

WCIRB Actuarial Committee Meeting

Materials Presented at the WCIRB Actuarial Committee Meeting
June 16, 2017

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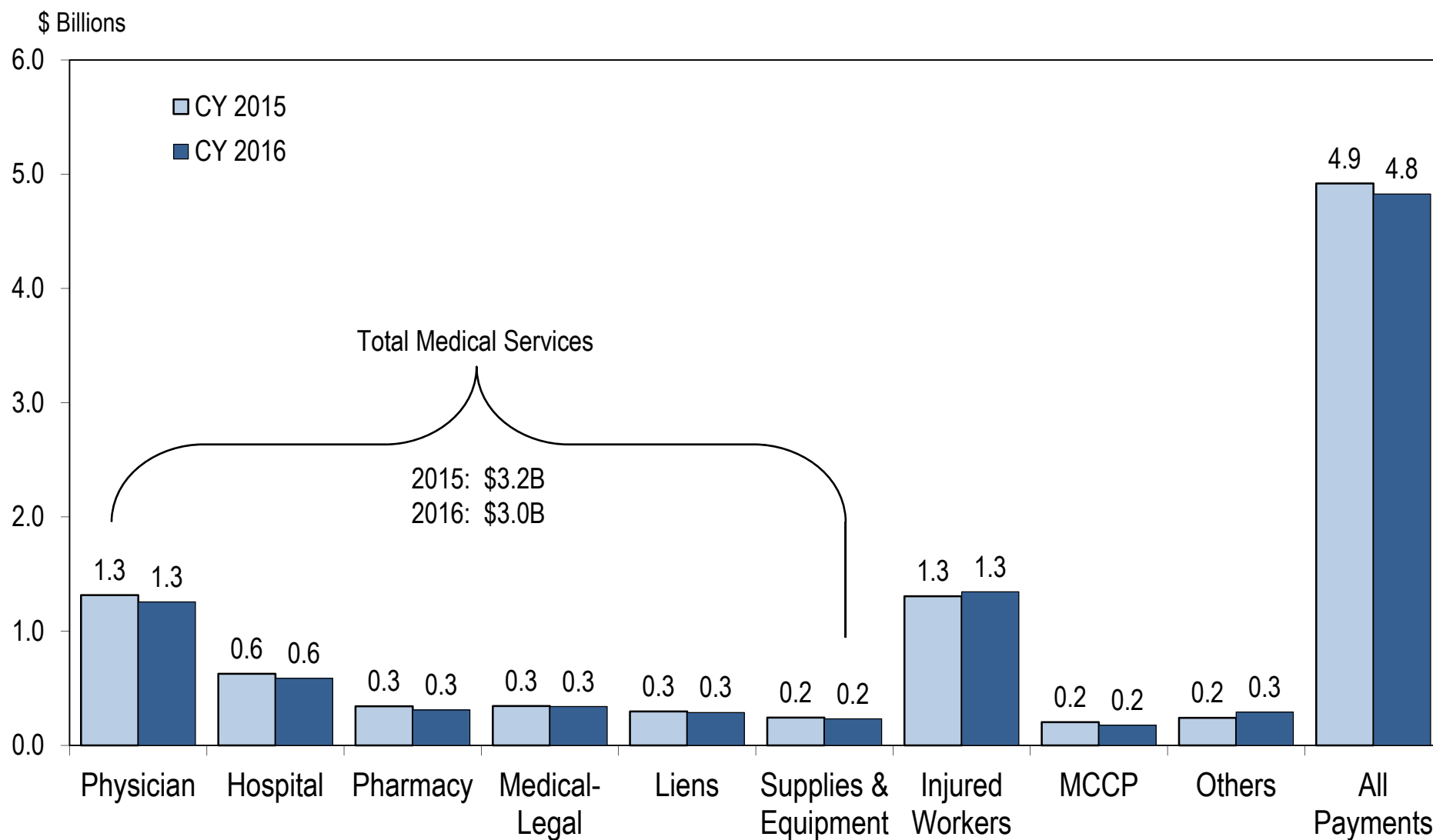
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Annual Report on Paid Costs

