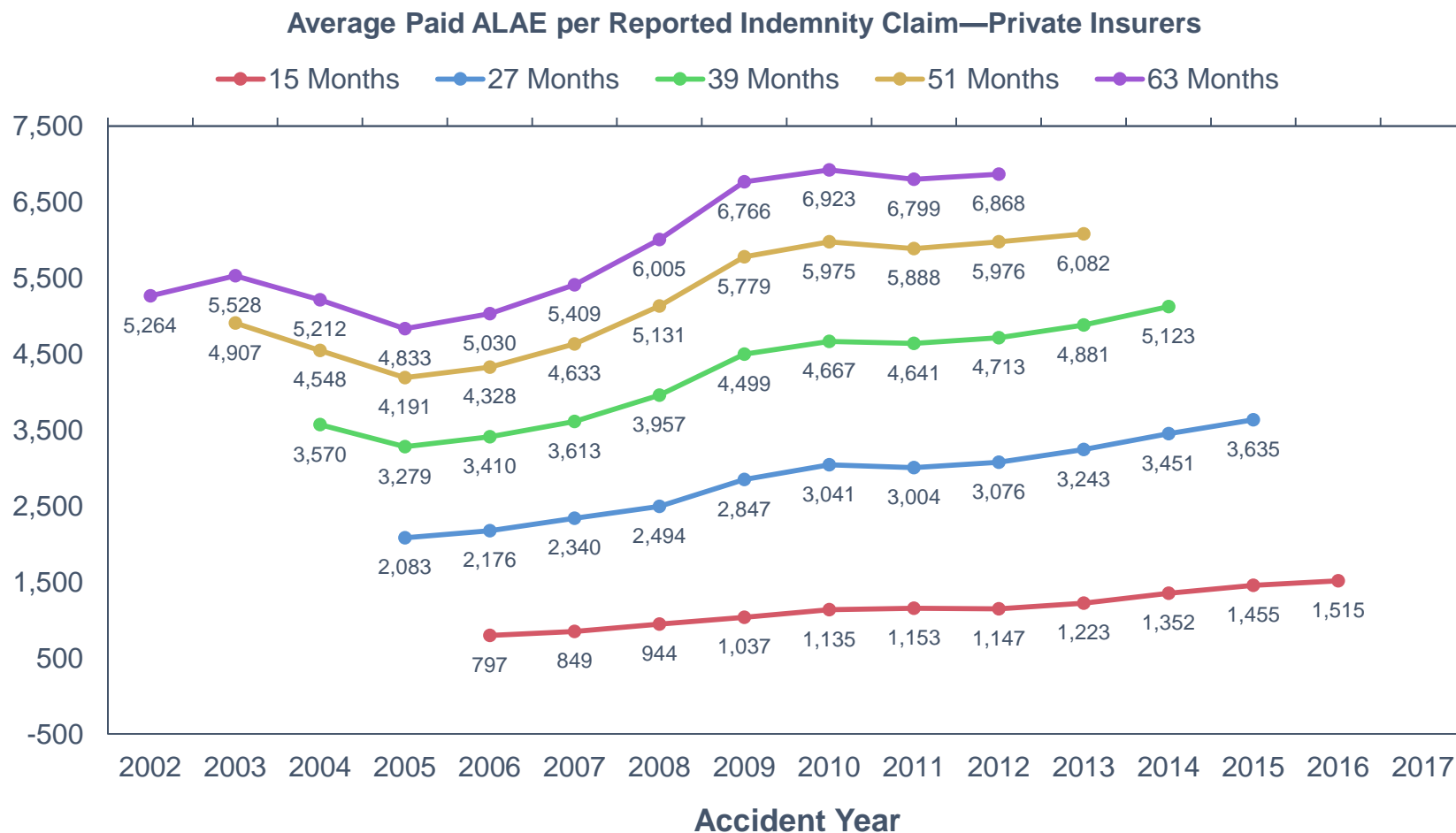
Source: WCIRB medical data call (MDC)

# Medical-Legal Reports (Exhibit E13; pg. A-86)



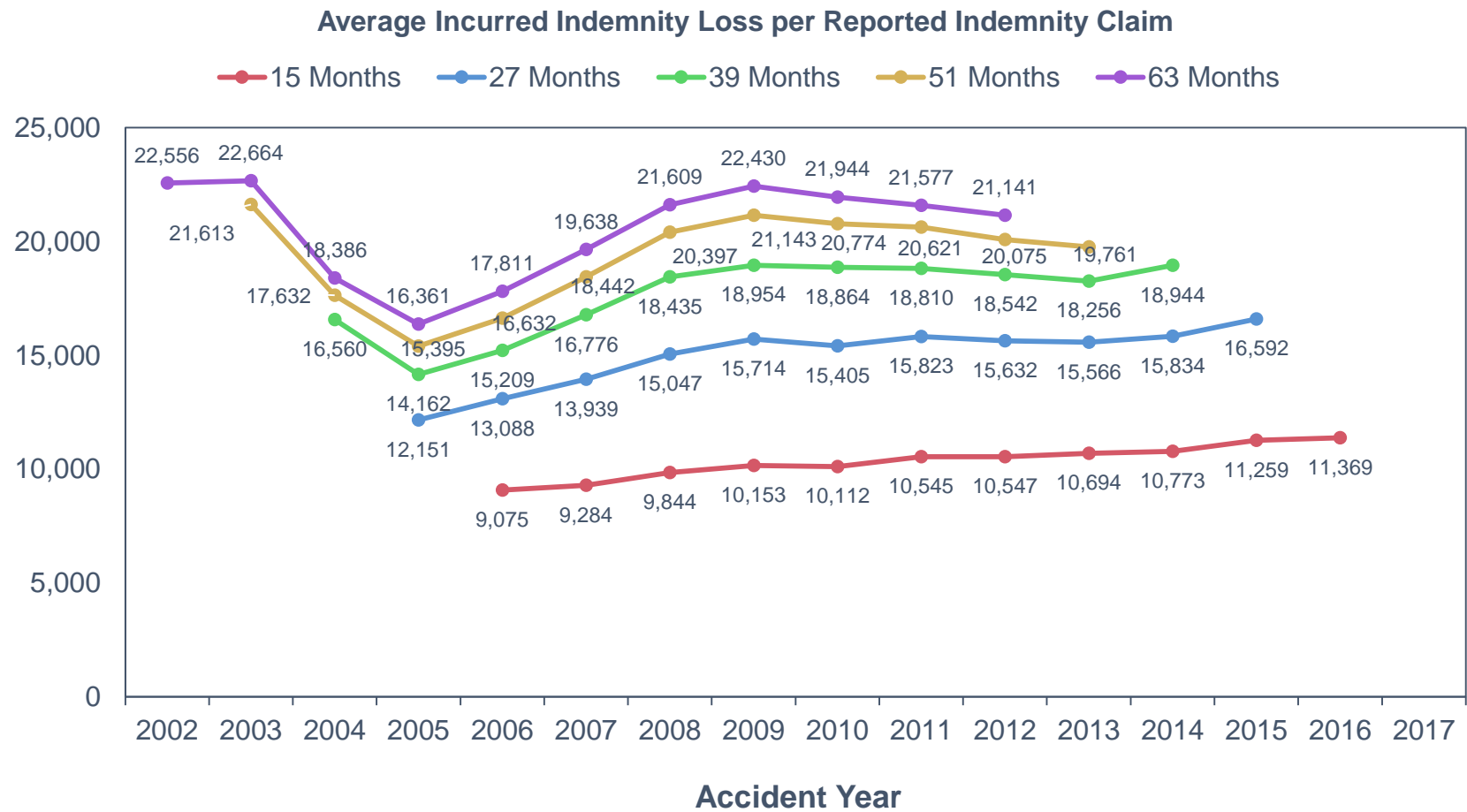
Source: WCIRB medical data call (MDC)

# Paid ALAE per Indemnity Claim—Private Insurers (Exhibit E5; pg. IV-A-83)



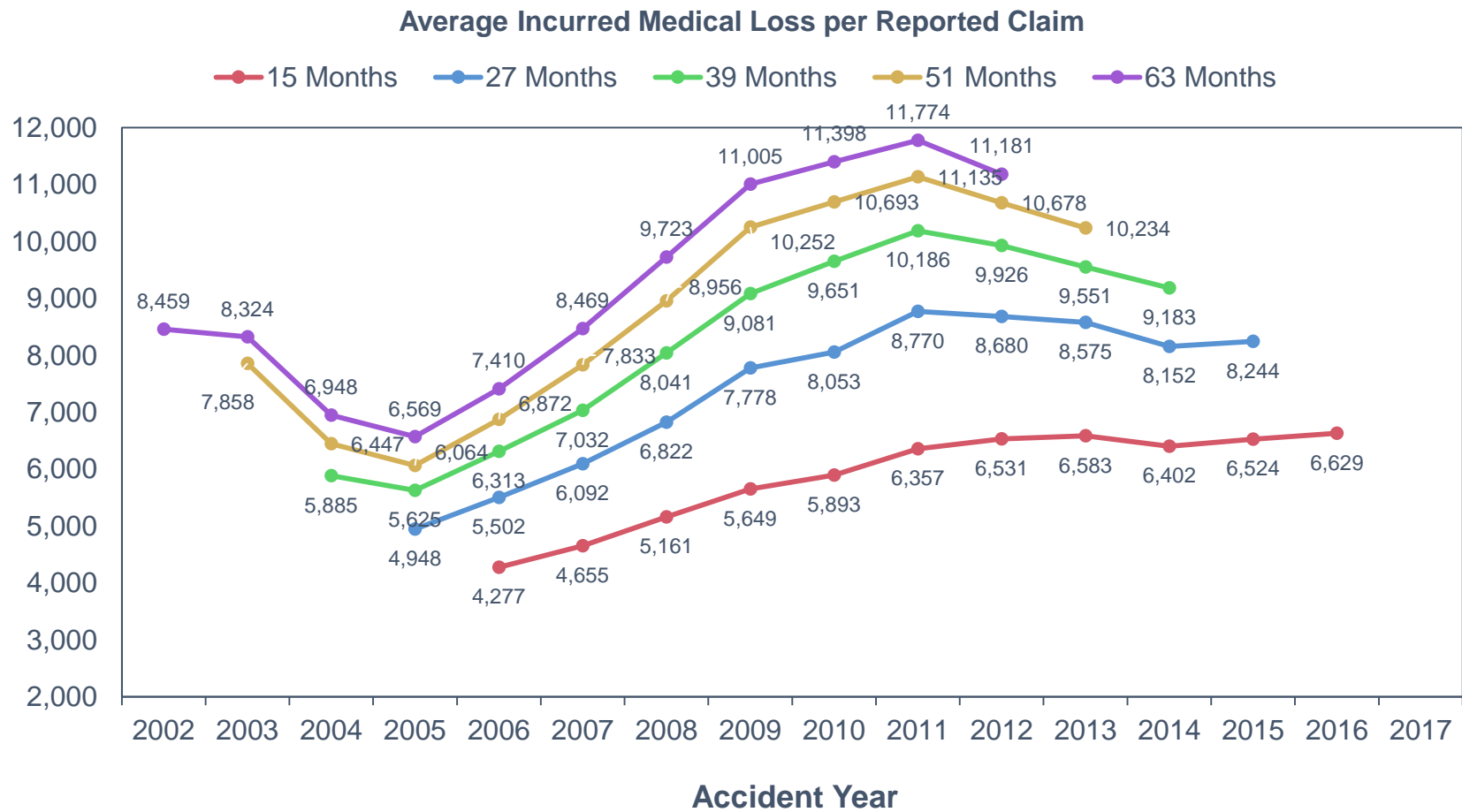
Source: WCIRB accident year experience calls

# Severity—Incurred Indemnity per Indemnity Claim (Exhibit S2.1; pg. IV-A-50)



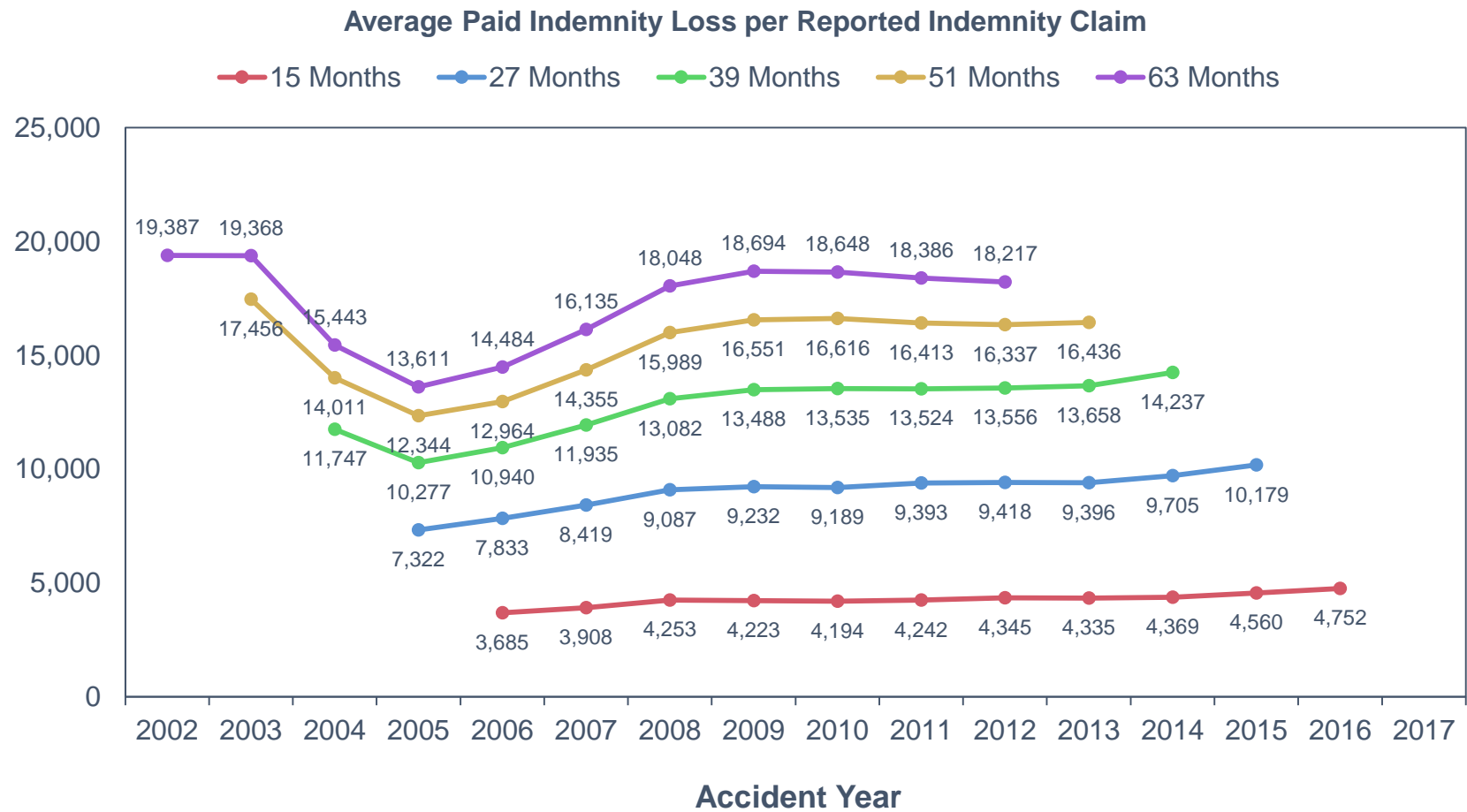
Source: WCIRB quarterly calls for experience

# Severity—Incurred Medical per Claim (Exhibit S2.2; pg. IV-A-51)



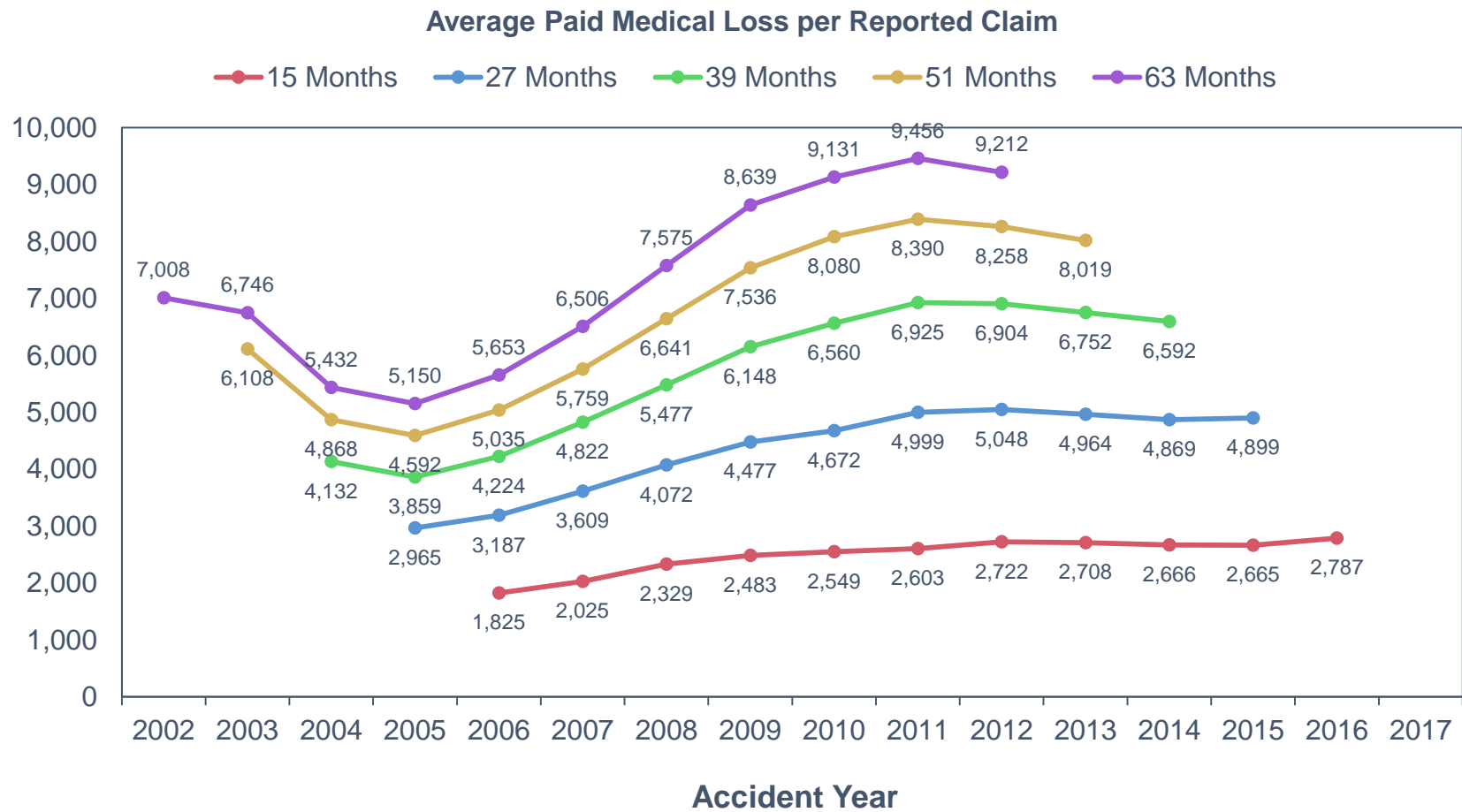
Source: WCIRB quarterly calls for experience