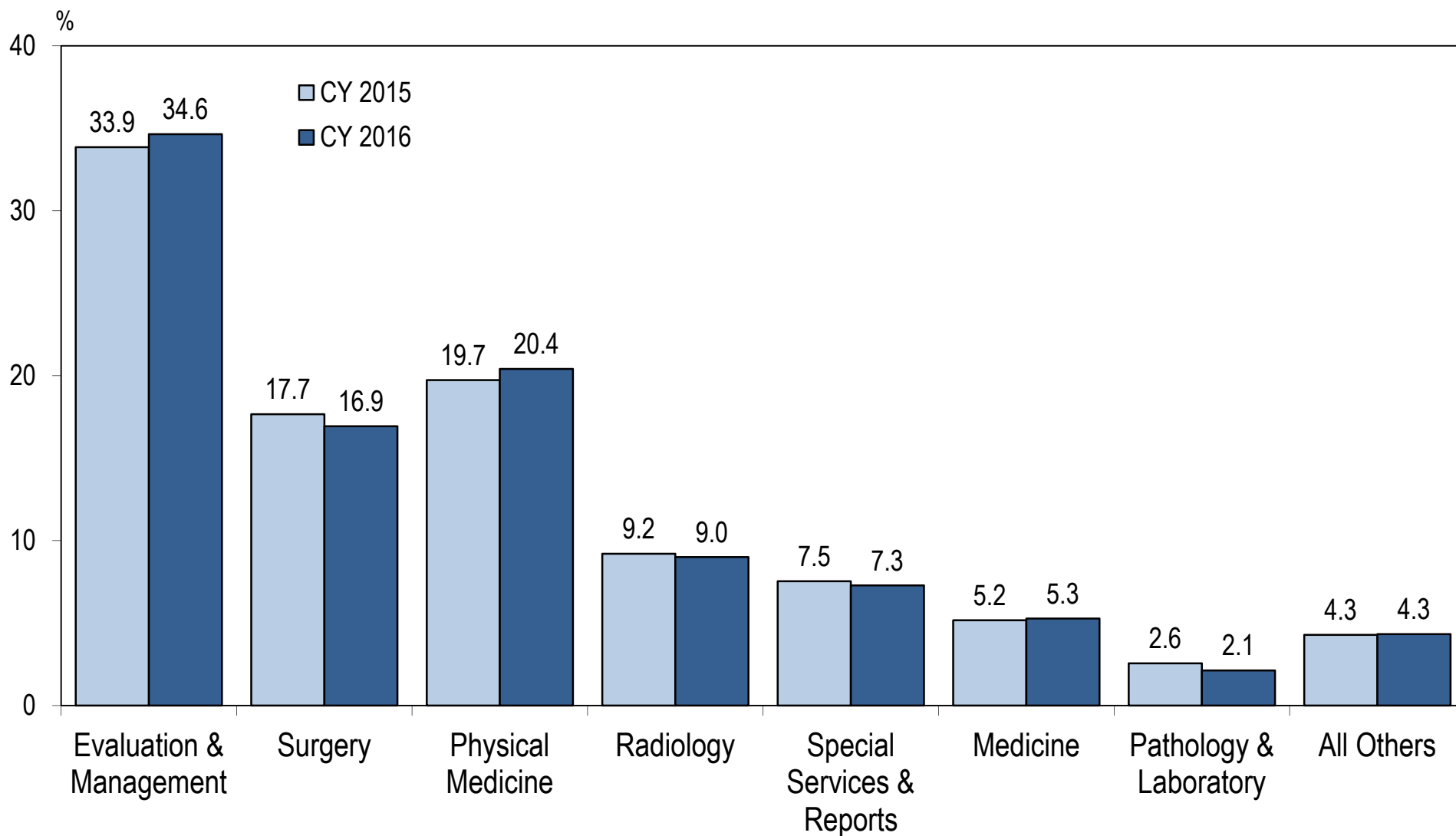
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Calendar Year Paid Medical Costs



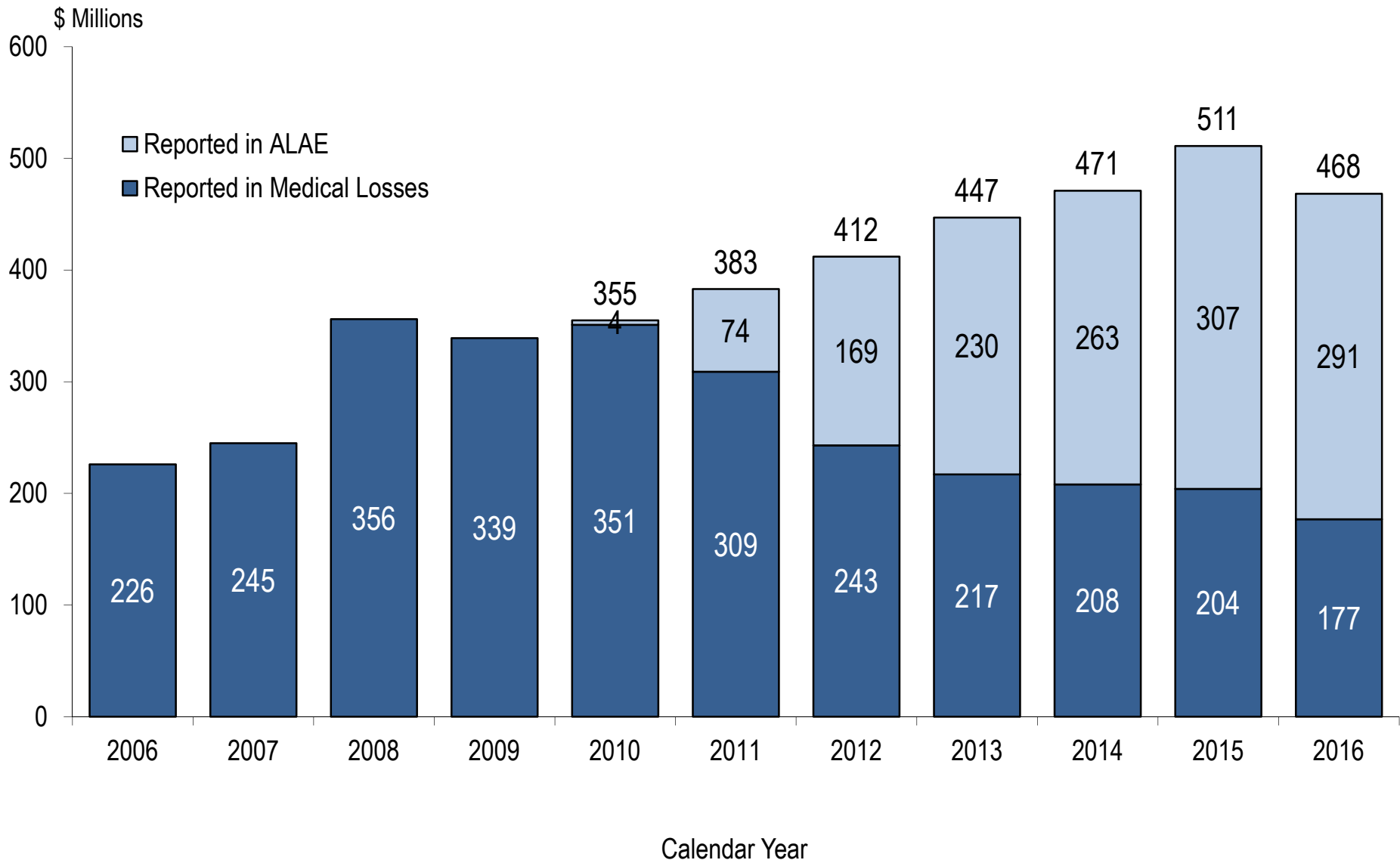
Source: WCIRB aggregate financial data calls and medical data call.

Distribution of Physician Services by Type of Procedure



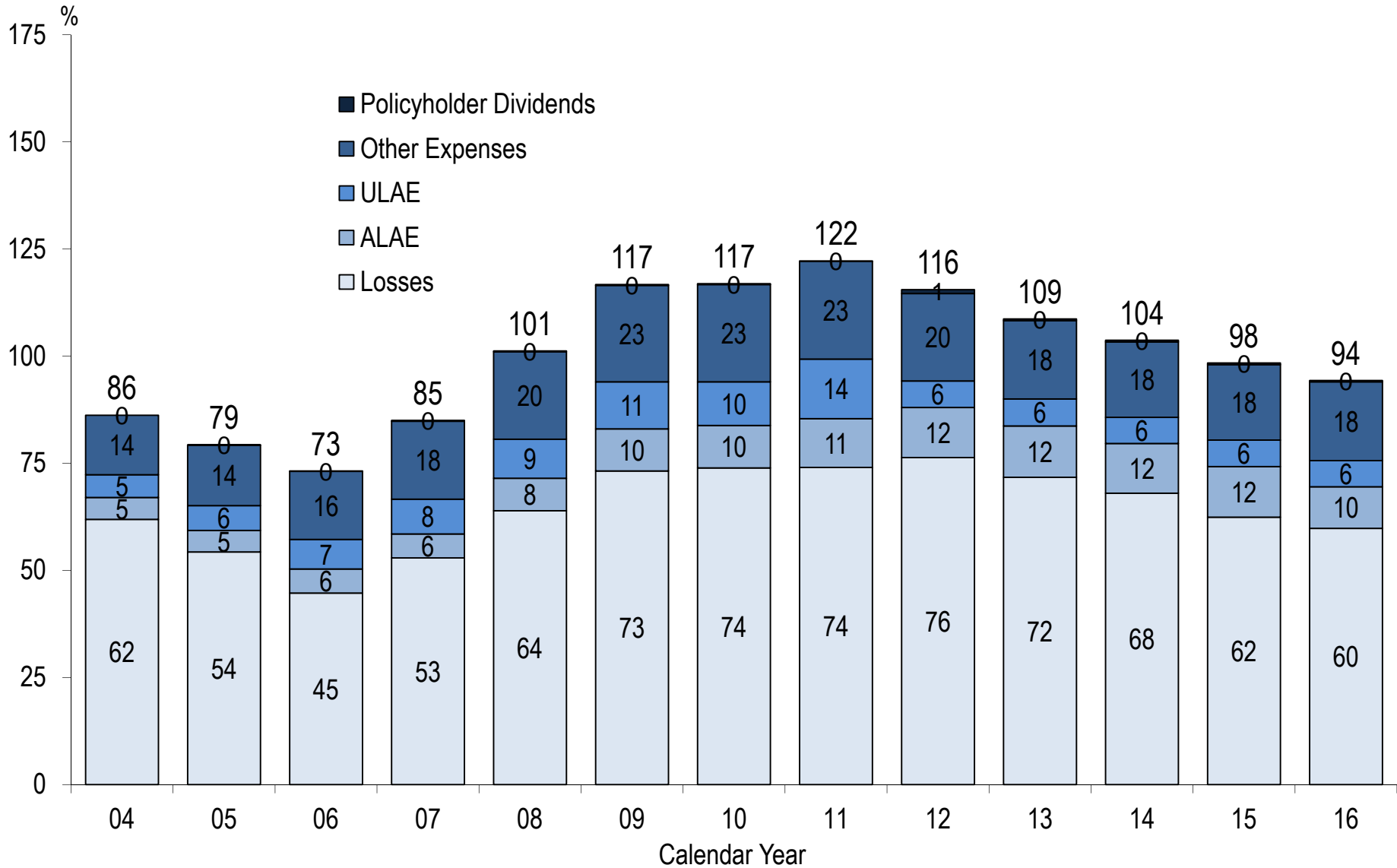
Source: WCIRB medical data call.