# Severity—Paid Indemnity per Indemnity Claim (Exhibit S4.1; pg. IV-A-54)



Source: WCIRB quarterly calls for experience

# Severity—Paid Medical per Claim (Exhibit S4.3; pg. IV-A-56)

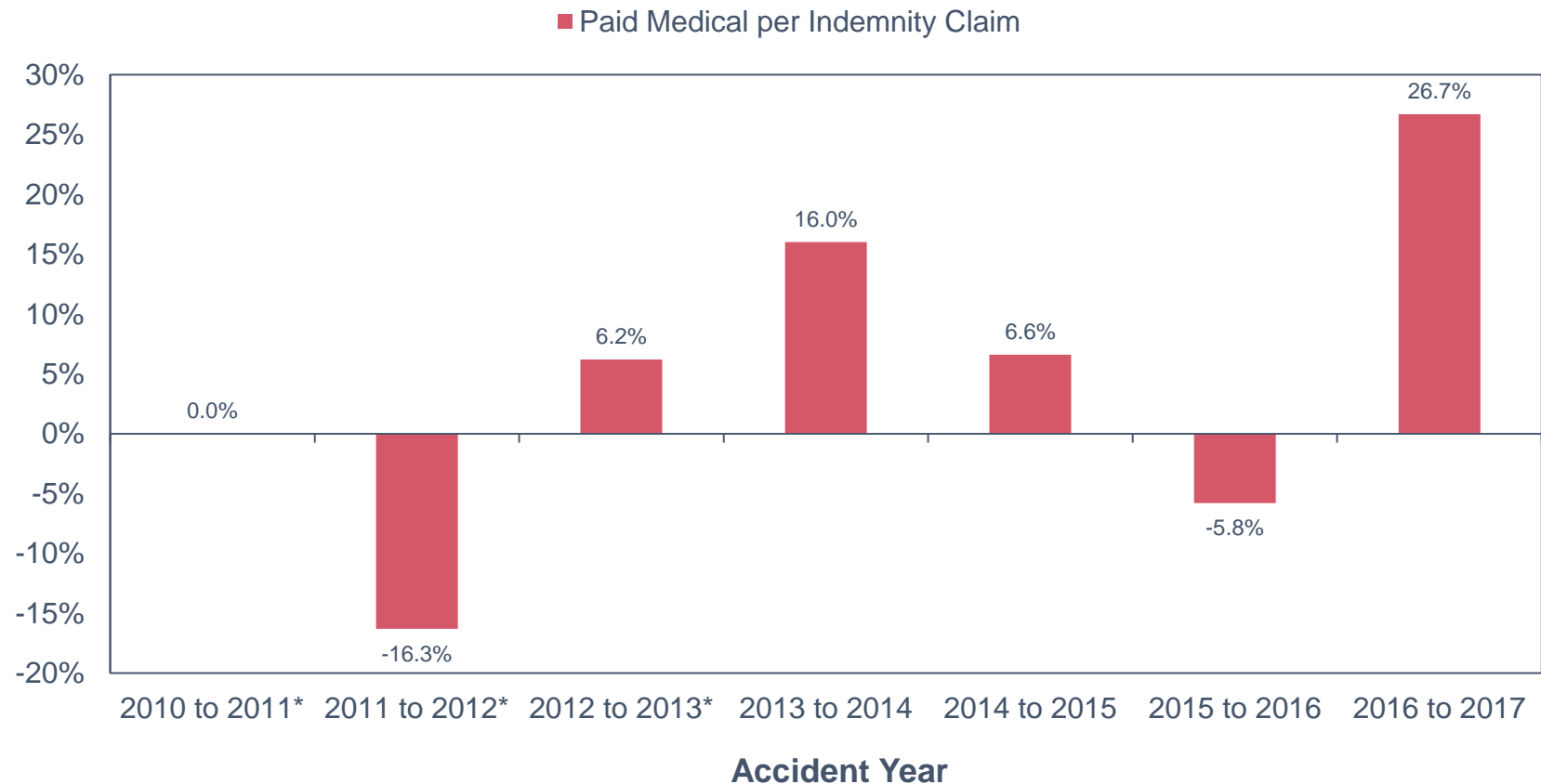


Source: WCIRB quarterly calls for experience



# Medical Severity—Paid per Indemnity Claim (Exhibit S4.2; pg. IV-A-55)

Accident Year Changes in Medical Severity as of 3 Months



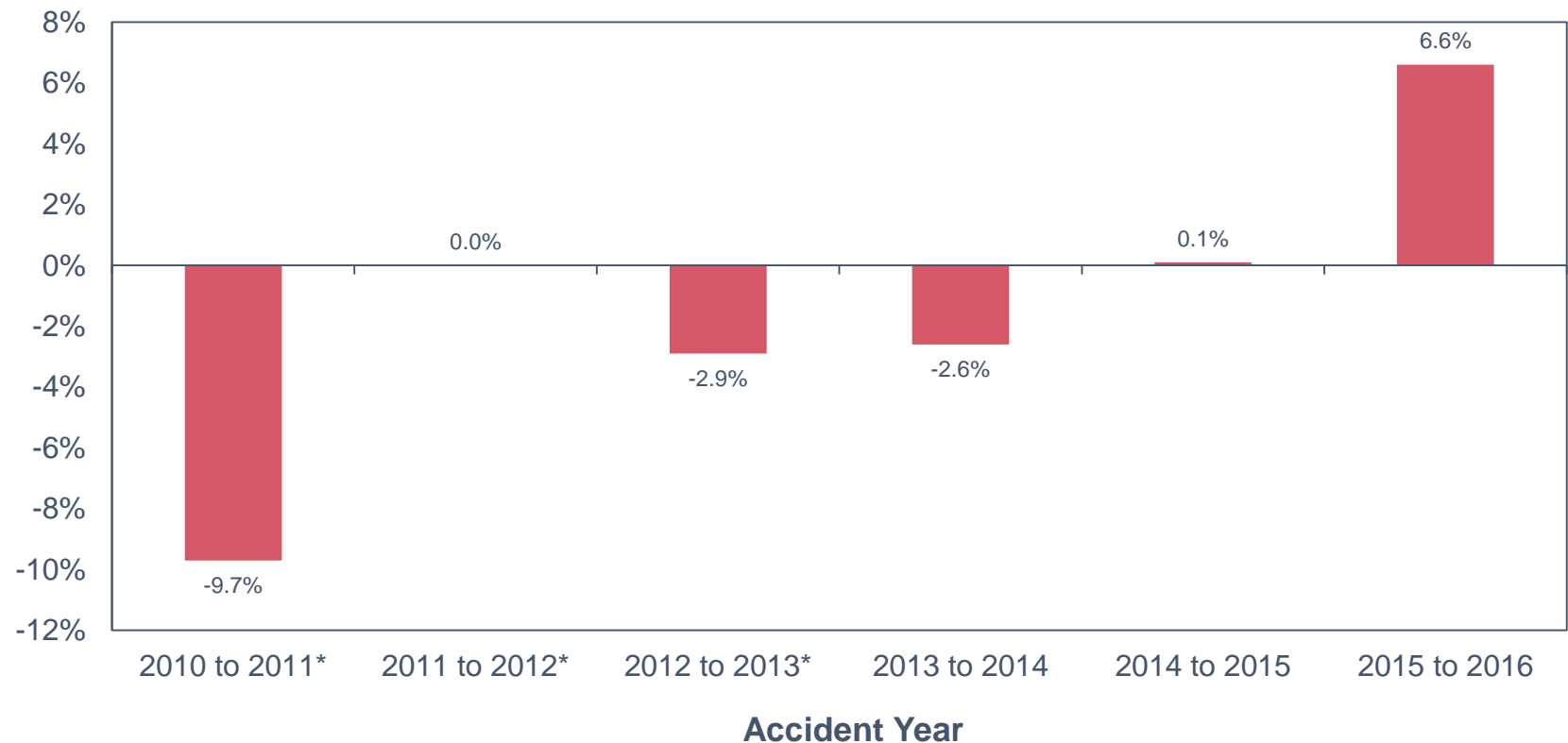
\* Paid medical includes MCCP prior to accident year 2010. From 2010 to 2011 MCCP is partially included, and from 2012 and onward MCCP is excluded.

Source: WCIRB quarterly calls for experience

# Medical Severity—Paid per Indemnity Claim (Exhibit S4.2; pg. IV-A-55)

Accident Year Changes in Medical Severity as of 15 Months

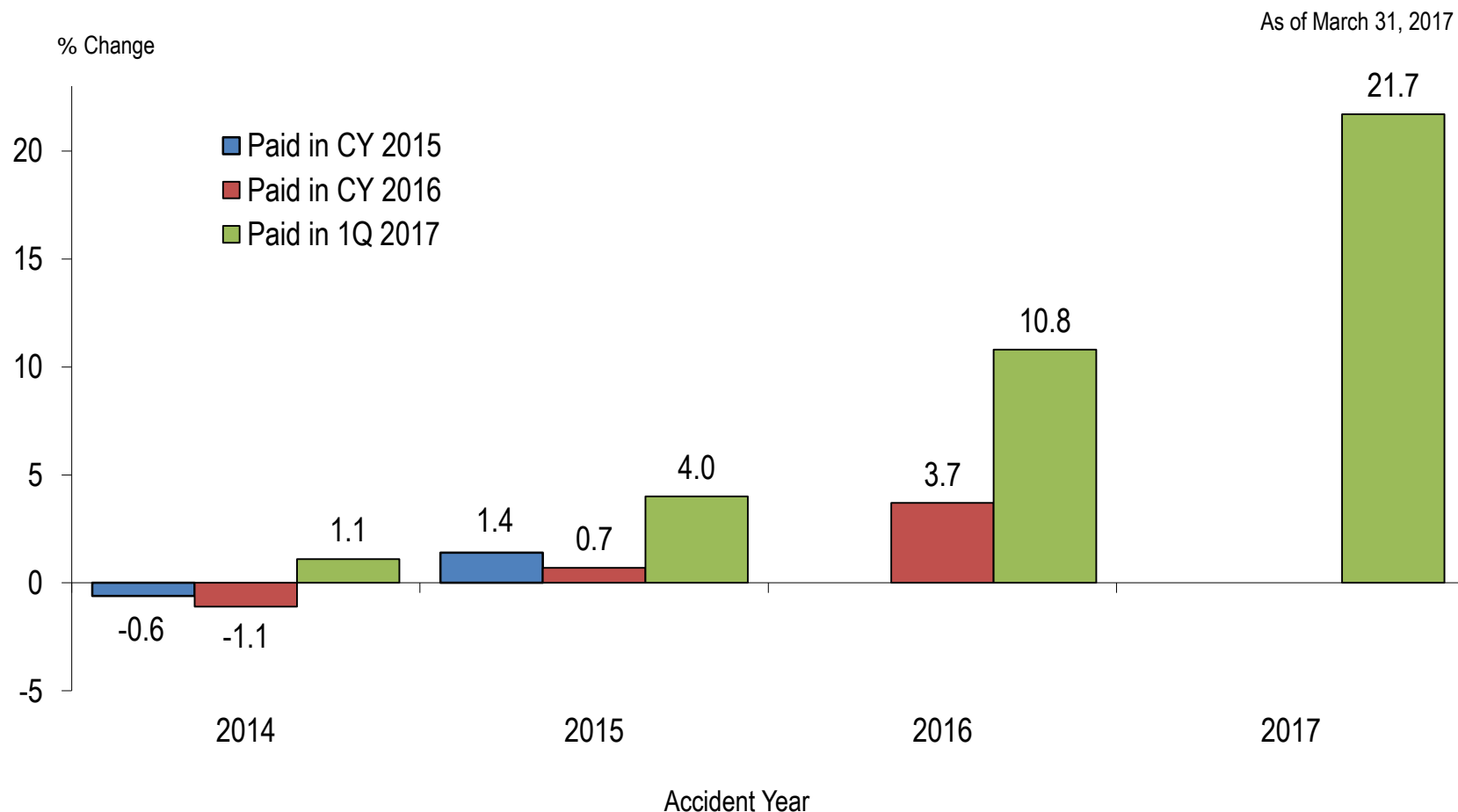
■ Paid Medical per Indemnity Claim



\* Paid medical includes MCCP prior to accident year 2010. From 2010 to 2011 MCCP is partially included, and from 2012 and onward MCCP is excluded.

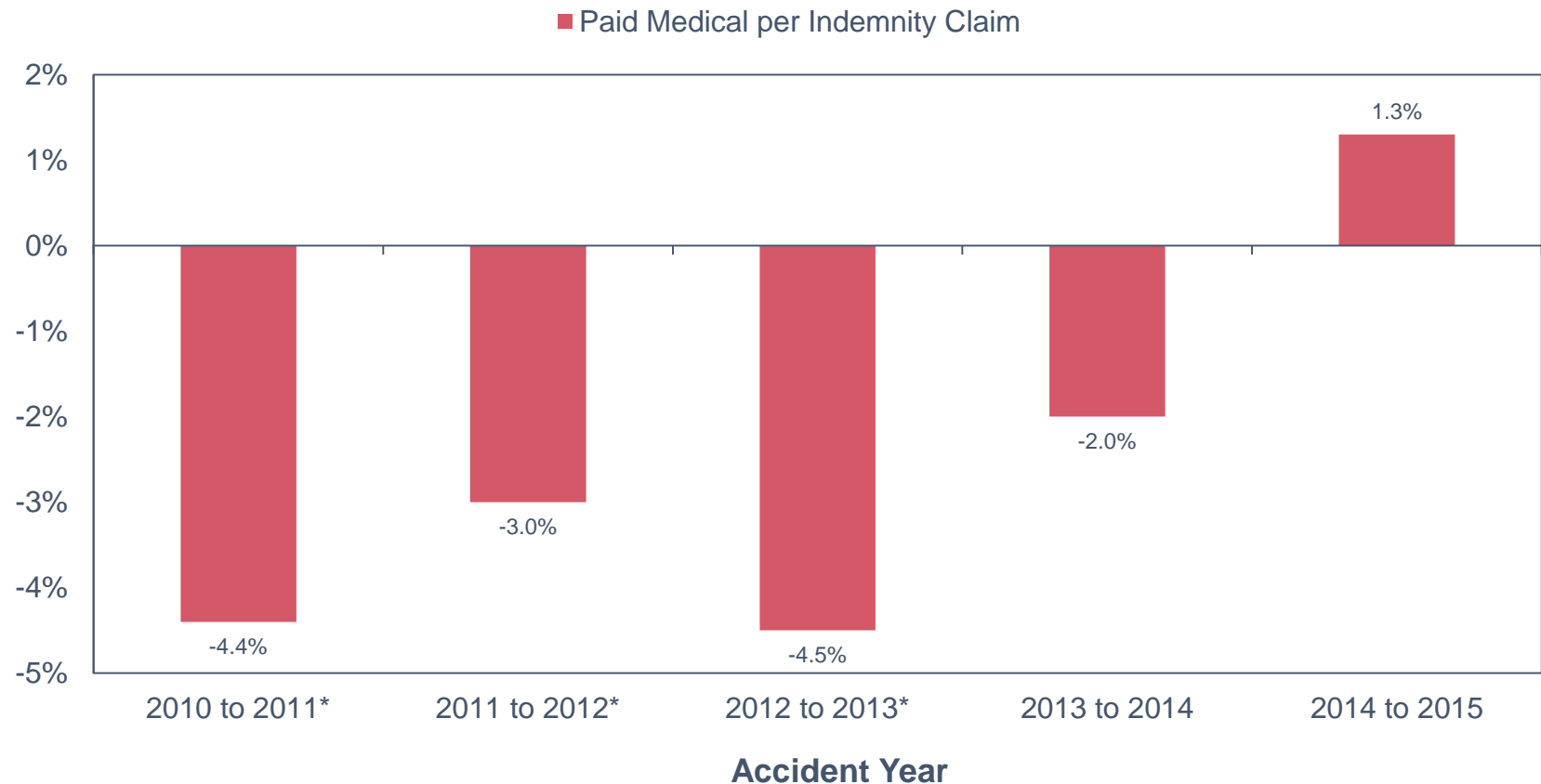
Source: WCIRB quarterly calls for experience

# Medical Severity— Change in Paid Medical Per Indemnity Claim Inventory (Exhibit S7; pg. IV-A-61)



# Medical Severity—Paid per Indemnity Claim (Exhibit S3.2; pg. A-50)

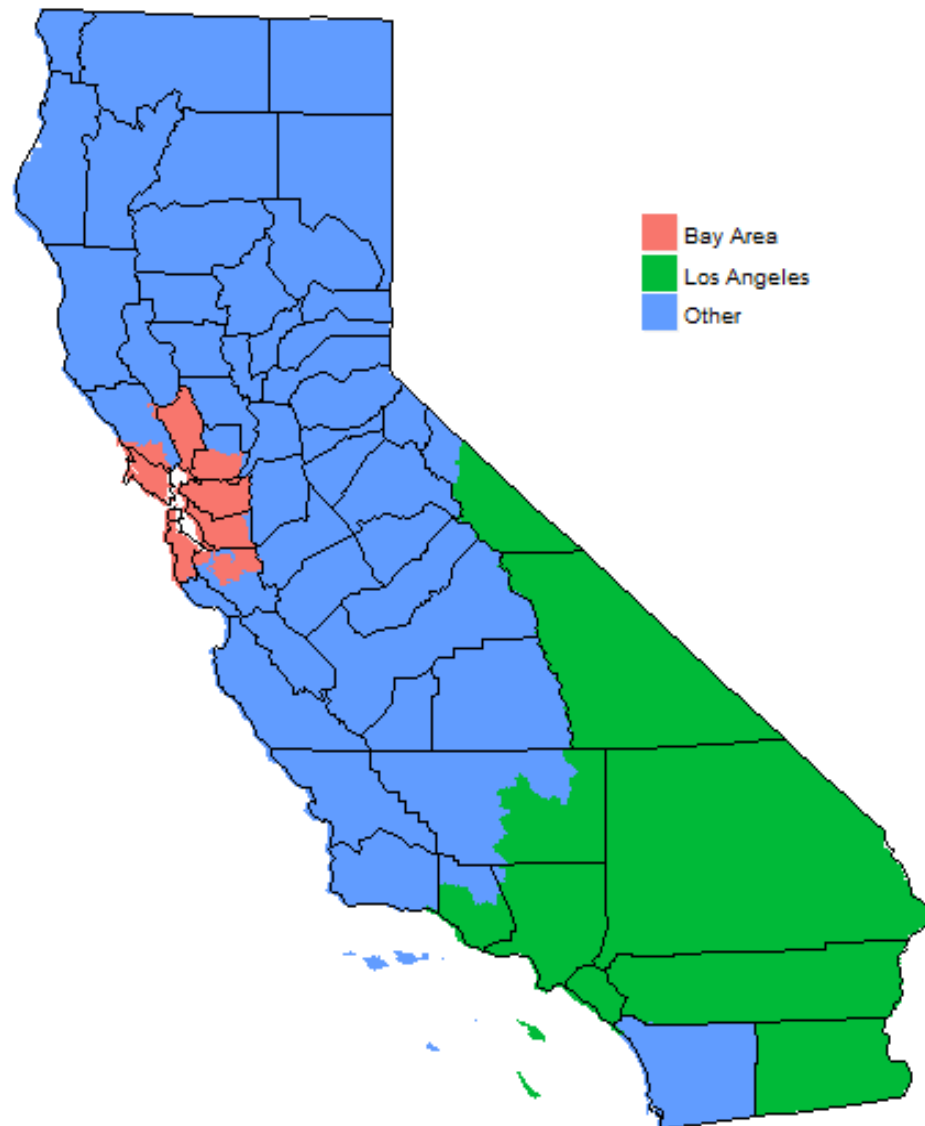
Accident Year Changes in Medical Severity as of 27 Months



\* Paid medical includes MCCP prior to accident year 2010. From 2010 to 2011 MCCP is partially included, and from 2012 and onward MCCP is excluded.