Paid Medical Cost Containment Program Costs



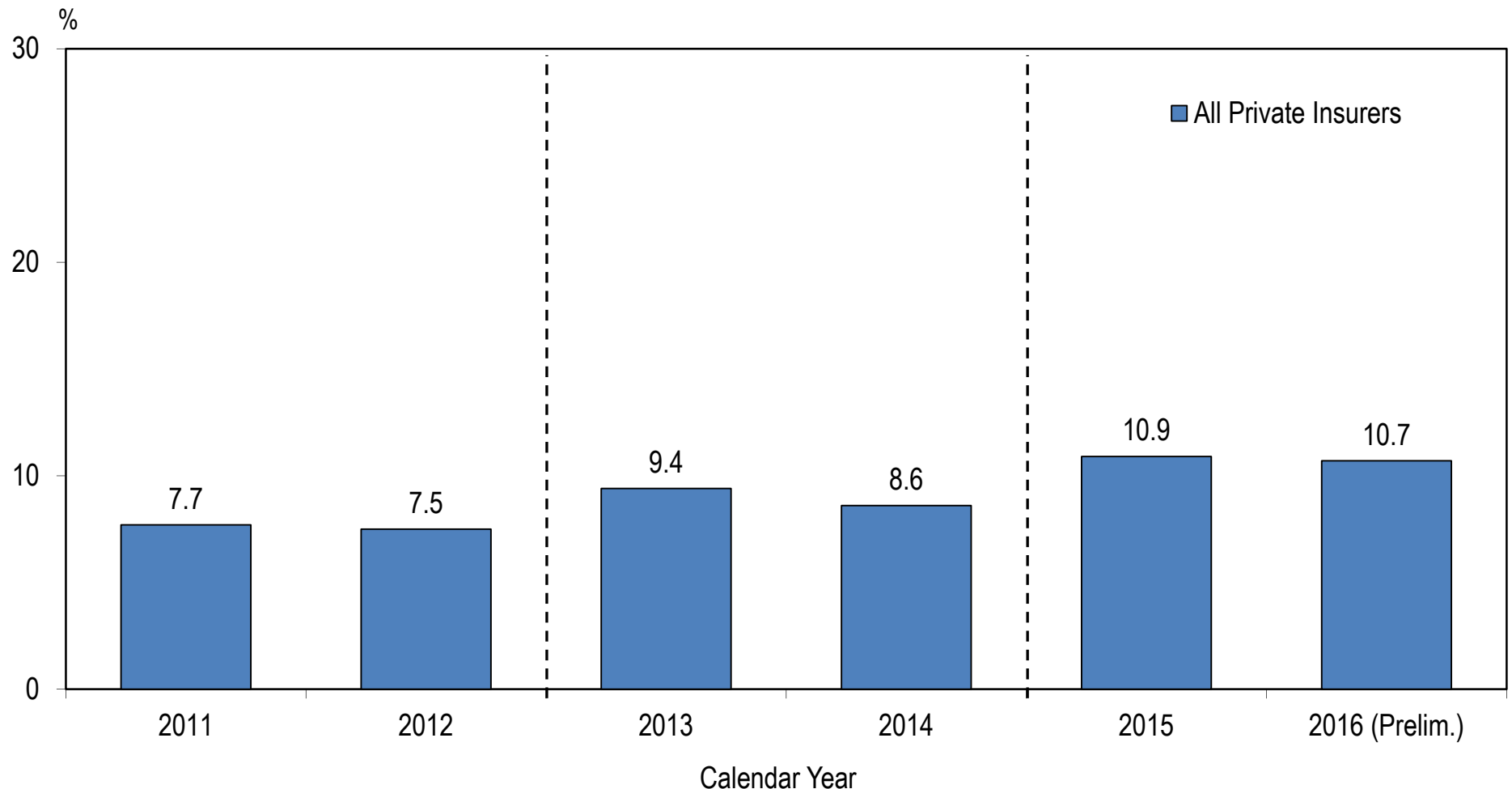
Source: WCIRB aggregate financial data calls.