Source: WCIRB quarterly calls for experience

# Region Definitions



# 1/1/2018 Filing – Loss Adjustment Expense Experience Review

**WCIRB Actuarial Committee Meeting**  
**August 2, 2017**

## 2015 Expense Call Changes Related to ULAE

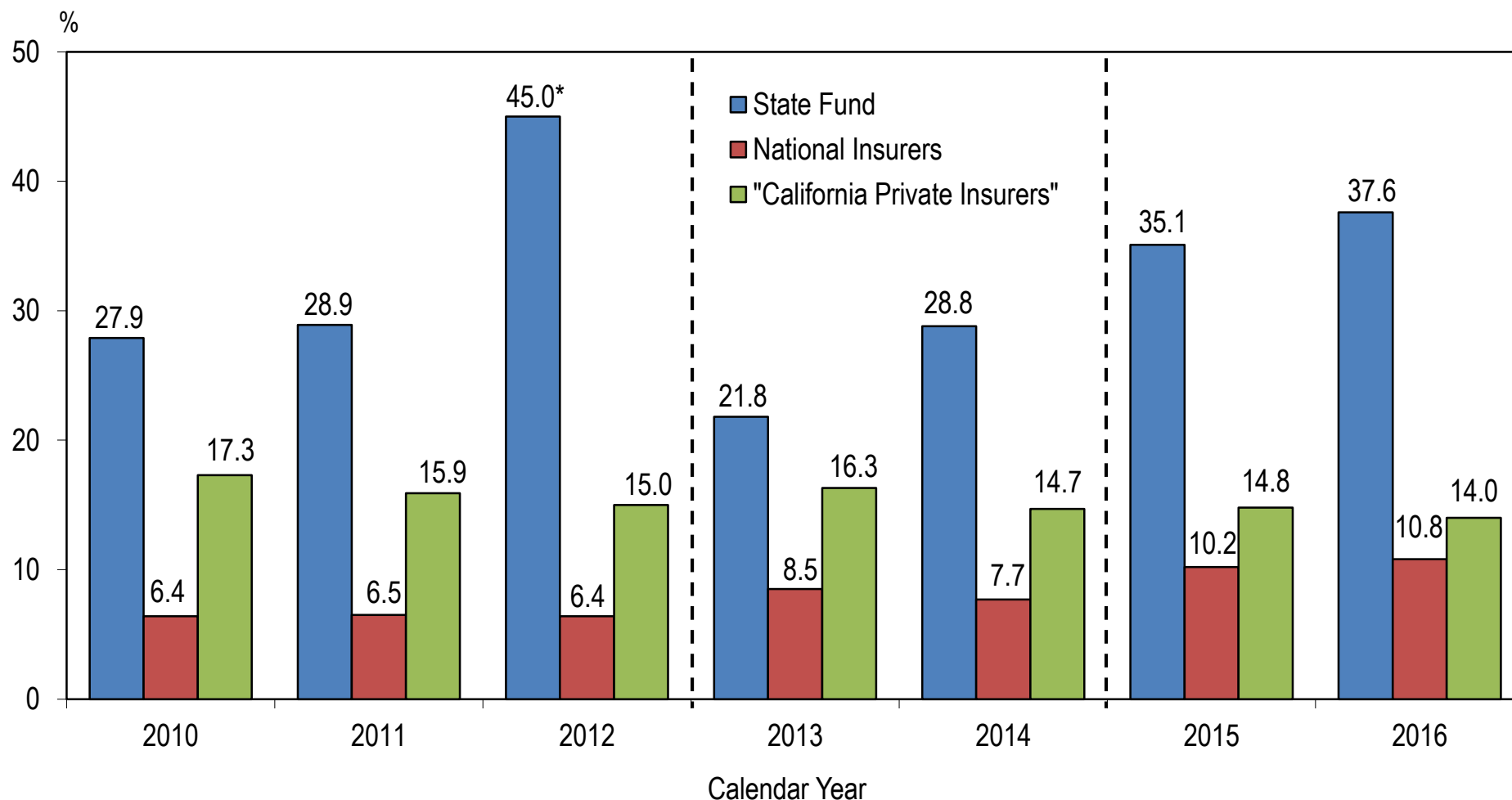
- ULAE reporting studied in 2015
  - Focus on differences between insurers writing primarily in CA and those writing in other states
- Changes to Expense Call adopted in 2015 to collect:
  - Negative “service fee”-type adjustments to CW ULAE
  - Losses on deductible policies or handled by TPA in which associated ULAE not in reported CW amounts
  - Various CW amounts consistent with IEE
- New data provided on 2015 & 2016 Expense Calls
- Method of apportioning CW ULAE to CA to be reviewed later this year

## Computation of Adjusted ULAE for CA

1.	<b>CW ULAE Adjusted For Negatives</b>	=	[CW Paid ULAE] + [Amount of Negative ULAE Adjustment]
2.	<b>Adjusted CW Losses</b>	=	[CW Paid Losses] – [Loss for Claims not in ULAE from Deduct. Policies] – [Loss for Claims not in ULAE from Non-Deduct. Policies]
3.	<b>Adjusted CW ULAE Ratio</b>	=	$\frac{[\text{CW ULAE Adjusted for Negatives}]}{[\text{Adjusted CW Losses}]}$
4.	<b>Adjusted CW Paid ULAE</b>	=	[Adjusted CW ULAE Ratio] x [CW Paid Losses]
5.	<b>Adjusted CA Paid ULAE</b>	=	$\frac{[\text{Adjusted CW Paid ULAE}] \times [\text{CA Paid Losses}]}{[\text{CW Paid Losses}]}$



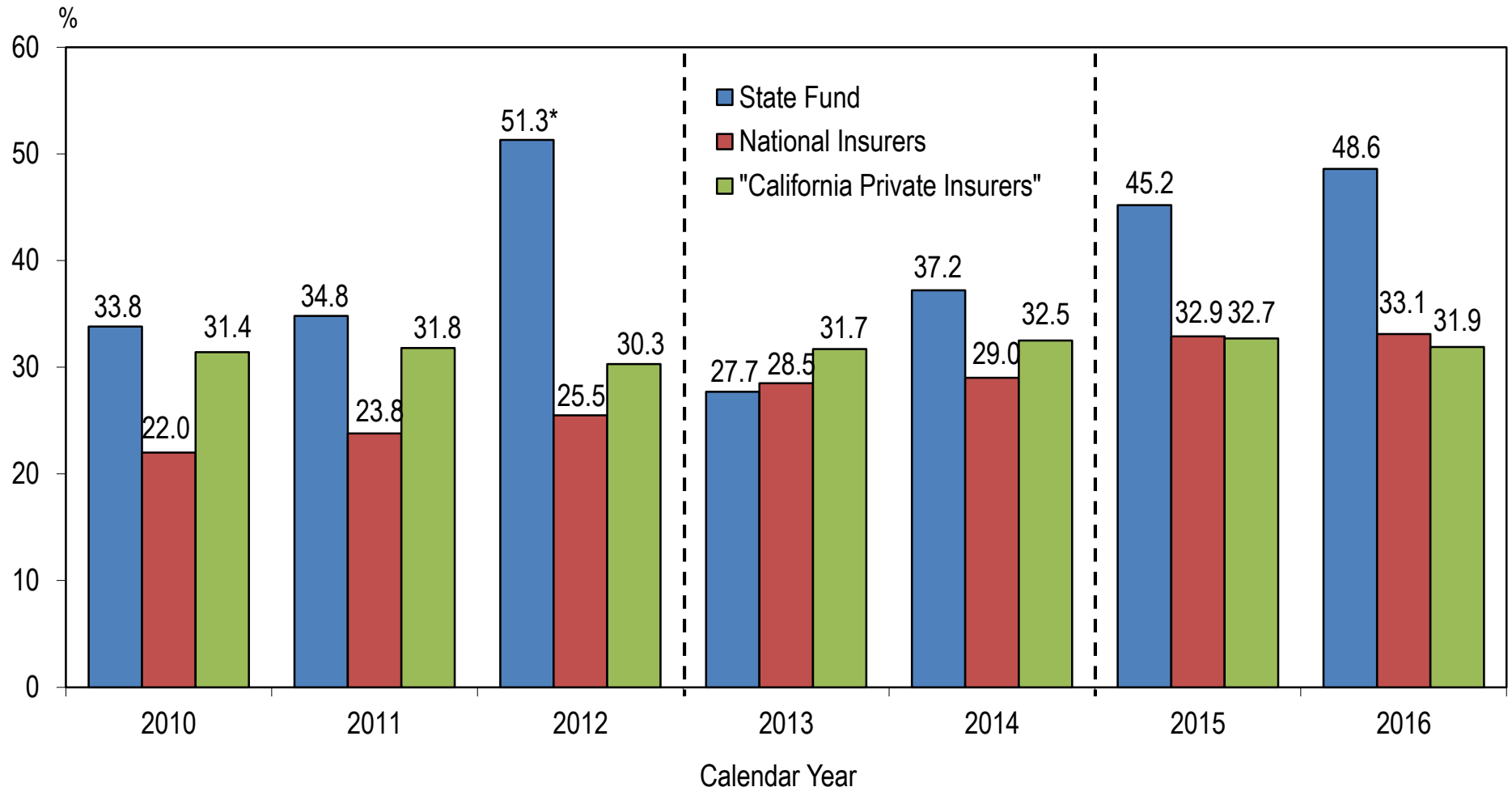
# Ratios of Paid ULAE to Paid Loss (Exhibit 1)



"California Private Insurers" are insurers with at least 80% of their workers' compensation writings in California.

\*2012 figure includes a one-time adjustment made by the State Compensation Insurance Fund to reallocate liabilities related to pension benefits.

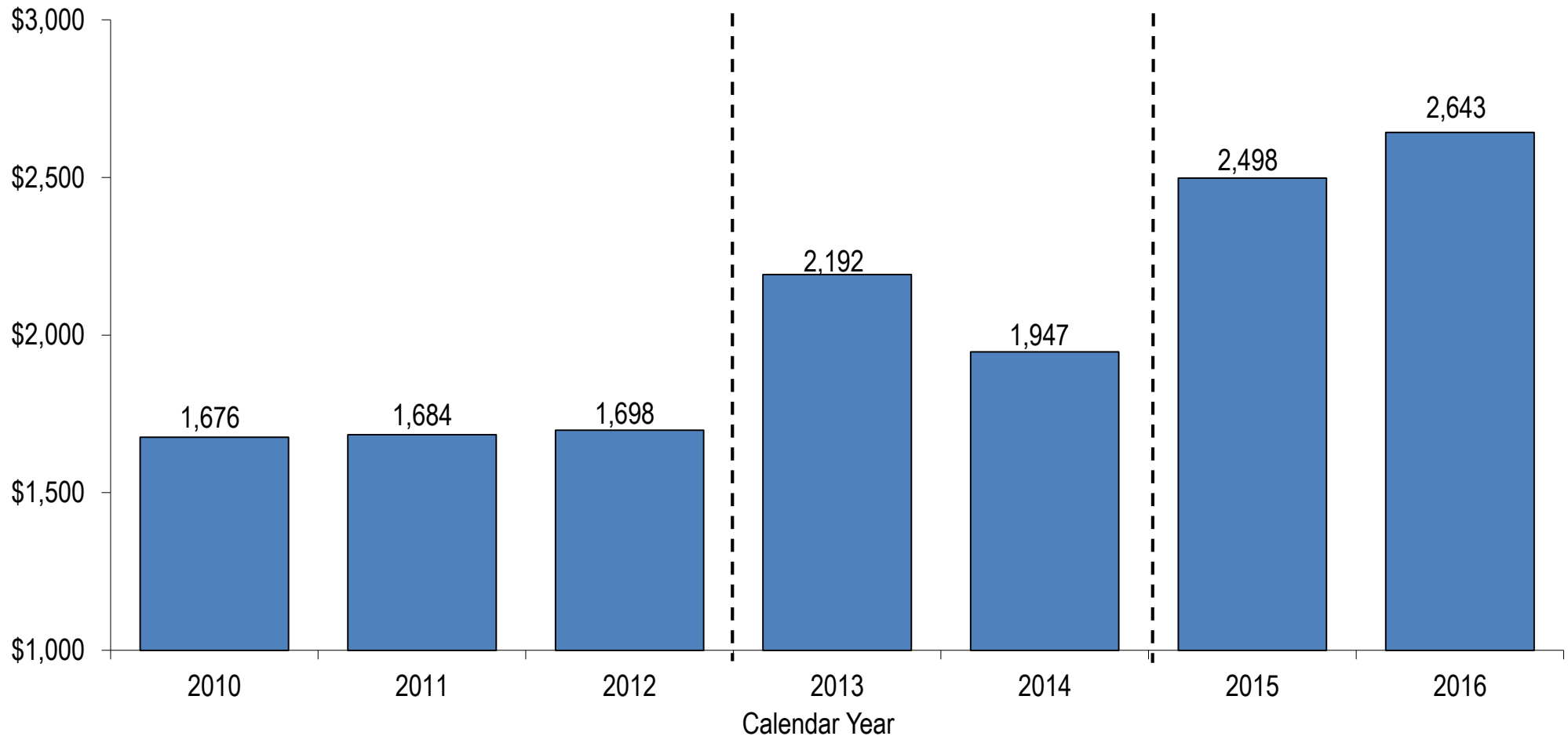
## Ratios of Total Paid LAE to Paid Loss (Exhibit 1)



"California Private Insurers" are insurers with at least 80% of their workers' compensation writings in California.

\*2012 figure includes a one-time adjustment made by the State Compensation Insurance Fund to reallocate liabilities related to pension benefits.

## Paid ULAE per Open Indemnity Claim – Private Insurers (Exhibit 2.2)



## **ULAE Projection Methodology**

### ***Open Indemnity Claim-Based Projection***

- Open Indemnity Claims at Beginning of Calendar Year
  - Projected using WCIRB frequency forecasts and recent reporting and closure patterns
- Calendar Year Paid ULAE per Open Indemnity Claim
  - Data based on private insurers only
  - Projected using UCLA average wage level changes
  - Changes in historical ULAE severities cannot be used until sufficient data based on the new approach is available
- Projected Policy Year 2018 ULAE
  - Trend to future CYs based on average of CYs 2015 & 2016 (2 years of data under expanded call now available)
  - (# of open indemnity claims) X (paid ULAE per open indemnity claim)
  - Projected 3.5 years to approx. average ULAE payment date on 2018 policies

## ULAE Projection Methodology

### *Paid Loss-Based Projection*

- Reported Paid ULAE Ratio to Premium
- Paid Loss Ratio to Premium
  - Projected using paid loss development projections
- Paid ULAE Ratio to Paid Losses
  - Data based on private insurers only
  - $(\text{Paid ULAE to premium ratio}) / (\text{paid loss to premium ratio})$
  - Projected using average of CYs 2015 & 2016
- Projected Policy Year 2018 ULAE to Loss Ratio
  - $\text{Projected ULAE ratio to premium} = (\text{projected paid ULAE to paid loss ratio}) \times (\text{projected paid loss to premium ratio})$
  - Average of CYs 2018 and 2019
  - Divide by projected policy year 2018 loss ratio

## Projections of ULAE to Loss

### July 1, 2017 Pure Premium Rate Filing Projection

ULAE Projection Method	Statewide Using Private Insurer Average ULAE
Paid ULAE per Open Indemnity Claim – Latest Year	12.9%
Paid ULAE to Paid Losses – Latest Year	10.0%
<b>Average of Open Indemnity Claim and Paid Loss-Based Projections</b>	<b>11.5%</b>

### Policy Year 2018 Projection

ULAE Projection Method	Statewide Using Private Insurer Average ULAE
Paid ULAE per Open Indemnity Claim – Latest 2 Years	11.3%
Paid ULAE to Paid Losses – Latest 2 Years	9.2%
<b>Average of Open Indemnity Claim and Paid Loss-Based Projections</b>	<b>10.3%</b>

## Projected ULAE to Loss Ratios for Policy Year 2018 under Alternative Methods

ULAE Projection Method	Statewide ULAE Ratio	Statewide Using Private Insurer Average ULAE
<b>Average of Open Indemnity Claim and Paid Loss-Based Projections – Latest 2 Years</b>	<b>12.8%</b>	<b>10.3%</b>
Paid ULAE per Open Indemnity Claim – Latest Year	13.8%	11.4%
Paid ULAE to Paid Losses – Latest Year	11.9%	9.4%
Paid ULAE per Weighted Open Indemnity Claim – Latest 2 Years	13.7%	10.7%
Latest 2 CY Paid ULAE to Loss Ratios	14.1%	11.1%
Latest CY Paid ULAE to Loss Ratio	14.3%	11.3%

## Reporting IMR & IBR Fees

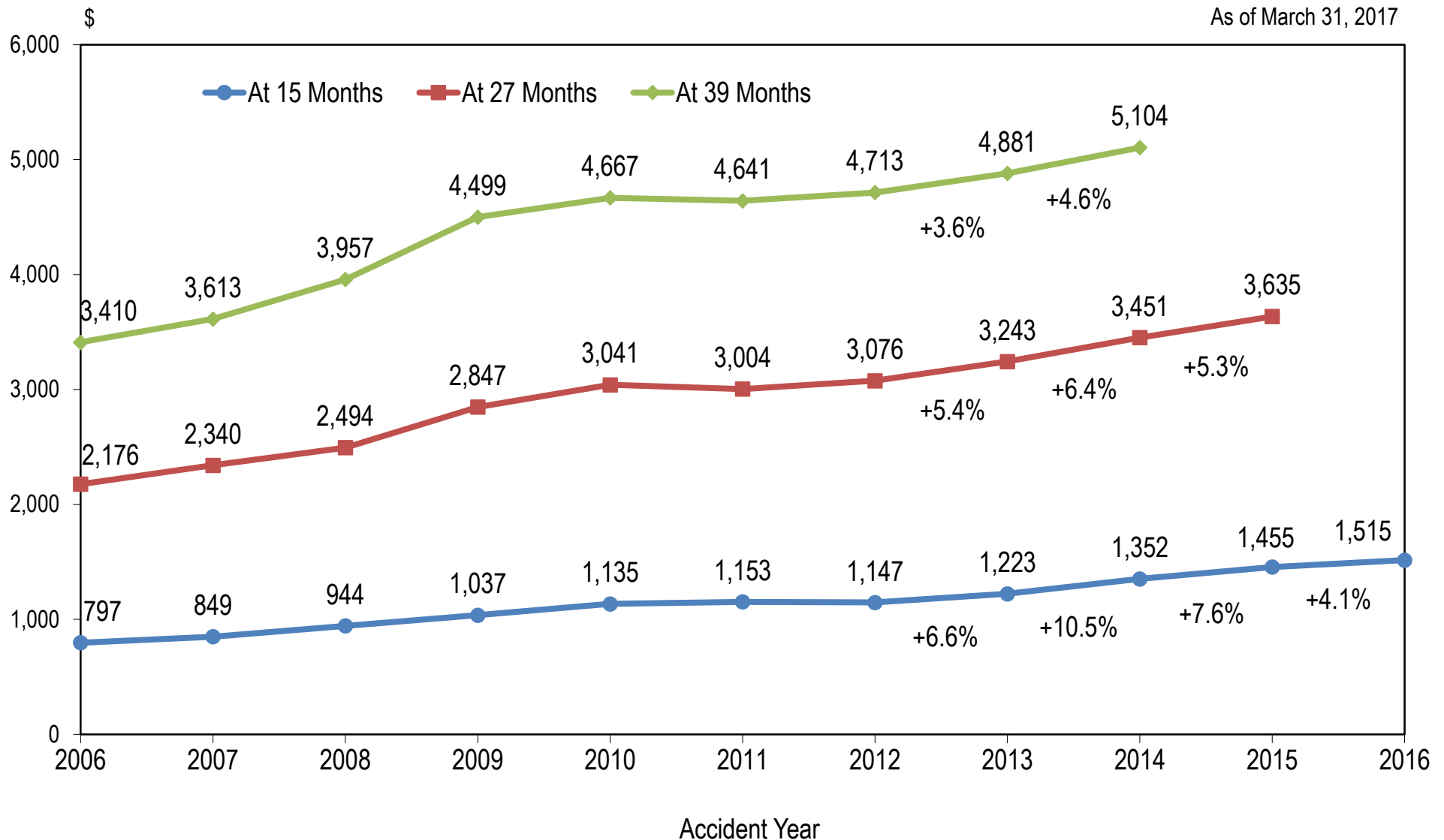
- IMR & IBR process implemented in 2013 w/ SB 863
- Fees for IMR & IBR reported in MCCP from 2013 to 2015
  - Only for AYs 2010-2015 for which MCCP is separately reported
- Beginning with IMR & IBR paid in 2016, fees no longer reported in MCCP but continue to be included as part of ALAE
  - Effective on a transaction basis which impacts all accident years
- Due to change, MCCP & ALAE development can be distorted
  - Paid MCCP reported prior to 2016 includes IMR & IBR but not after
  - Conversely for ALAE excluding MCCP