Insurer Underwriting Experience



Source: WCIRB aggregate financial data calls.

Preliminary Ratios of Private Insurer Paid ULAE to Paid Loss – 2015 & 2016 Adjusted for New Expense Call



Adjustment for Wage Level Differences in Classification Ratemaking

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June 16, 2017

Background

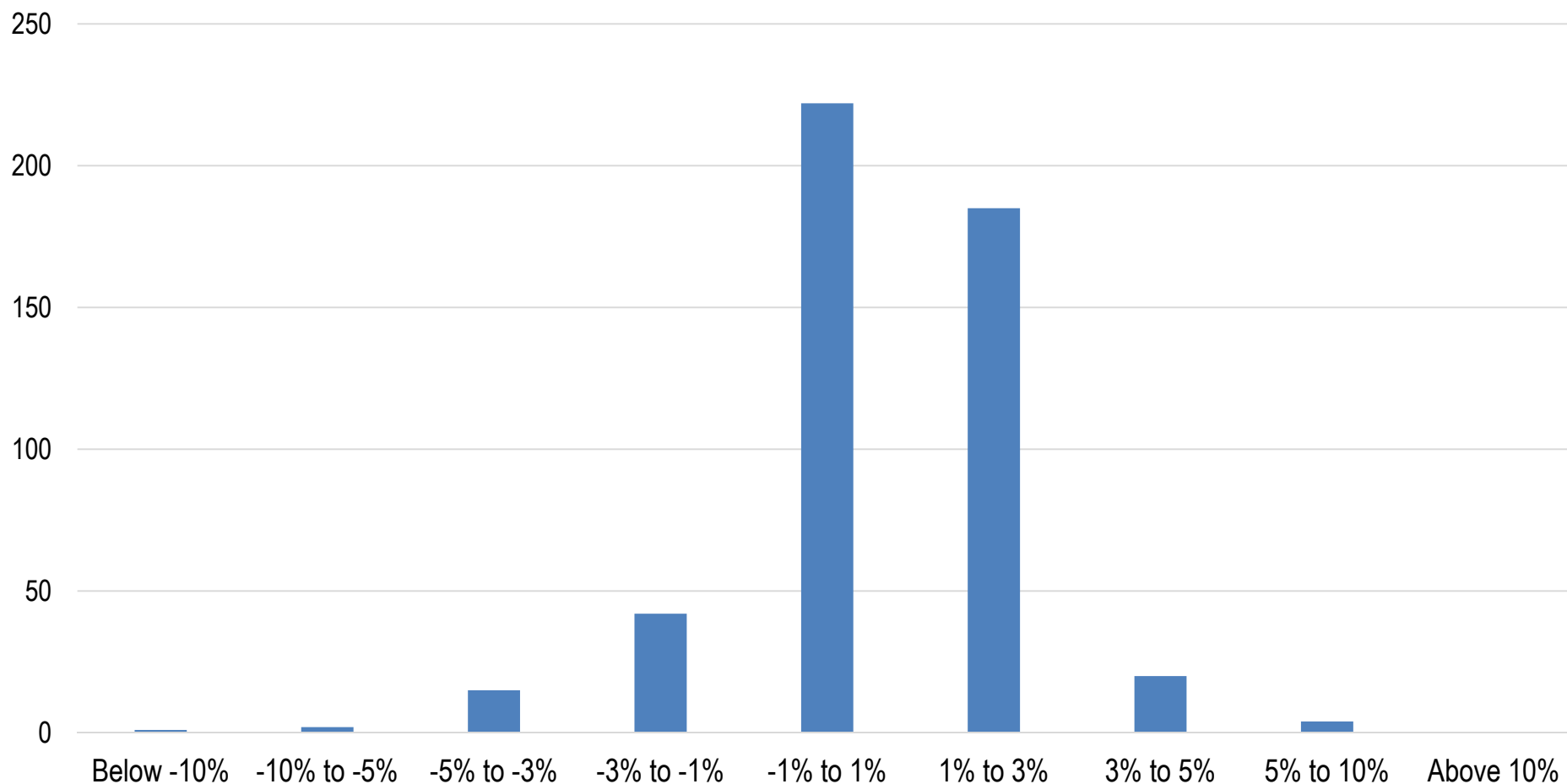
- Study of wage level differences by class reviewed at 12/6/16 meeting
 - Both wage inflation & impact of minimum wage laws can vary by industry
- Staff recommended adjustment to reported payroll & indemnity losses to reflect these differences on a relative basis
- Recommended enhancements adopted by Committee at 12/6/16 meeting
- Enhancements reflected in 2018 relativities adopted by C&R Committee at 6/1/17 meeting

Adjustment for Wage Level Differences

- Adjust each class's exposure for relative wage level changes through the projected year (i.e., PY 2018)
 - Includes wage inflation and minimum wage changes
 - Class wage factor = Class wage change / Overall wage change
 - No change in total payroll level
- Indemnity benefits also on-leveled for relative wage level changes by class
 - Impact mitigated by indemnity benefit min and max

Impact of Payroll Adjustment on Relativity Changes

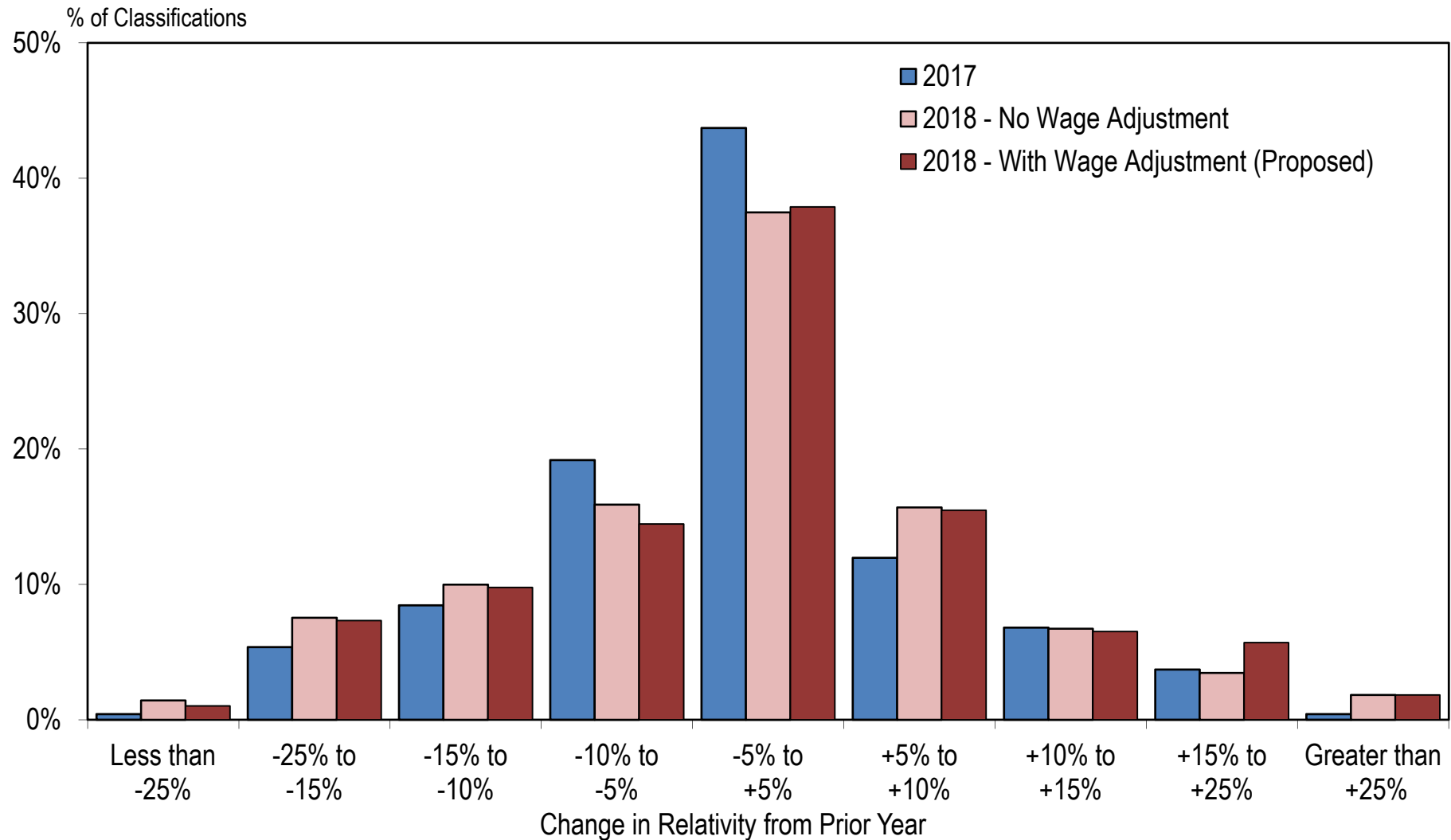
Distribution of Classifications by Change in Relativity
Payroll-Adjusted vs. Unadjusted



Classifications with Most Significant Adjustments

Classification	2018 Relativity	Impact of Payroll Adjustment on Relativity Change
9156, <i>Theaters – Performers</i>	301.5%	-10.4%
9154, <i>Theaters – Non-performers</i>	132.3%	-6.8%
9079, <i>Restaurants</i>	200.1%	-5.6%
5027, <i>Masonry – Low Wage</i>	762.3%	+5.4%
5195, <i>Communications Cabling</i>	286.5%	+5.4%
8839, <i>Dentists</i>	48.5%	+4.8%