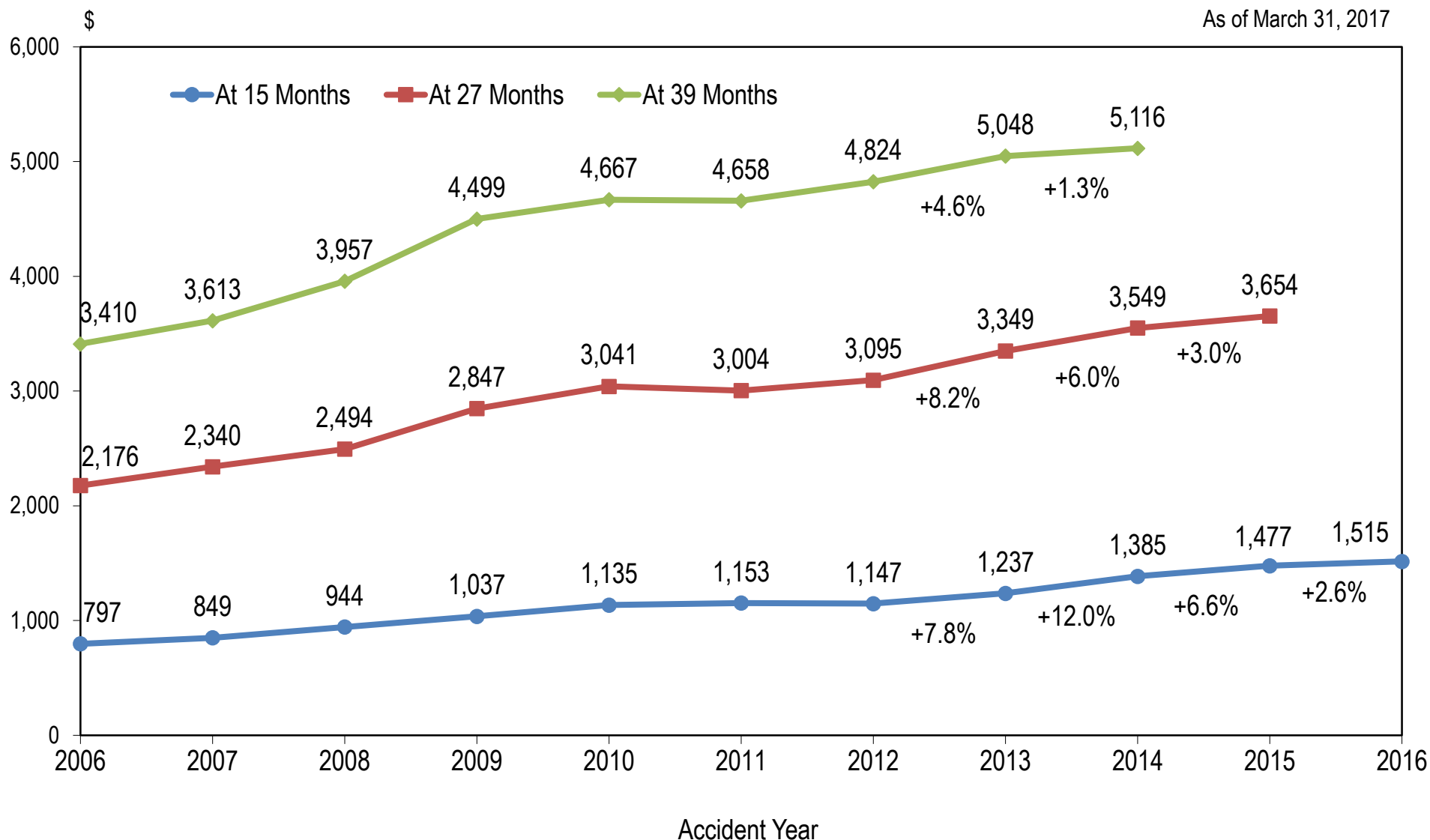
## Adjustment for IMR & IBR Reporting Change

- Staff reviewed DWC database of IMR & IBR reports to determine IMR/IBR counts by AY and transaction quarter
- Fees per IMR/IBR set by DWC
  - Staff applied to transaction counts to determine IMR/IBR “payment pattern”
- Paid ALAE adjusted to include all IMR/IBR payments by AY for reports issued prior to 1/1/2016
  - Adjustments tempered to reflect only insured market (67%) and selected insurer market share (i.e., private insurers)
  - Only AYs 2011-2015 adjusted
- Converse adjustment made to paid MCCP to exclude all IMR & IBR payments

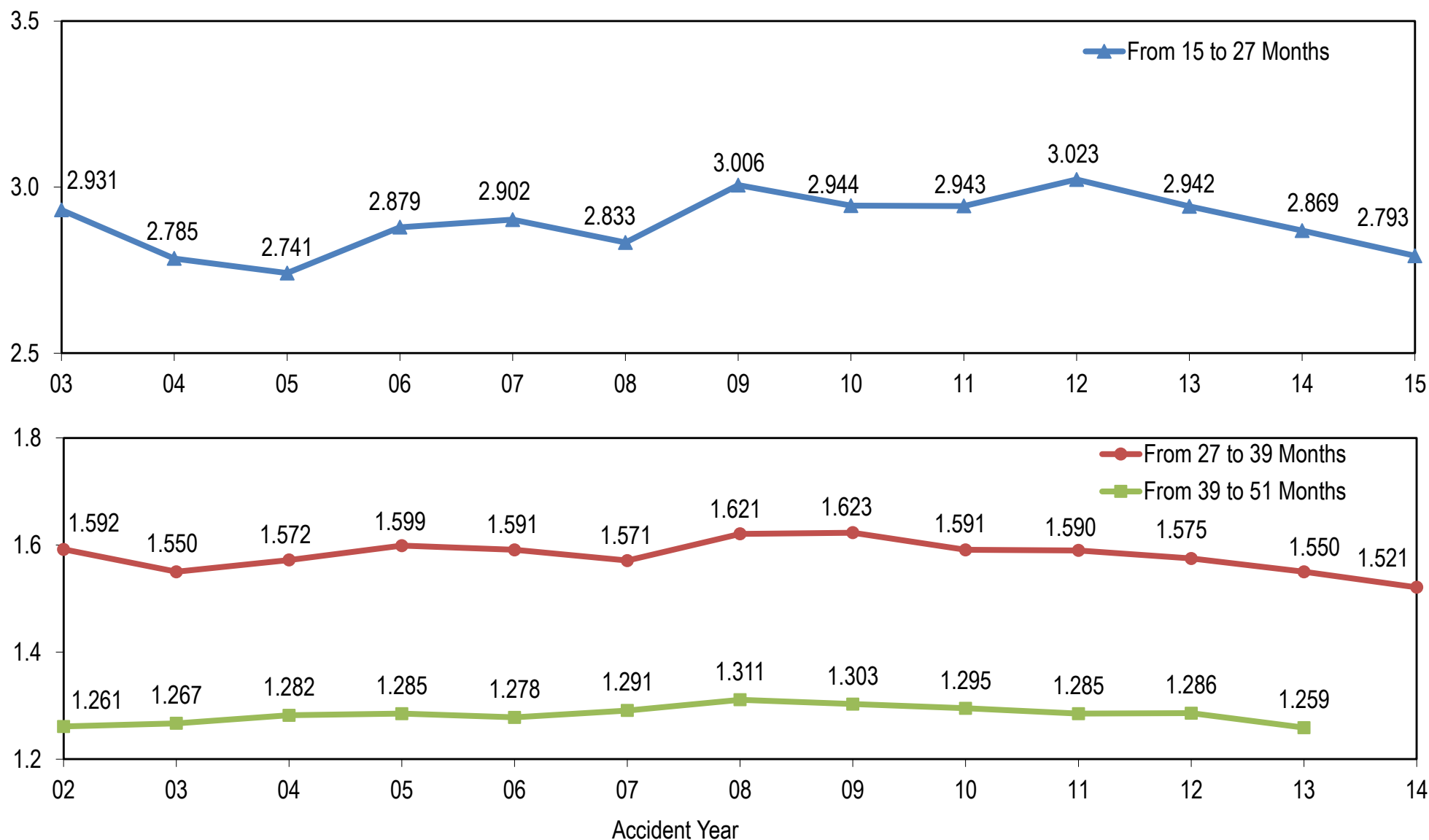
## Paid ALAE per Reported Indemnity Claim – Private Insurers Excluding MCCP (Exhibit 13 – Unadjusted for IMR/IBR)



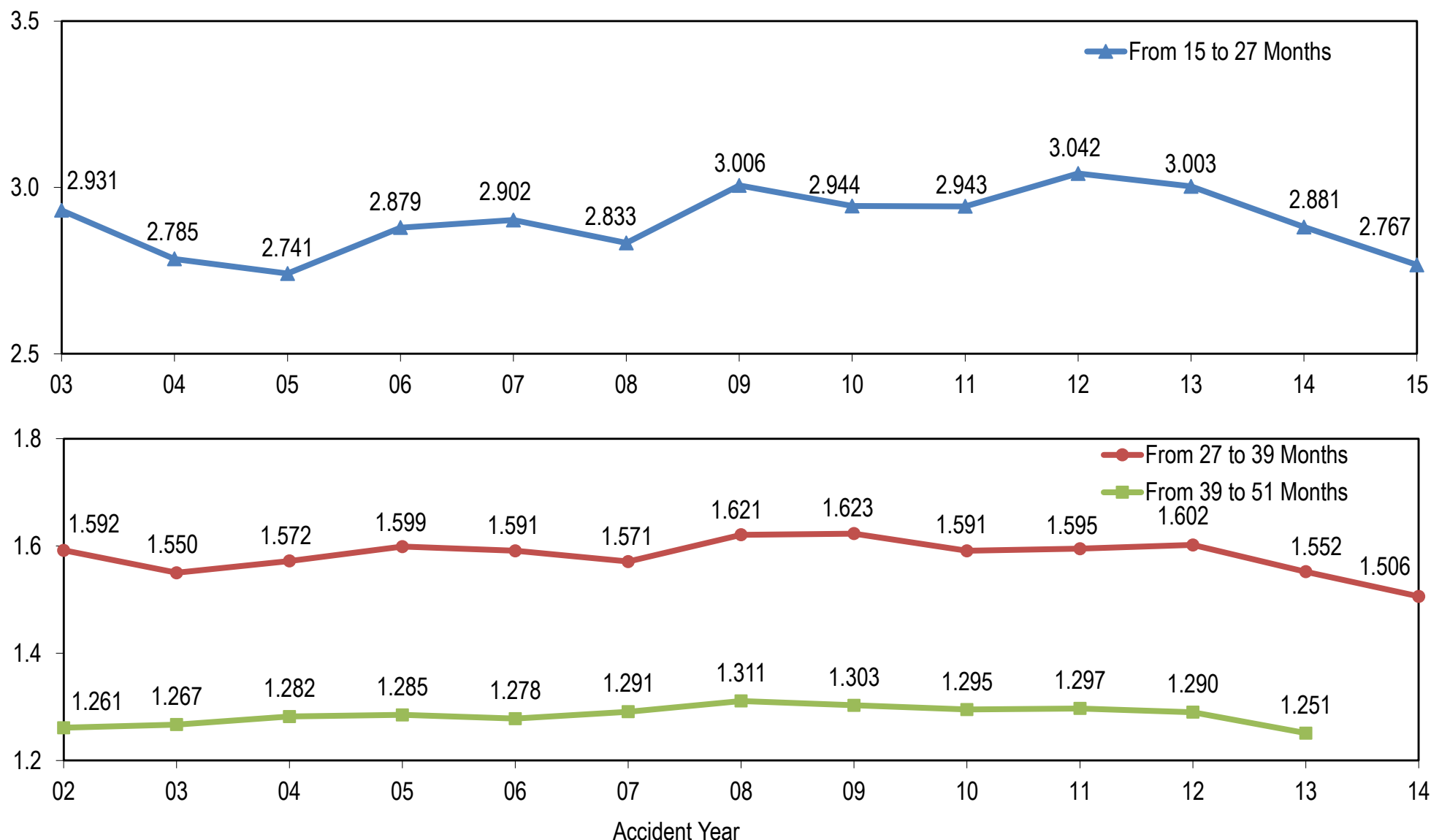
# Paid ALAE per Reported Indemnity Claim – Private Insurers Excluding MCCP (Exhibit 13 – Updated for IMR/IBR Adjustment)



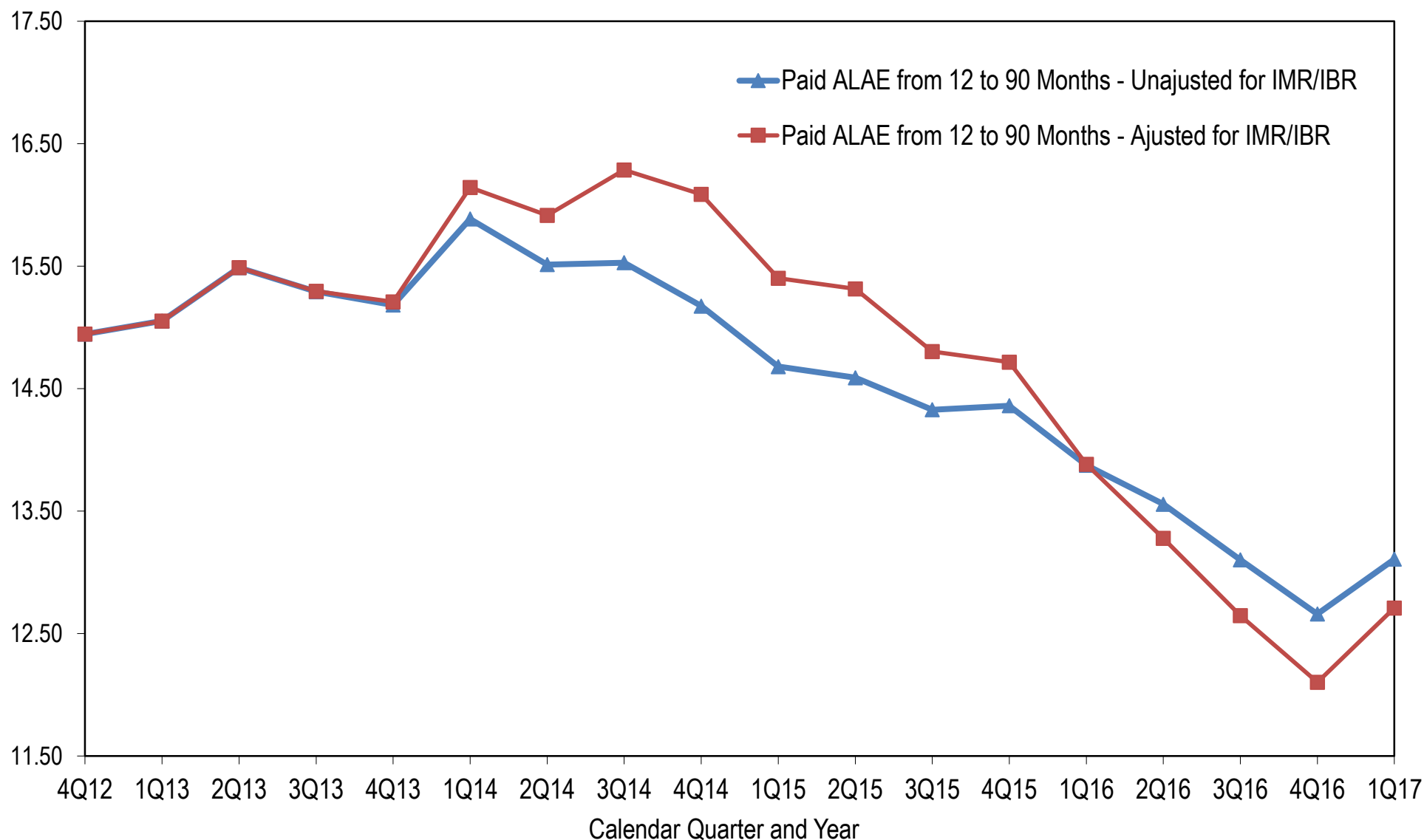
# Paid ALAE Excluding MCCP Development Factors – Private Insurers (Exhibit 16.1 – Unadjusted for IMR/IBR)



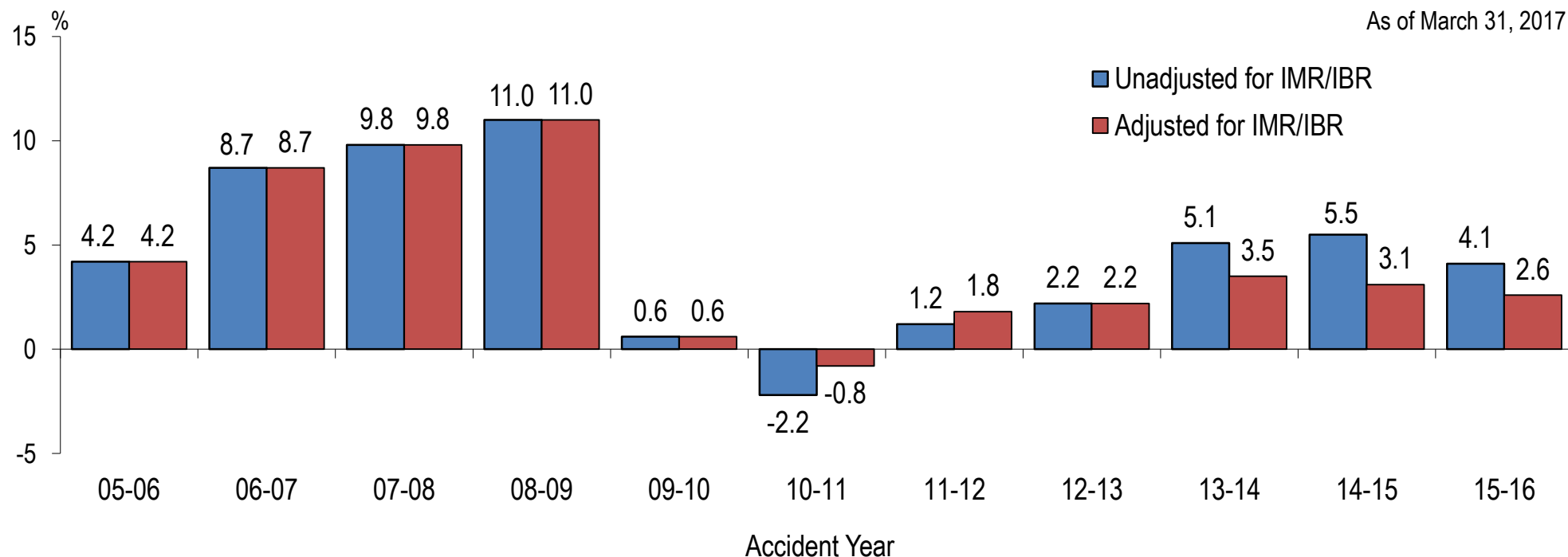
# Paid ALAE Excluding MCCP Development Factors – Private Insurers (Exhibit 16.1 – Updated for IMR/IBR Adjustment)