Distribution of Preliminary Indicated Classification Relativity Changes



Study of Claim Settlement Rate Adjustments to Loss Development

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Background

- Recent claim settlement rates accelerating significantly
- Study of “Berquist-Sherman” approach to adjust for settlement rate change reviewed by Committee at 3/21/17 meeting
 - Approach generally improved accuracy of projection during periods of significant settlement rate change
 - Assumptions of current approach reviewed & validated
 - Adjustment recommended by Committee in 7/1/17 Filing projection
- Staff to perform follow-up analysis of issues raised at 3/21/17 meeting
 - Impact of changes in settlement rates by injury type
 - Impact on tail development
 - Sensitivity testing of imputed severities used in current approach

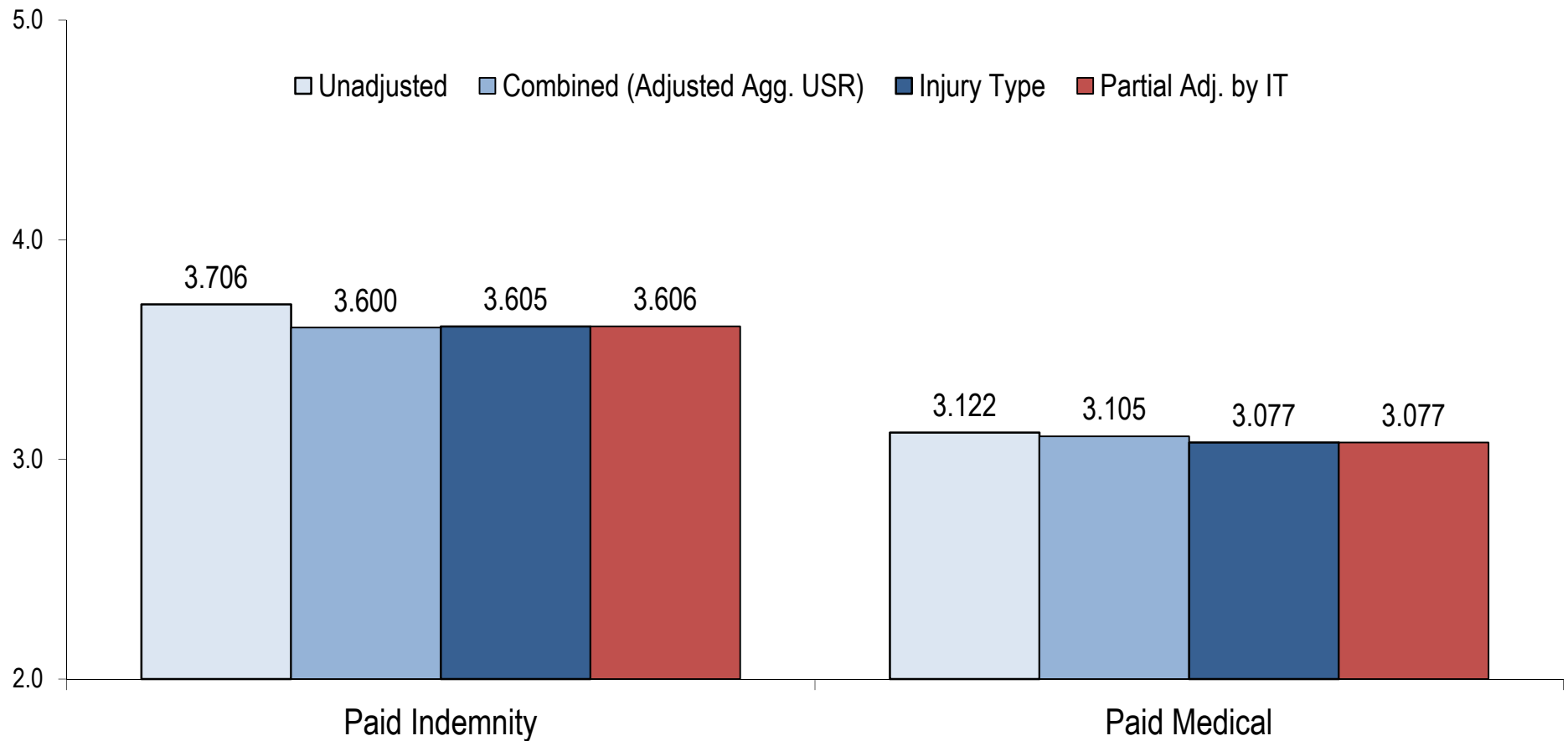
Impact of Changes in Claim Settlement Rates by Injury Type – Background

- Prior periods of claim settlement change affected Temporary and PD claims consistently
- Current period shows PD claim settlement rates increasing while Temp rates mostly flat
- Majority of late-term development is on PD claims
- Currently, all indemnity types are adjusted in aggregate which may understate impact of adjustment