## Cumulative Quarterly Paid ALAE Development – Private Insurers



# Change in Estimated Ultimate ALAE Excluding MCCP per Indemnity Claim – Private Insurers (Exhibit 14.2)

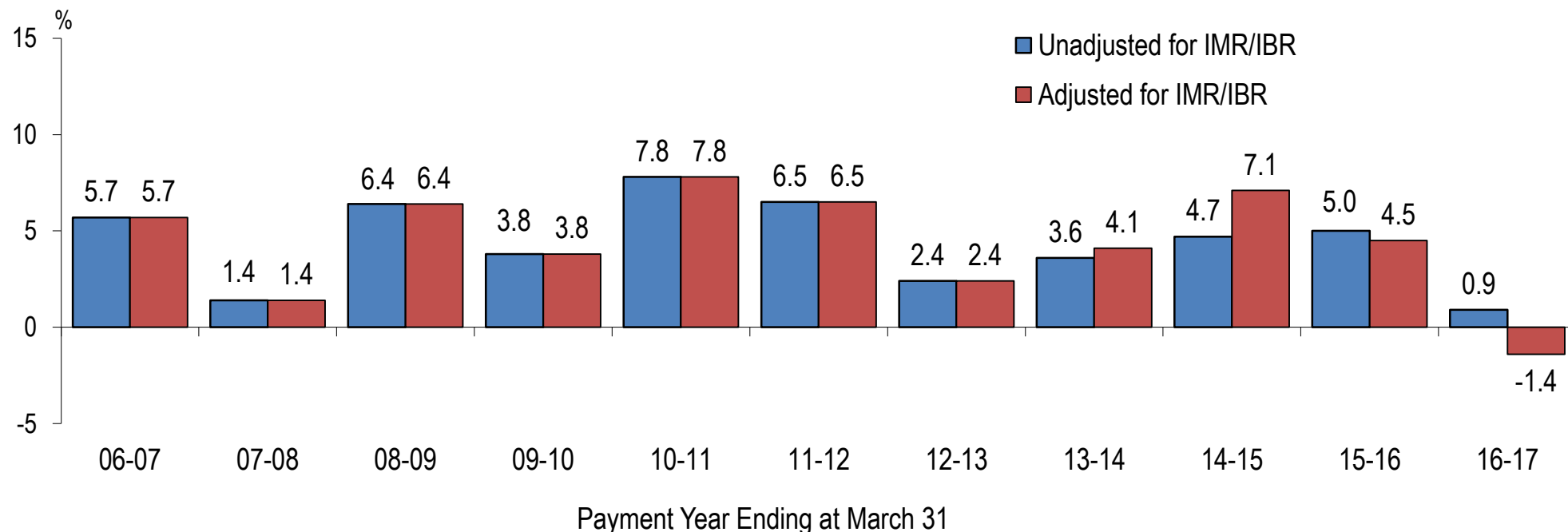


**Annual Exponential Trend Based on:**

**2005 to 2016 (w/ IMR/IBR Adjustment): +3.9%**

**2011 to 2016 (w/ IMR/IBR Adjustment): +2.7%**

# Change in Incremental Paid ALAE Excluding MCCP per Open Indemnity Claim – Private Insurers (Exhibit 15)



**Annual Exponential Trend Based on:**

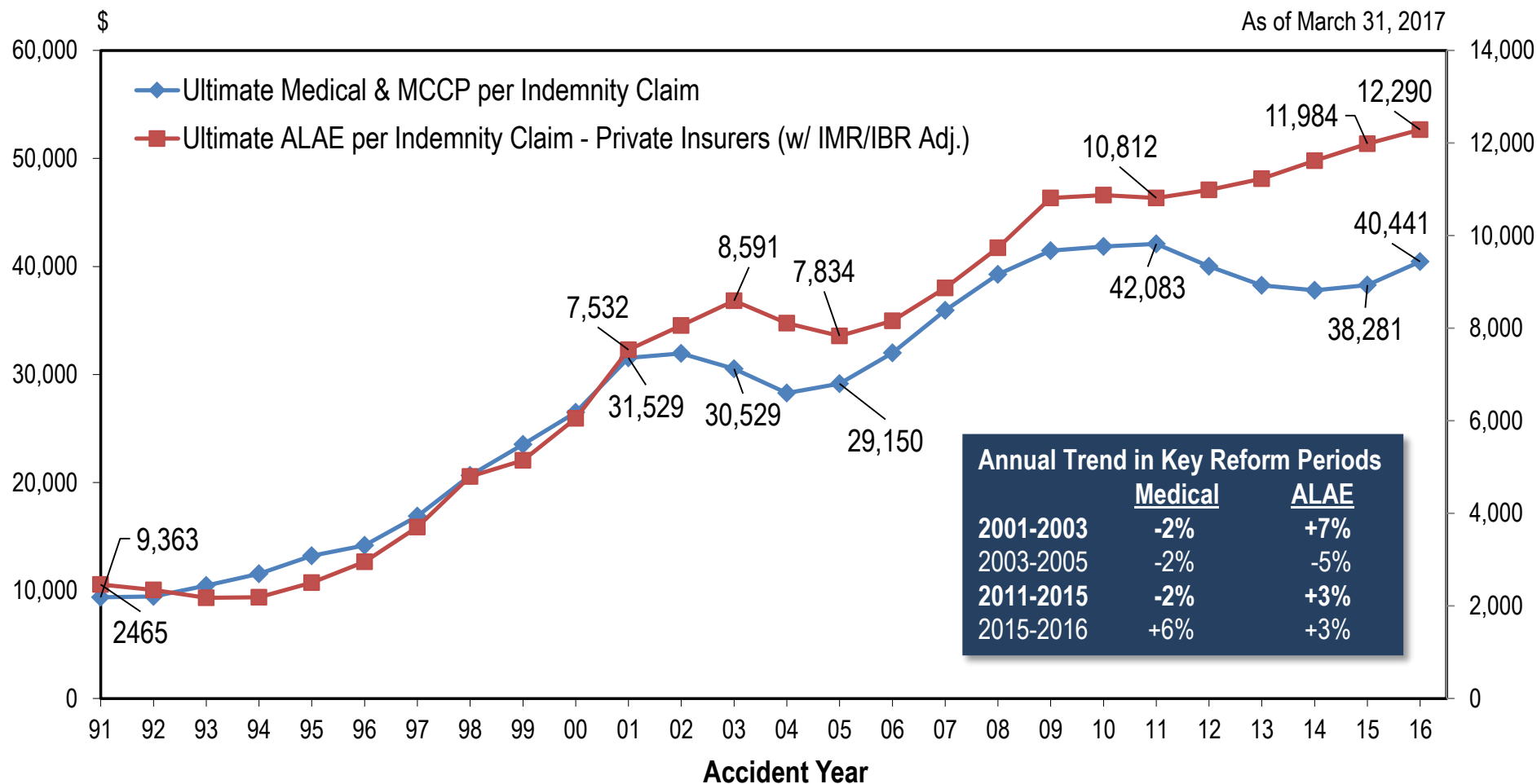
**2006 to 2017 (w/ IMR/IBR Adjustment): +4.8%**

**2012 to 2017 (w/ IMR/IBR Adjustment): +3.9%**

**Agenda Selected ALAE Severity Trend: +4.0%**



# Estimated Ultimate Medical (Incl. MCCP) & ALAE per Indemnity Claim



## ALAE Projection Methodology

- Accident Year Ultimate Indemnity Claim Counts
  - Latest year development
  - Projected using WCIRB frequency forecasts
- Accident Year Ultimate ALAE per Indemnity Claim
  - Data based on private insurers only
  - Latest year development with inverse power tail
  - Projected using average of ultimate ALAE per indemnity claim and incremental paid ALAE per open indemnity claim
- Projected Policy Year 2018 ALAE
  - (Projected # of ultimate indemnity claims) X (projected ultimate ALAE per indemnity claim)
  - Projection from latest two accident years

## Projections of ALAE Excluding MCCP to Loss

### July 1, 2017 Pure Premium Rate Filing Projection

ALAE Projection Method	Statewide Using Private Insurer Average ALAE
Projected Ultimate ALAE per Indemnity Claim	18.4%

### Policy Year 2018 Projection

ALAE Projection Method	Statewide Using Private Insurer Average ALAE
Projected Ultimate ALAE per Indemnity Claim (Agenda)	18.6%
Projected Ultimate ALAE per Indemnity Claim (w/ IMR/IBR Adjustment)	18.2%

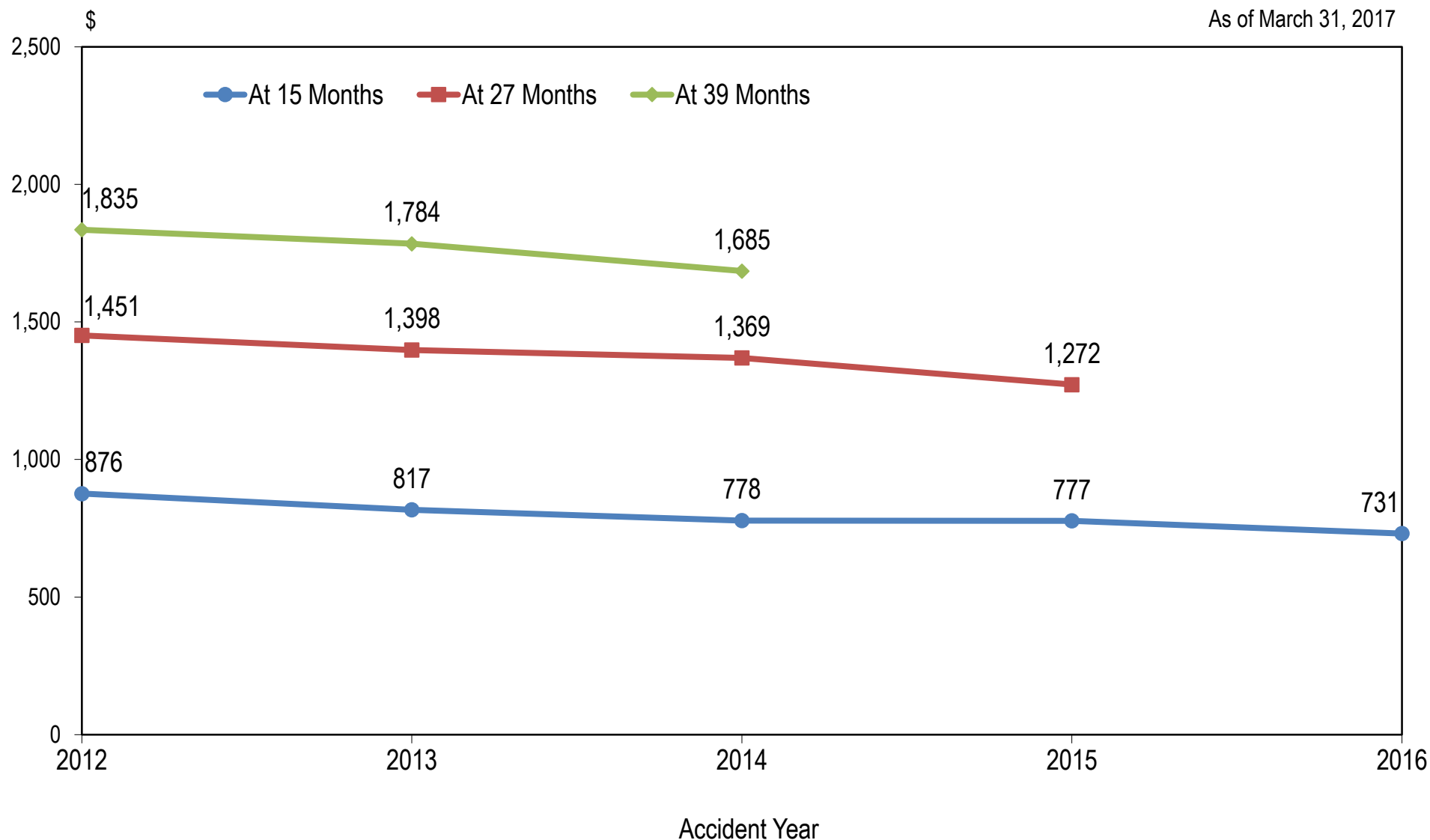
## Projected ALAE to Loss Ratios for Policy Year 2018 under Alternative Methods

ALAE Projection Method	Statewide ALAE Ratio	Statewide Using Private Insurer Average ALAE
<i>Projected Ultimate ALAE per Indemnity Claim – Latest 2 Years (w/ IMR/IBR Adjustment)</i>	17.7%	18.2%
Projected Ultimate ALAE per Indemnity Claim – Latest 2 Years (Agenda)	18.1%	18.6%
Projected Ultimate ALAE per Indemnity Claim – Latest Year	18.5%	18.9%
Paid ALAE Ratio Development Compared to Losses – Latest 2 Years	17.5%	18.6%
Paid ALAE to Paid Indemnity Development Compared to Losses – Latest 2 Years	17.1%	18.0%

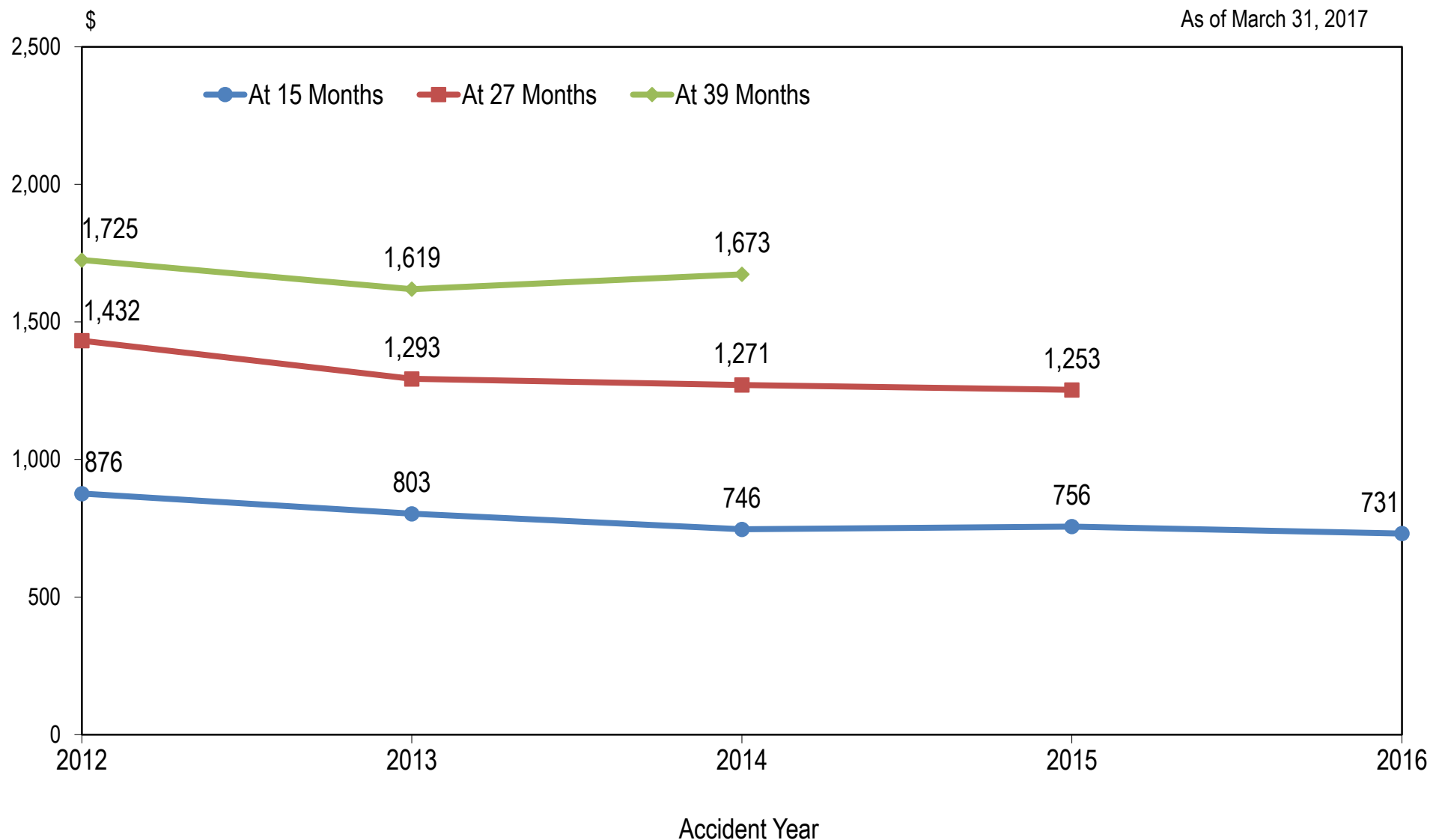
## MCCP Projection Methodology

- MCCP methodology based on that for ALAE
  - Statewide data used
  - Development based on paid MCCP through 63 months and paid medical after 63 months
  - Trend based on average changes in CY MCCP per open claim and ultimate MCCP per indemnity claim
- IMR/IBR changes also apply to MCCP (in reverse)
  - Staff's adjustment removes all IMR/IBR fees made prior to 2016 from paid MCCP triangle

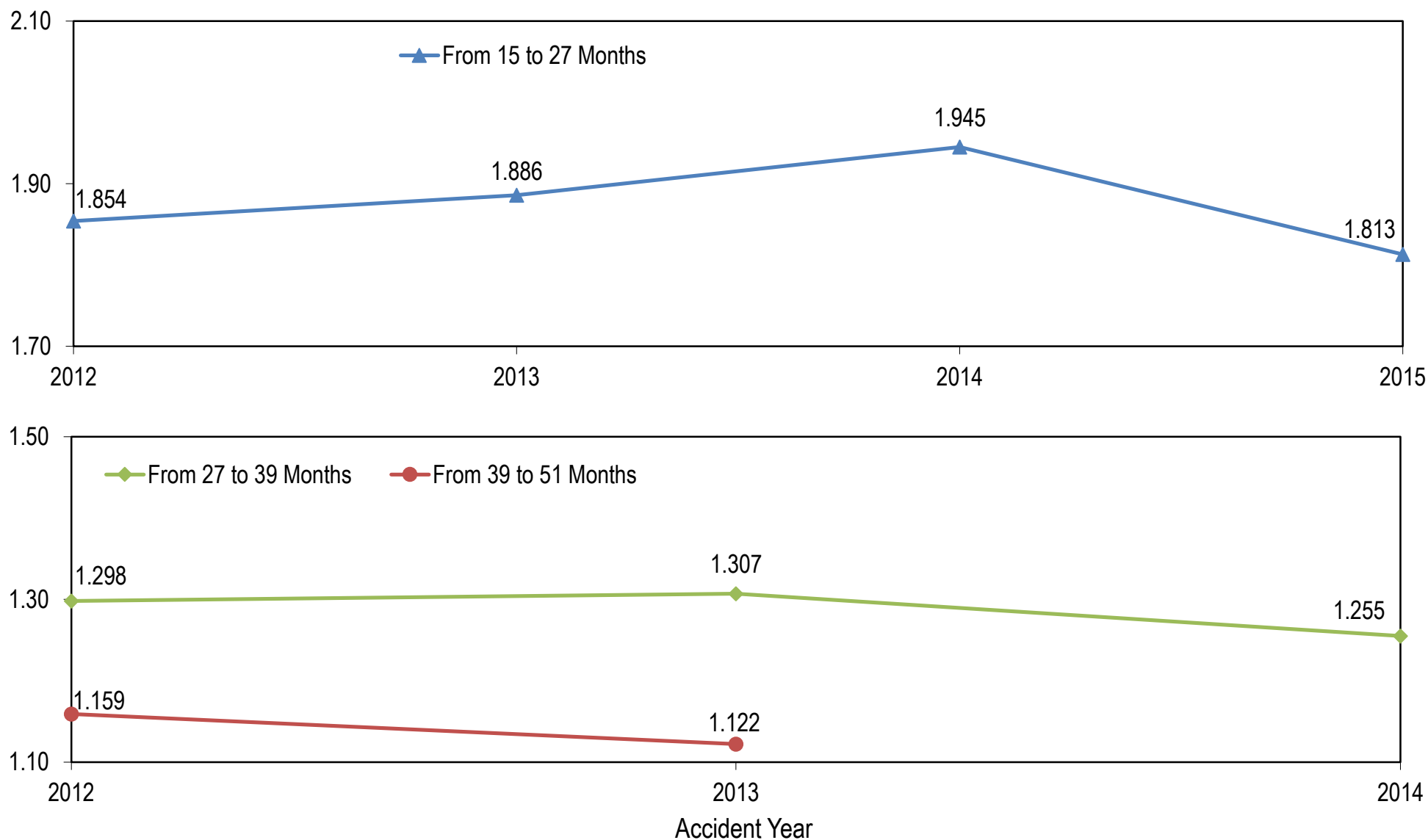
## Paid MCCP per Reported Indemnity Claim (Exhibit 24 – Unadjusted for IMR/IBR)



## Paid MCCP per Reported Indemnity Claim (Exhibit 24 – Updated for IMR/IBR Adjustment)

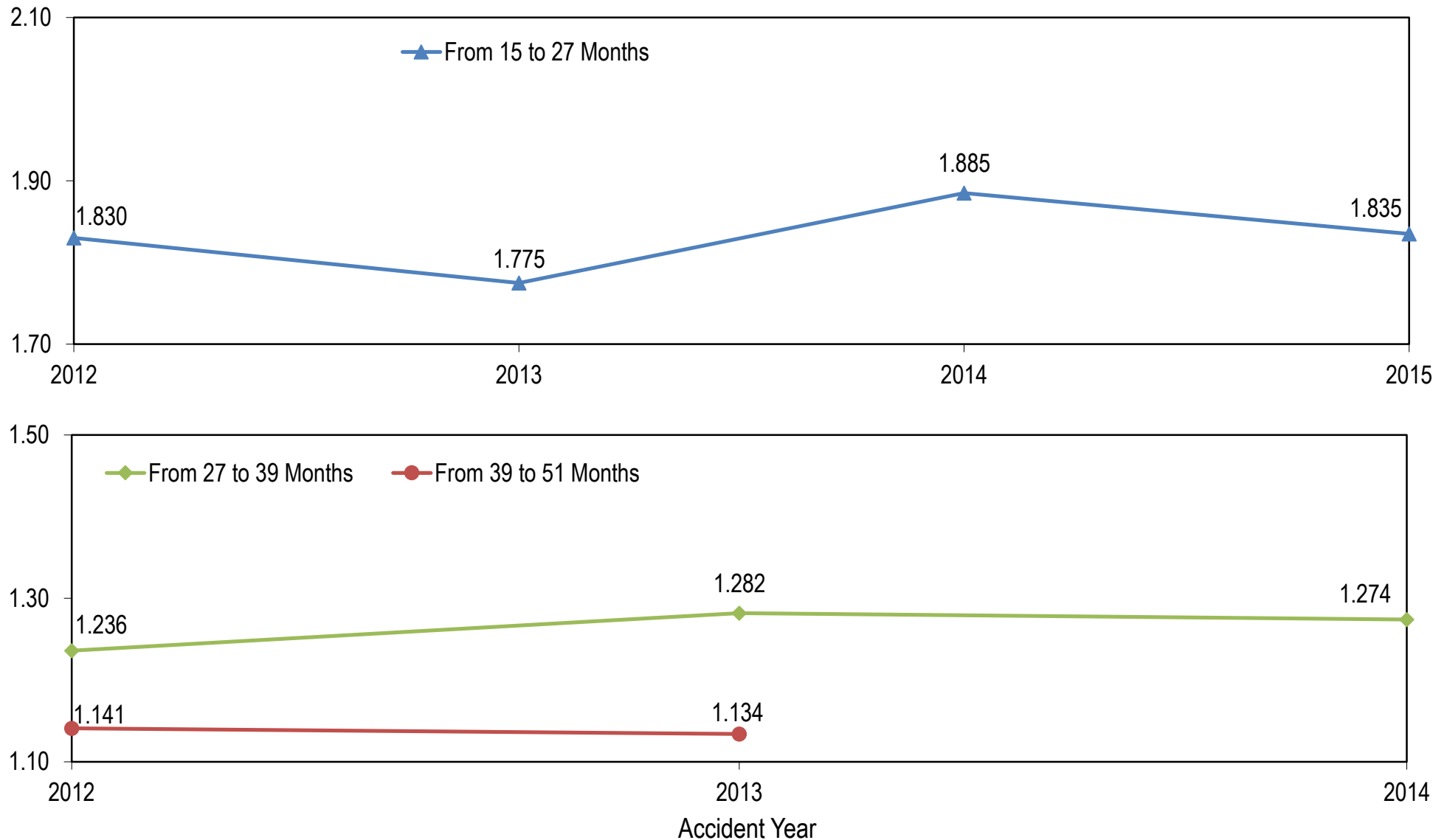


## Paid MCCP Quarterly Development Factors (Exhibit 27.1 – Unadjusted for IMR/IBR)

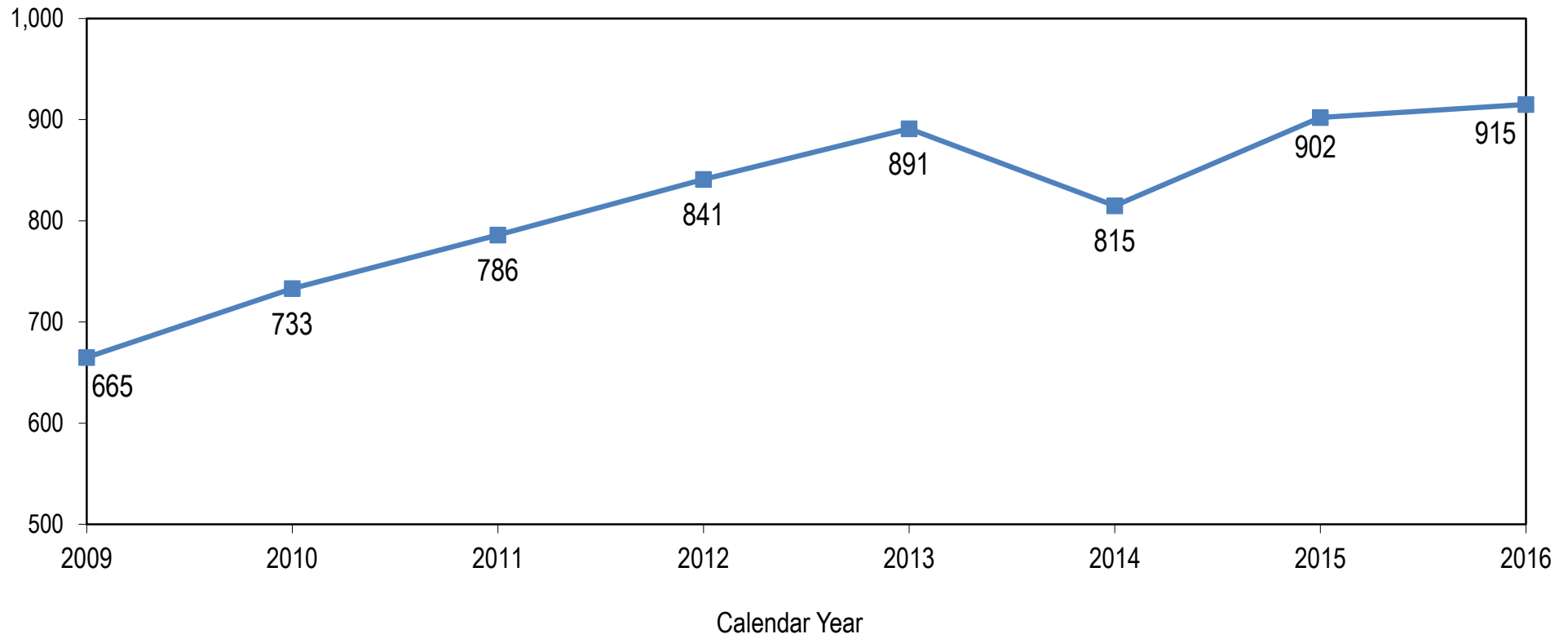




## Paid MCCP Quarterly Development Factors (Exhibit 27.1 – Updated for IMR/IBR Adjustment)



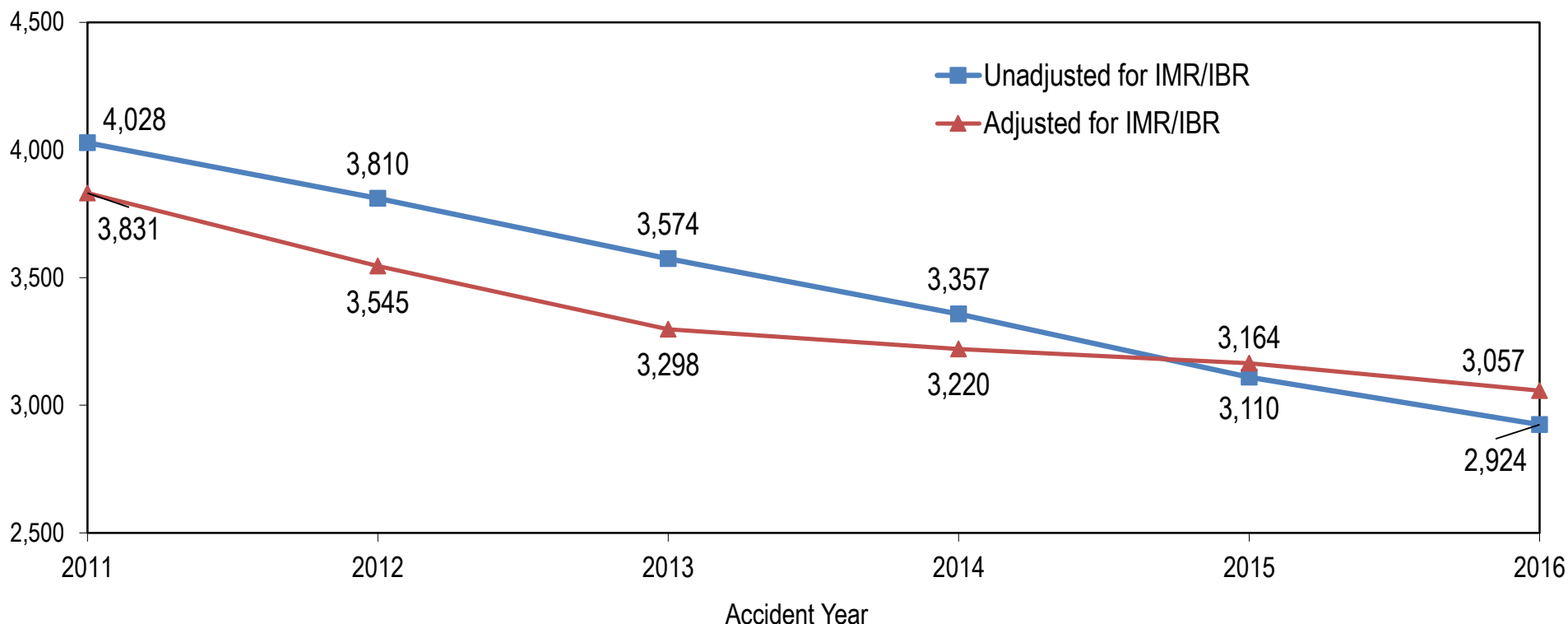
## Calendar Year Paid MCCP (Excluding IMR/IBR) per Indemnity Claims Inventory (Exhibit 25)



**Annual Exponential Trend Based on:**

**2009 to 2016: +4.2%**

## Accident Year Ultimate MCCP per Indemnity Claim (Exhibit 26 – Updated for IMR/IBR Adjustment)



**Annual Exponential Trend Based on:**

**2011-2016 (w/ IMR/IBR Adjustment): -4.2%**

**Agenda Selected MCCP Severity Trend: 0%**

## Projections of MCCP to Loss

### July 1, 2017 Pure Premium Rate Filing Projection

MCCP Projection Method	Statewide
Projected Ultimate MCCP per Indemnity Claim	4.3%

### Policy Year 2018 Projection

ALAE Projection Method	Statewide
Projected Ultimate MCCP per Indemnity Claim (Agenda)	4.0%
Projected Ultimate MCCP per Indemnity Claim (w/ IMR/IBR Adjustment)	4.1%

## Projected MCCP to Loss Ratios for Policy Year 2018 under Alternative Methods

MCCP Projection Method	Statewide MCCP Ratio
<i>Projected Ultimate MCCP per Indemnity Claim – Latest 2 Years (w/ IMR/IBR Adjustment)</i>	<b>4.1%</b>
<b>Projected Ultimate ALAE per Indemnity Claim – Latest 2 Years (Agenda)</b>	<b>4.0%</b>
Projected Ultimate MCCP per Indemnity Claim – Latest Year	3.9%
Paid Ultimate MCCP per Indemnity Claim – Trend Based on CY MCCP per Open Indemnity Claim Applied to Latest 2 Years	4.5%

## Projections of LAE to Loss

### July 1, 2017 Pure Premium Rate Filing Projection

LAE Component	Ratio
ULAE Ratio	11.5%
ALAE Ratio	18.4%
MCCP Ratio	4.3%
Total LAE Ratio	34.2%

### Preliminary Policy Year 2018 Projection

LAE Component	Ratio
ULAE Ratio	10.3%
ALAE Ratio (w/ IMR/IBR Adjustment)	18.2%
MCCP Ratio (w/ IMR/IBR Adjustment)	4.1%
Total LAE Ratio	32.6%

# Study of Longer-Term Loss Development

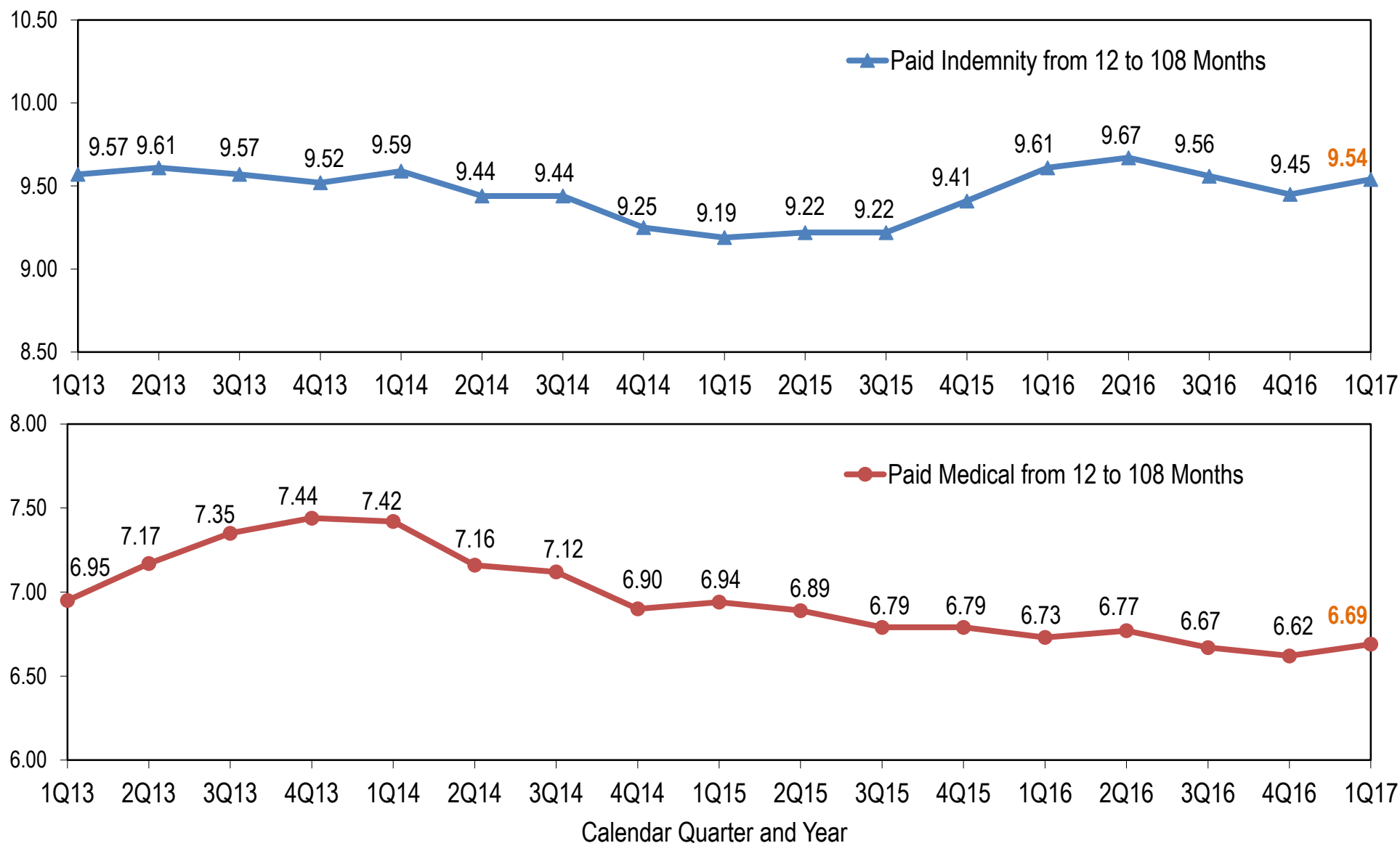
**WCIRB Actuarial Committee Meeting**  
**August 2, 2017**

## Current Loss Development Methodology

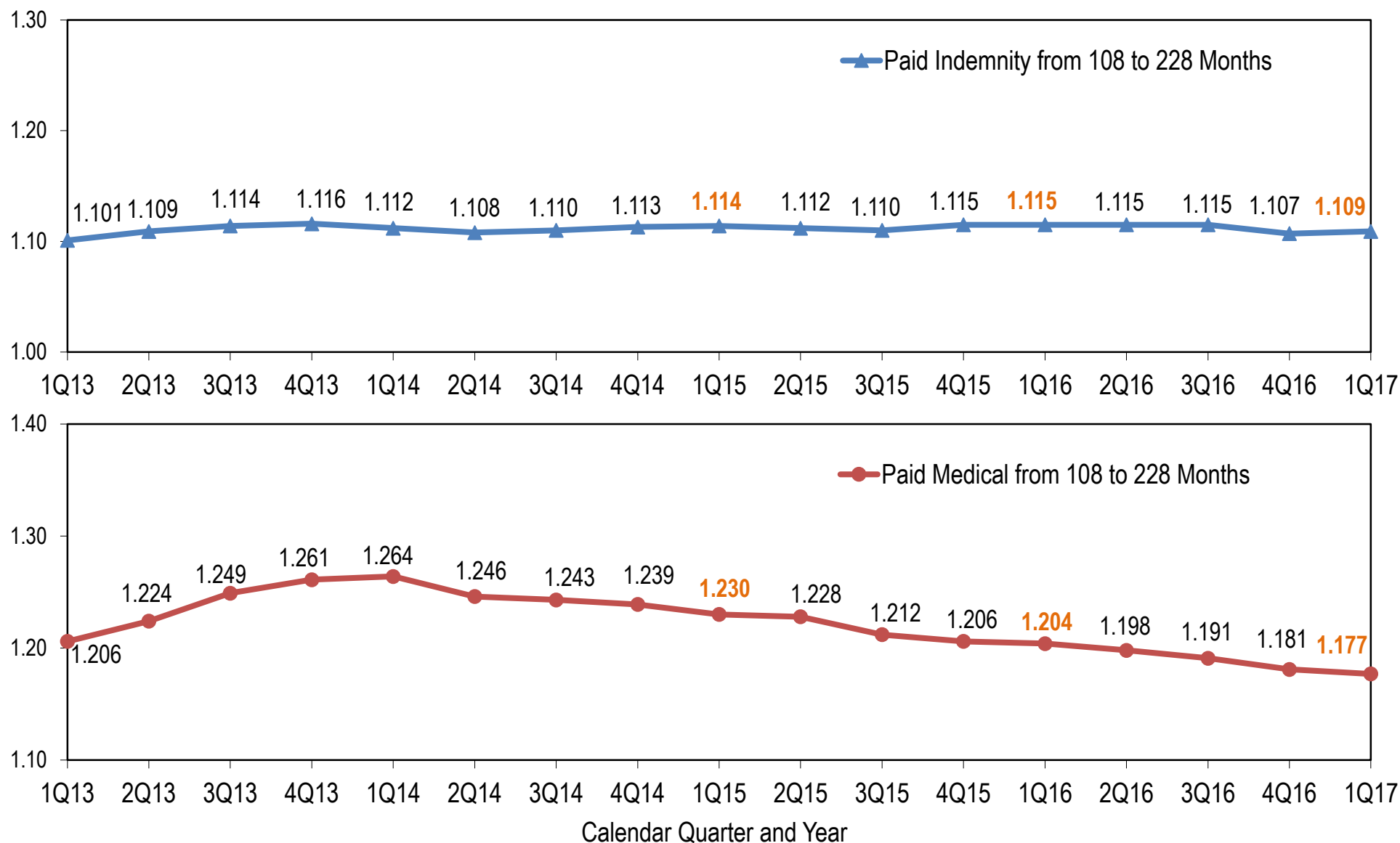
- Latest year paid through 108 months
  - Adjusted for reforms & changes in claim settlement rates
- Three-year average paid from 108 to 228 months
- Three-year average incurred from 228 to 384 months
- Inverse power curve fitted tail factor after 384 months
  - Fit based on 6-year average incurred development from 120 to 360 months
  - Extrapolated to 80 development years (960 months)
- Age-to-age selection method last reviewed by Committee in 2014 and tail method reviewed in 2016



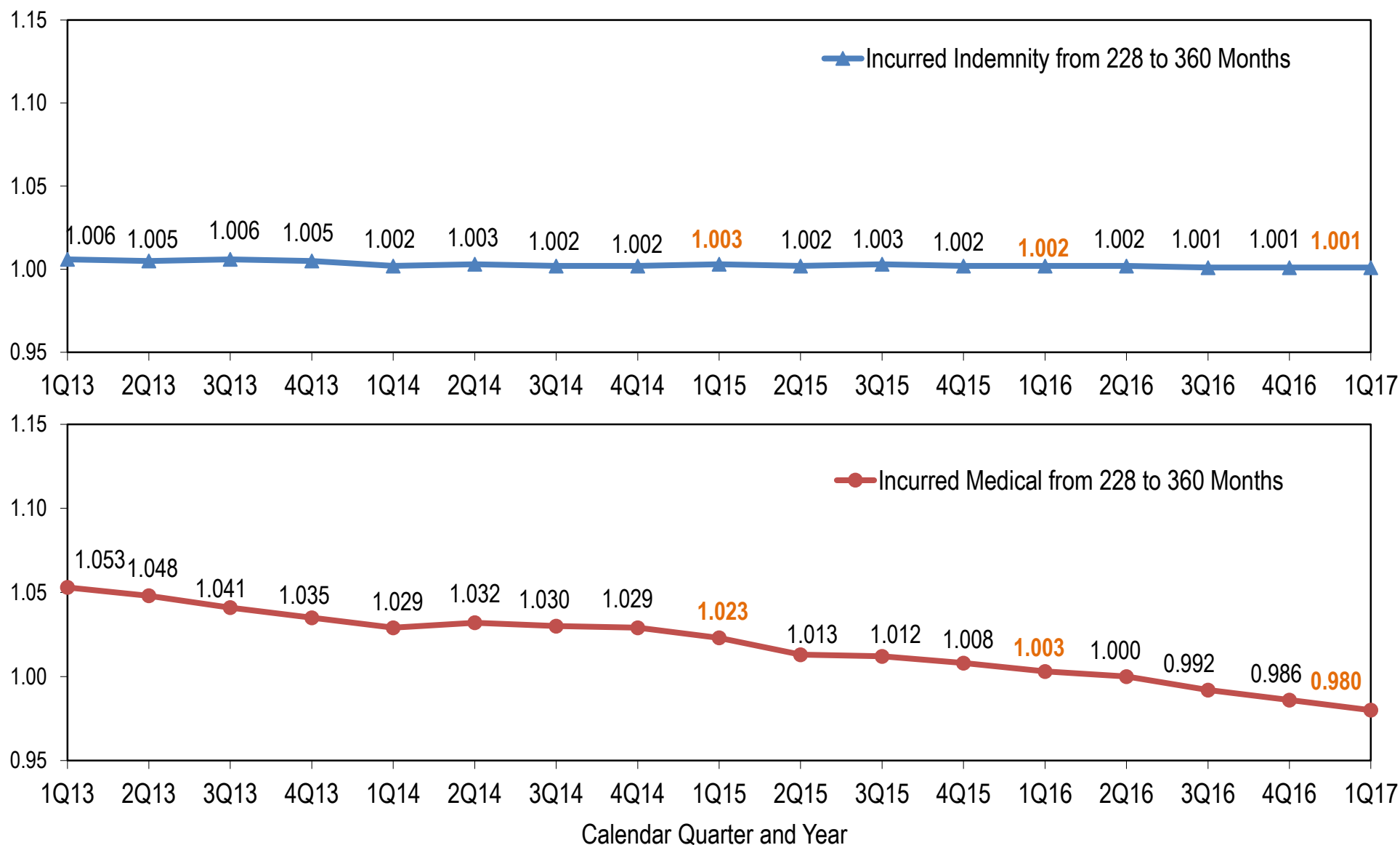
# Cumulative Paid Development by Quarter



# Cumulative Paid Development by Quarter

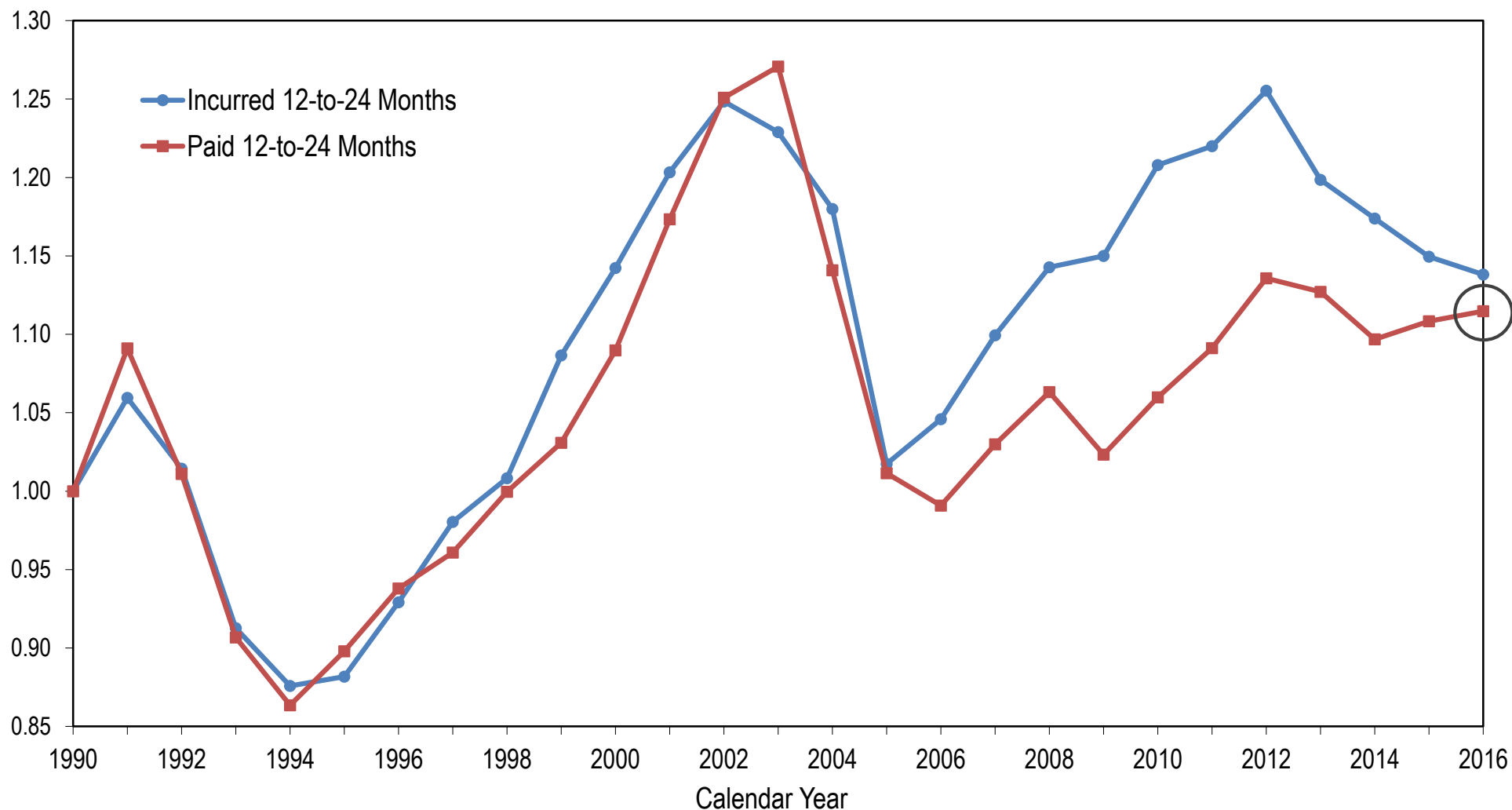


# Cumulative Incurred Development by Quarter

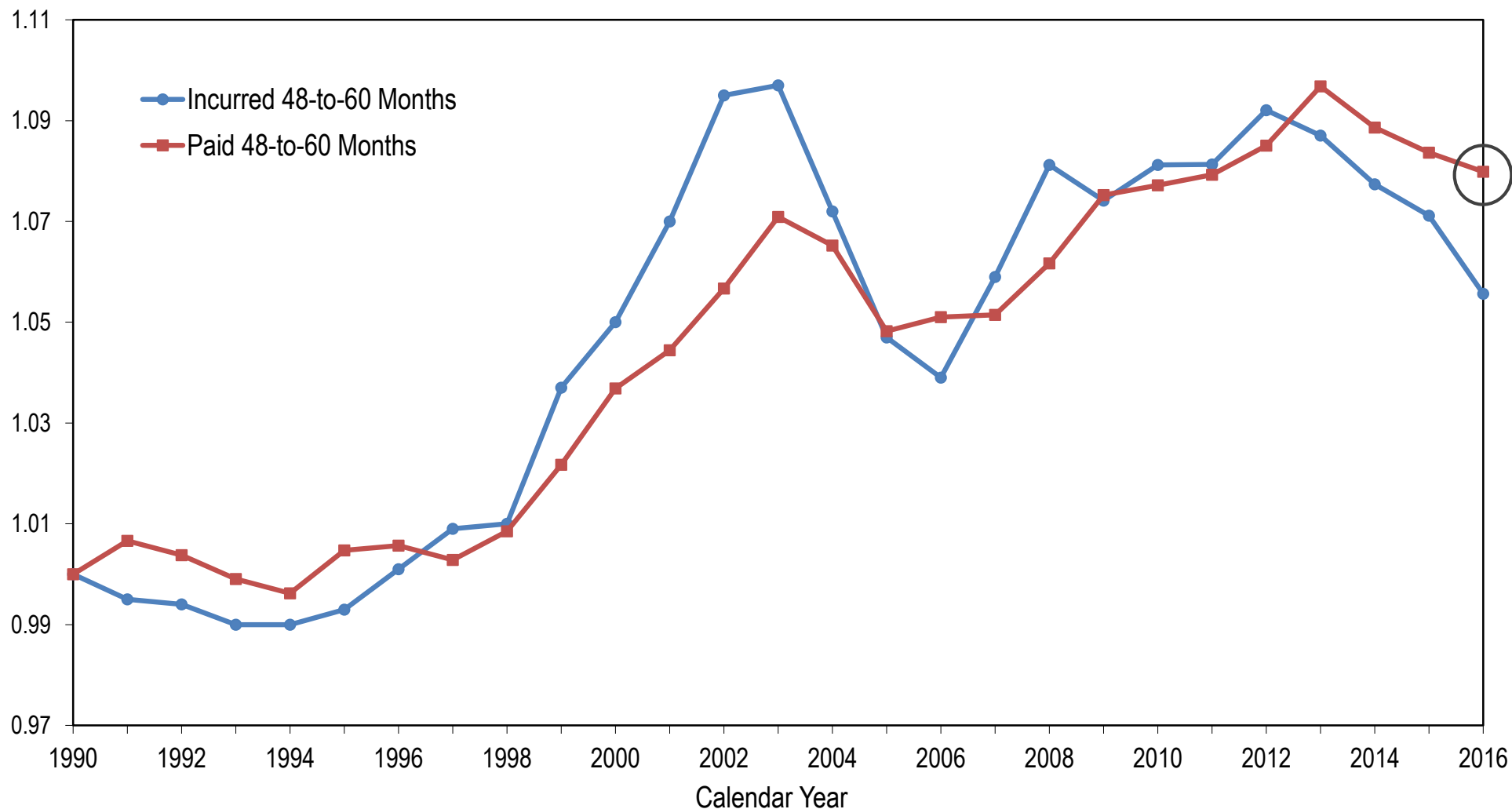


# Medical Age-to-Age Factors Indexed to 1990

## *From 12 to 24 Months*

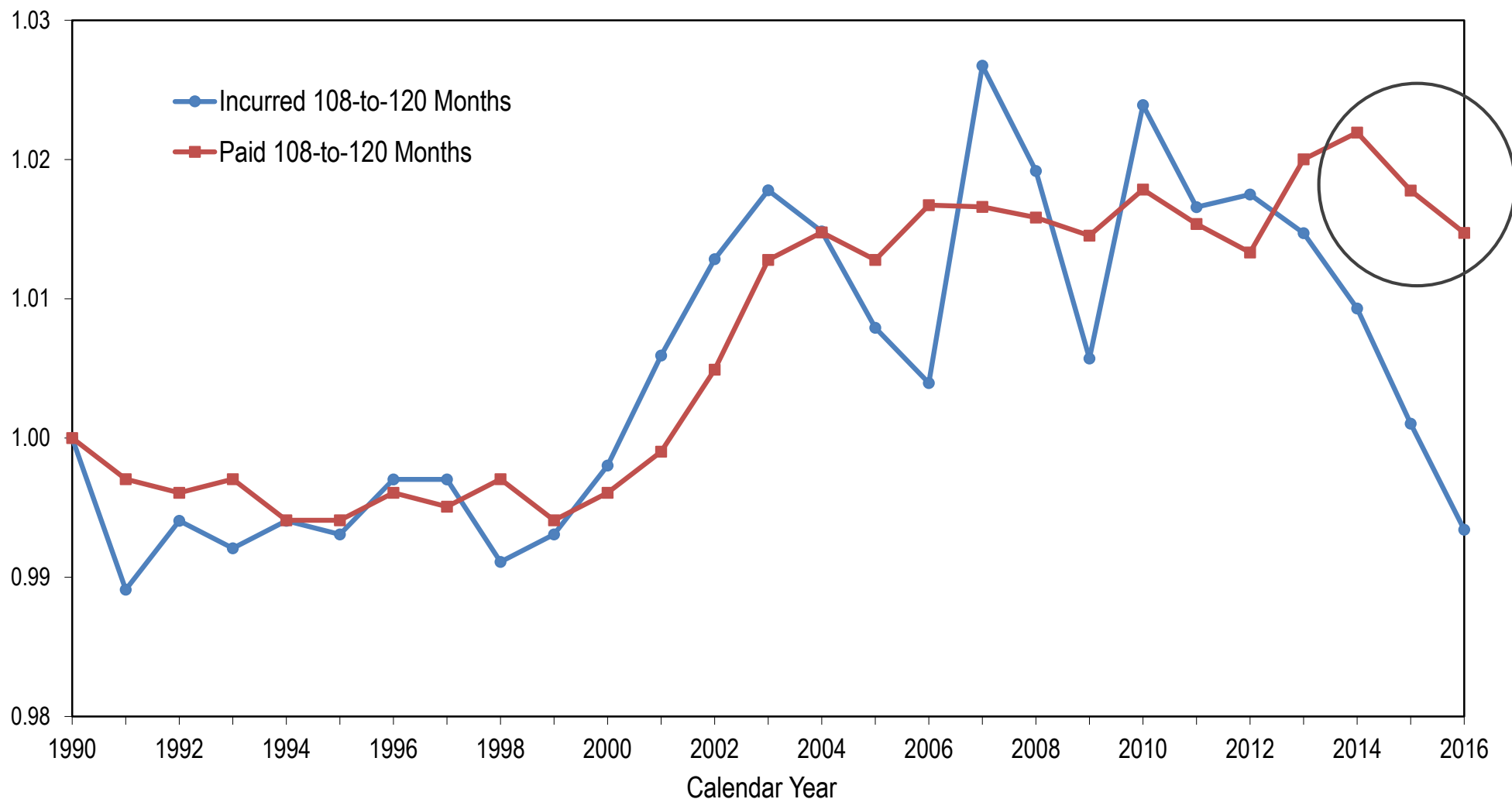


## Medical Age-to-Age Factors Indexed to 1990 *From 48 to 60 Months*

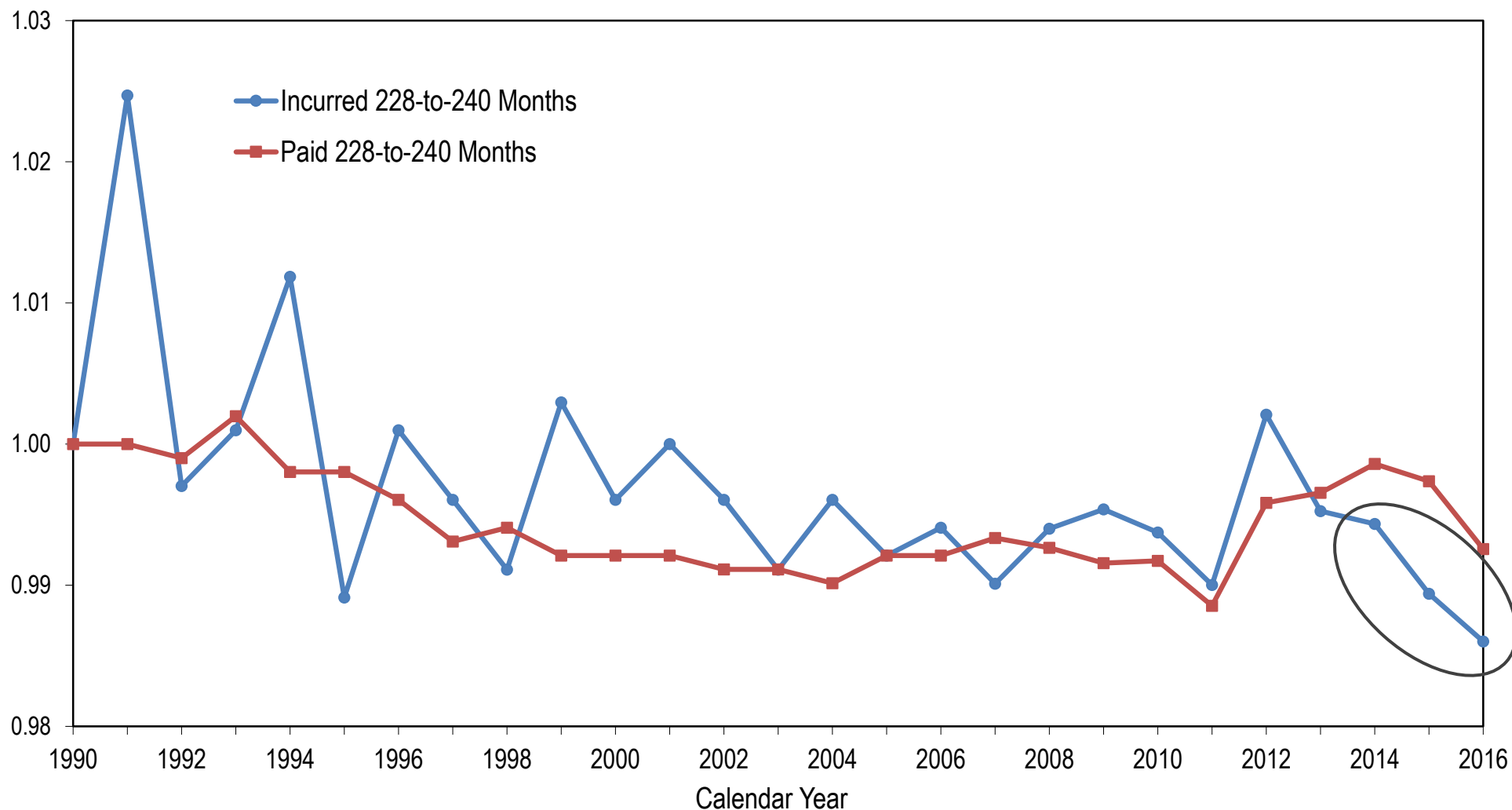


# Medical Age-to-Age Factors Indexed to 1990

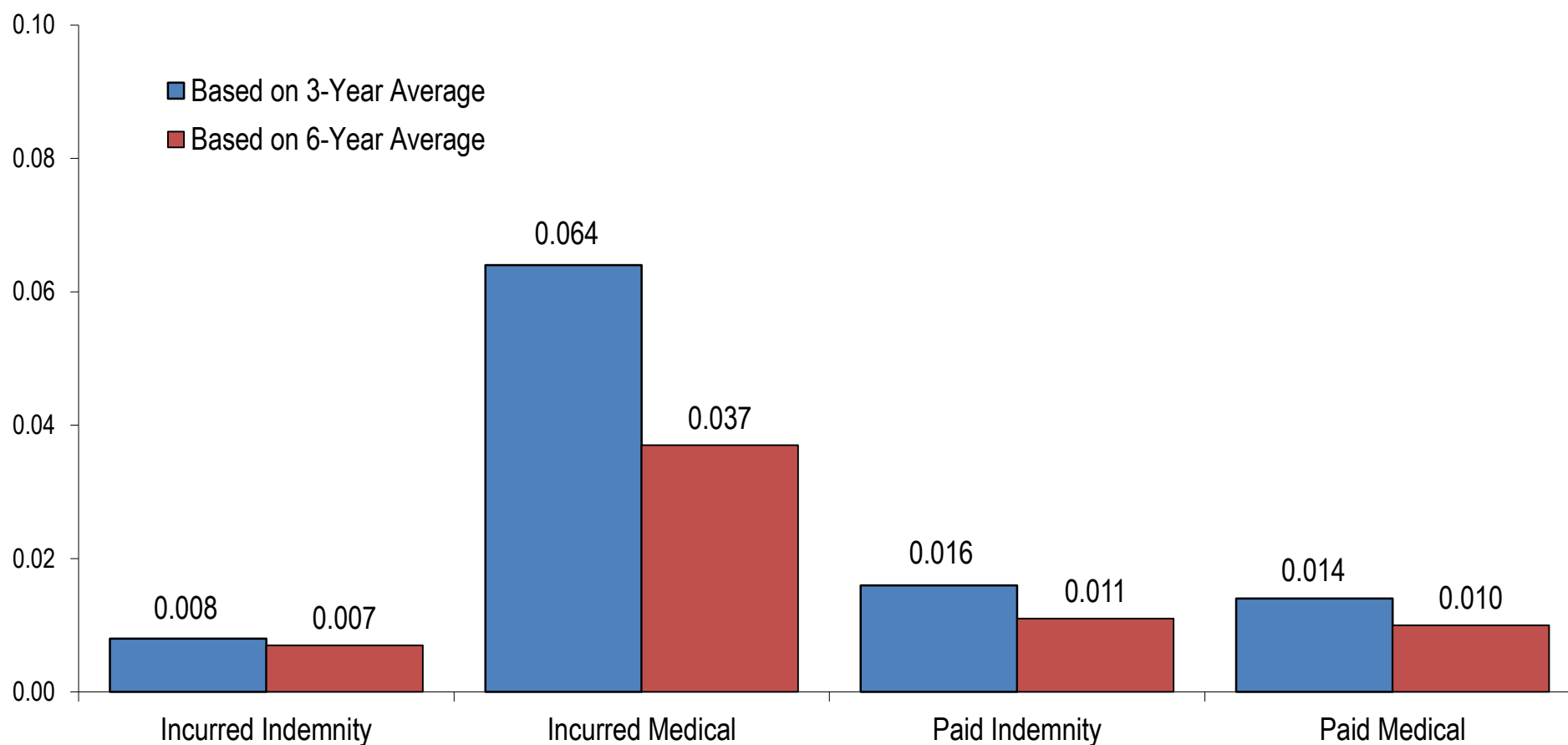
## *From 108 to 120 Months*



## Medical Age-to-Age Factors Indexed to 1990 *From 228 to 240 Months*

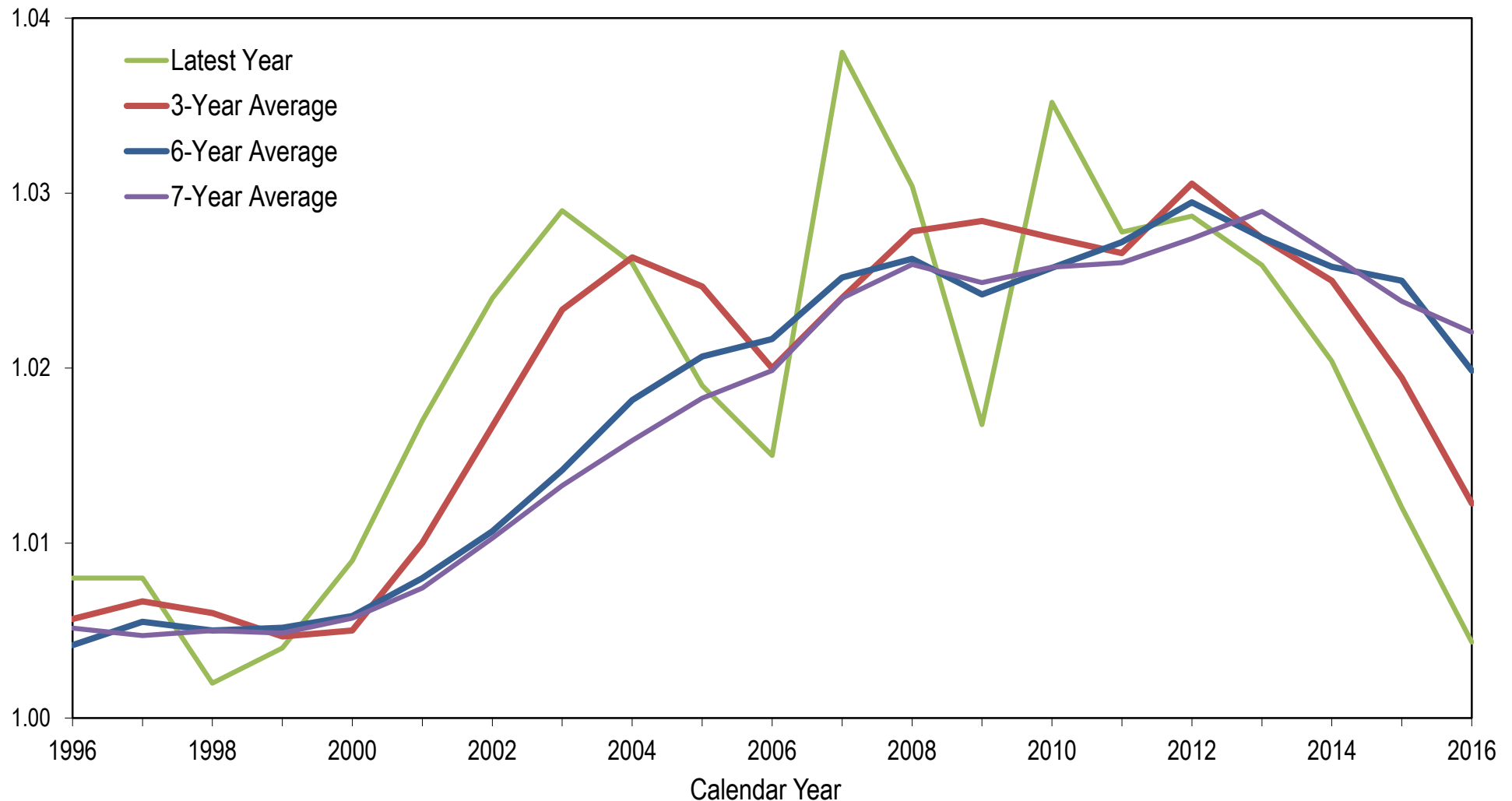


## Standard Deviation of Cumulative 108-to-360 Development Factors – 2011 through 2016 Evaluations





## Incurred Medical Age-to-Age Factors From 108 to 120 Months



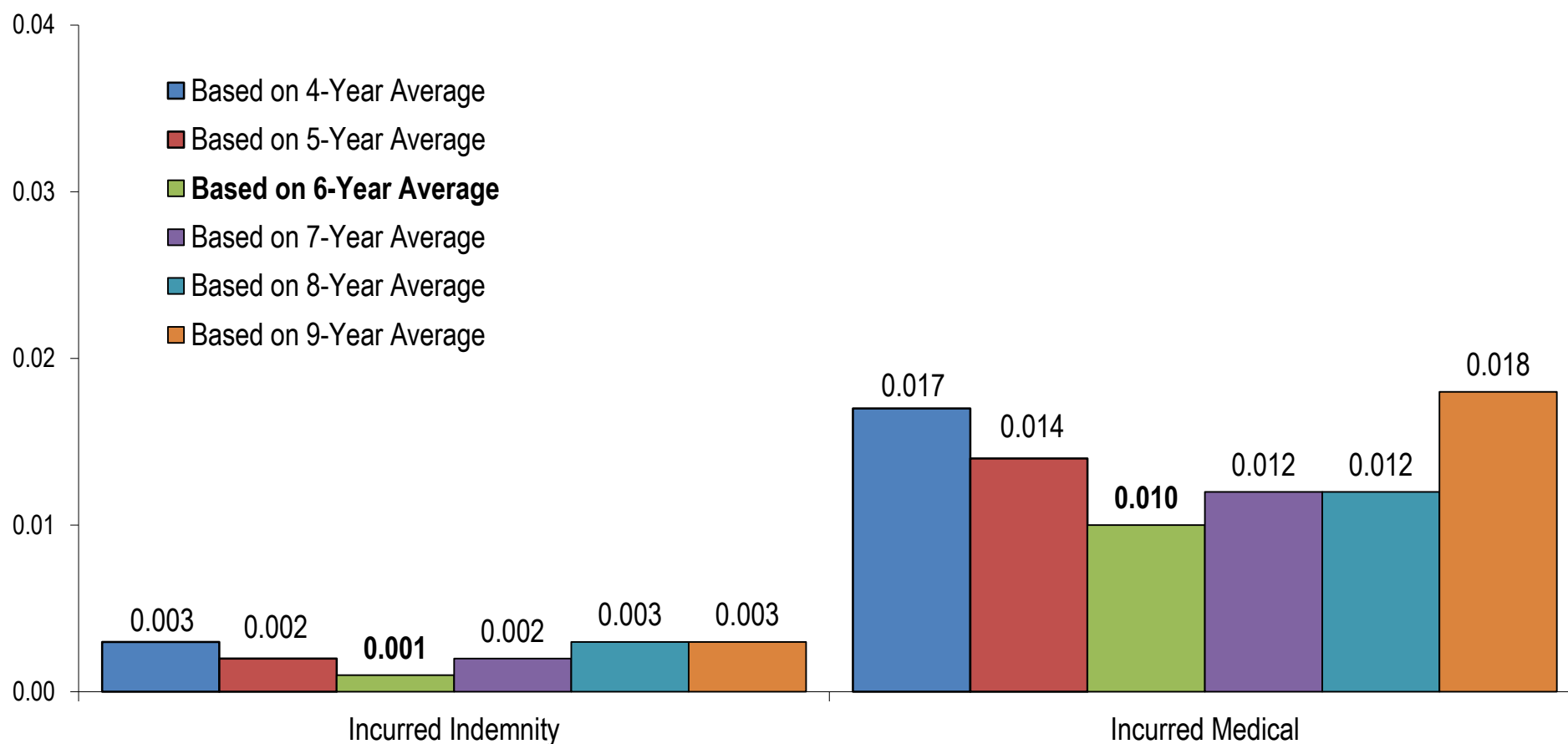
## Longer-Term Age-to-Age Development – Staff Recommendations

- Continue to use latest year paid or incurred through 108 months to be responsive to recent trends
- Continue to use three-year average paid after 108 months
  - No significant improvement in stability when moving to longer-term average
- Move to six-year average incurred after 108 months
  - Significantly reduces volatility for medical development
  - Continues to be responsive to longer-term trends

## Projected Incurred Development Based on March 31, 2017 Experience

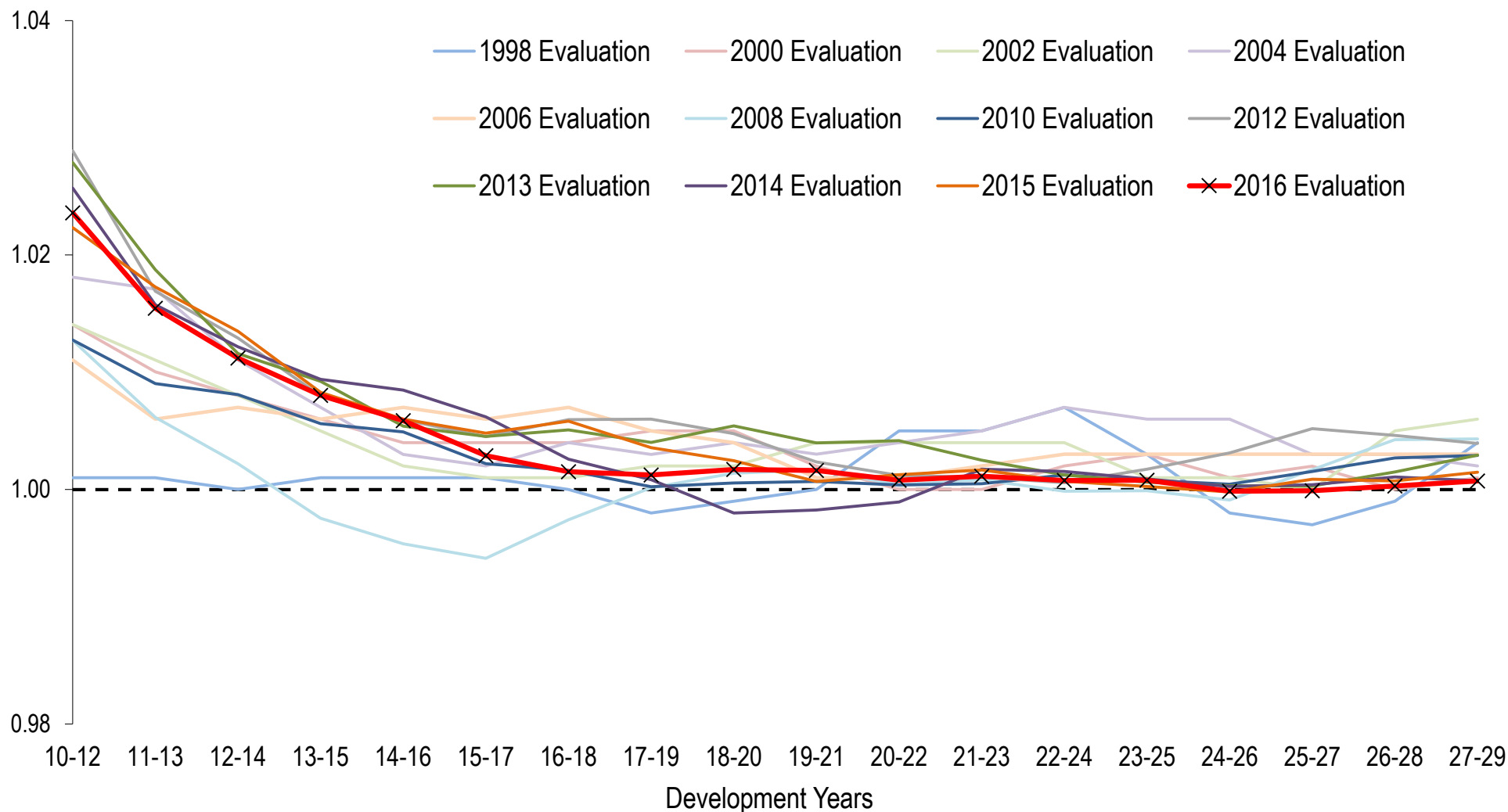
Component	Based on 3-Year Average (Current)	Based on 6-Year Average (Proposed)	Change
Indemnity 111-to-231 Months	1.034	1.036	+0.2%
Indemnity 231-to-387 Months	1.003	1.006	+0.3%
Medical 111-to-231 Months	1.025	1.080	+5.4%
Medical 231-to-387 Months	1.003	1.023	+2.0%

## Standard Deviation of Projected 348-to-Ultimate Factors Based on Inverse Power Curve Fit – 2010 through 2016 Evaluations

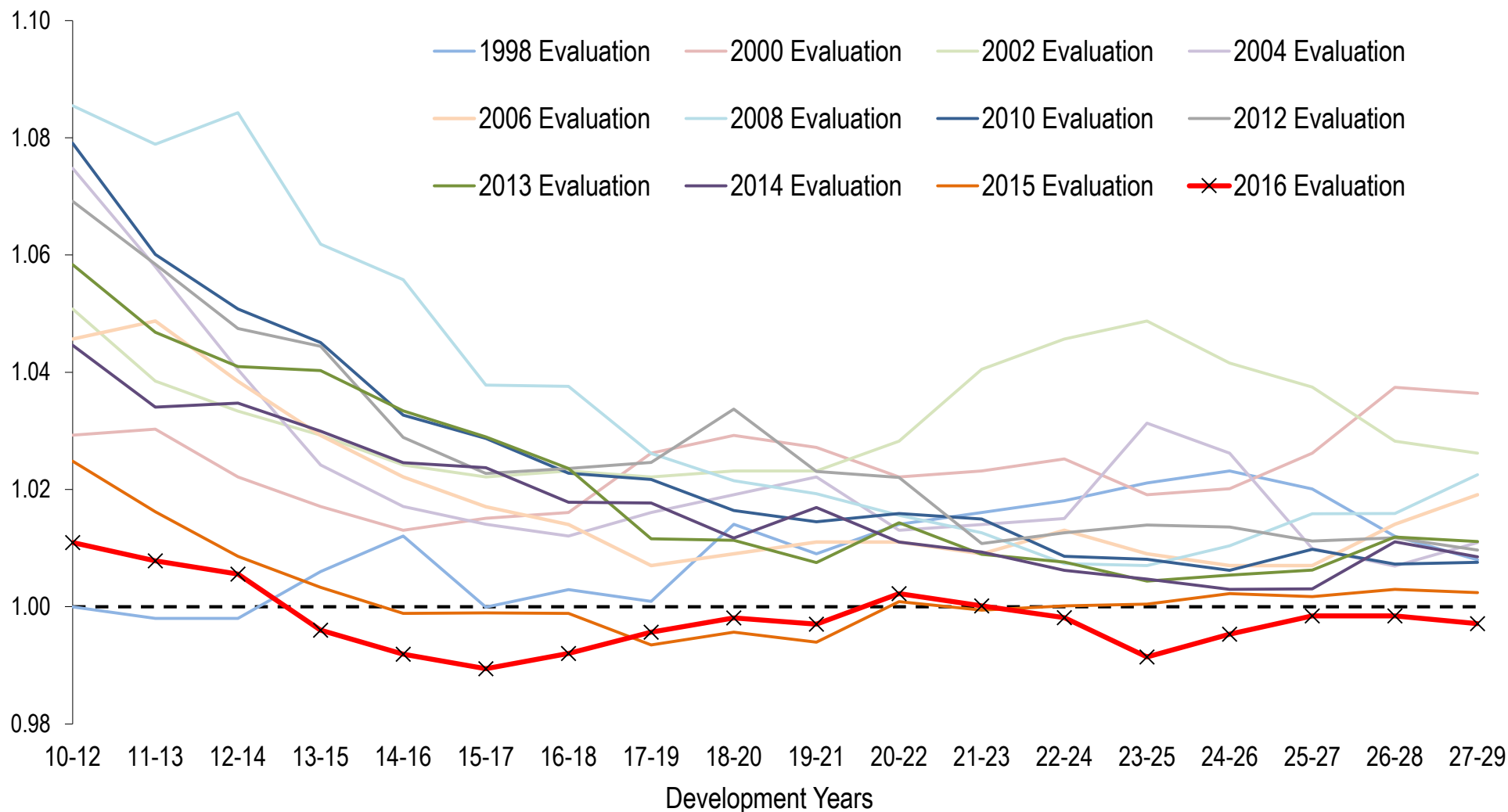


Note: All fits are based on factors from 120 months through 360 months and extrapolated to 80 development years.

# Incurred Indemnity Age-to-Age Factors at December 31 Evaluations – Product of 3 Periods' Factors



# Incurred Medical Age-to-Age Factors at December 31 Evaluations – Product of 3 Periods' Factors



## Tail Development – Staff Recommendations

- Continue to fit to inverse power curve using 6-year incurred average factors
- Exclude recent (latest year) anomalous incurred medical development from inverse power curve fit
- Recommend future review of development after 231 months including consideration of applying power curve fit to paid development

## Projected Incurred Development Based on March 31, 2017 Experience

Component	Based on 6-Year Average (Current)	Based on 6-Year Average Excluding 2017 Evaluation (Proposed)	Change
Indemnity 387-to-Ultimate	1.003	1.004	+0.1%
Medical 387-to-Ultimate	1.019	1.032	+1.3%



## Projected Accident Year 2016 Ultimate Loss Ratios