Impact of Changes in Claim Settlement Rates by Injury Type – Approach

- The claim settlement adjustment method by injury type only adjusts the injury types with a claim settlement distortion
- Adjusted PD losses for increasing claim settlement rates
 - No adjustment to Temp claims since settlement rates are flat
- Validated that current assumptions may be applied to the claim settlement adjustment method by injury type
 - Claim development selected factor
 - Log-linear adjustment on closed claims
 - Similar adjustment on open claims

Projected Paid Loss Development Factors from 1st to 6th Report



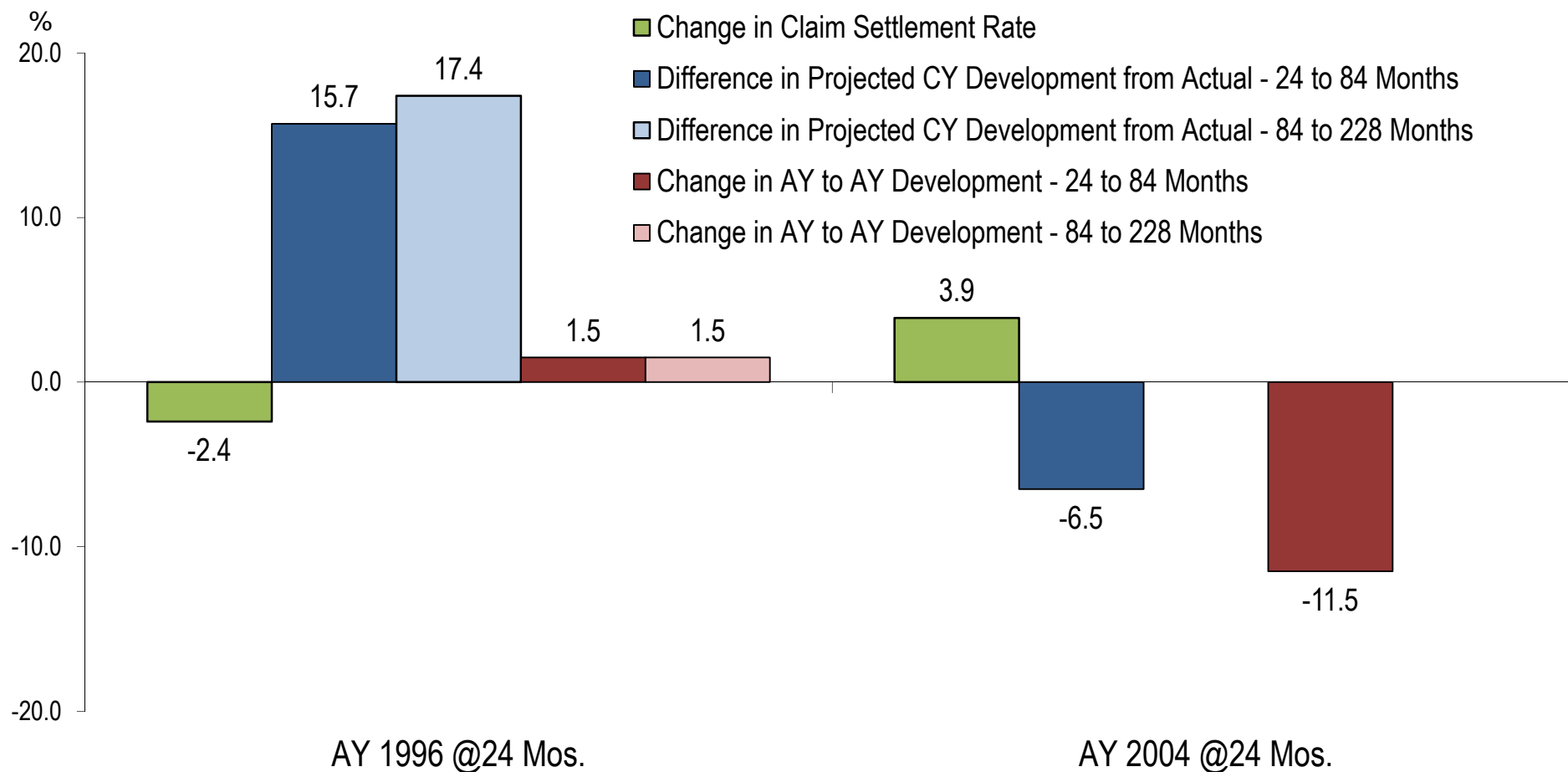
Impact of Changes in Claim Settlement Rates by Injury Type – Summary

- The claim settlement adjustment by injury type did not significantly improve results from the current claim settlement method
 - The increase in adjustment to PD losses is offset by not adjusting Temp losses (compared to the combined approach)
- 33% of claims at 1st report level and 51% of claims at 6th report level are PD
 - A larger adjustment is applied to fewer claims
- Staff does not recommend any refinement to the current approach to address differences in claim settlement rate changes by injury type

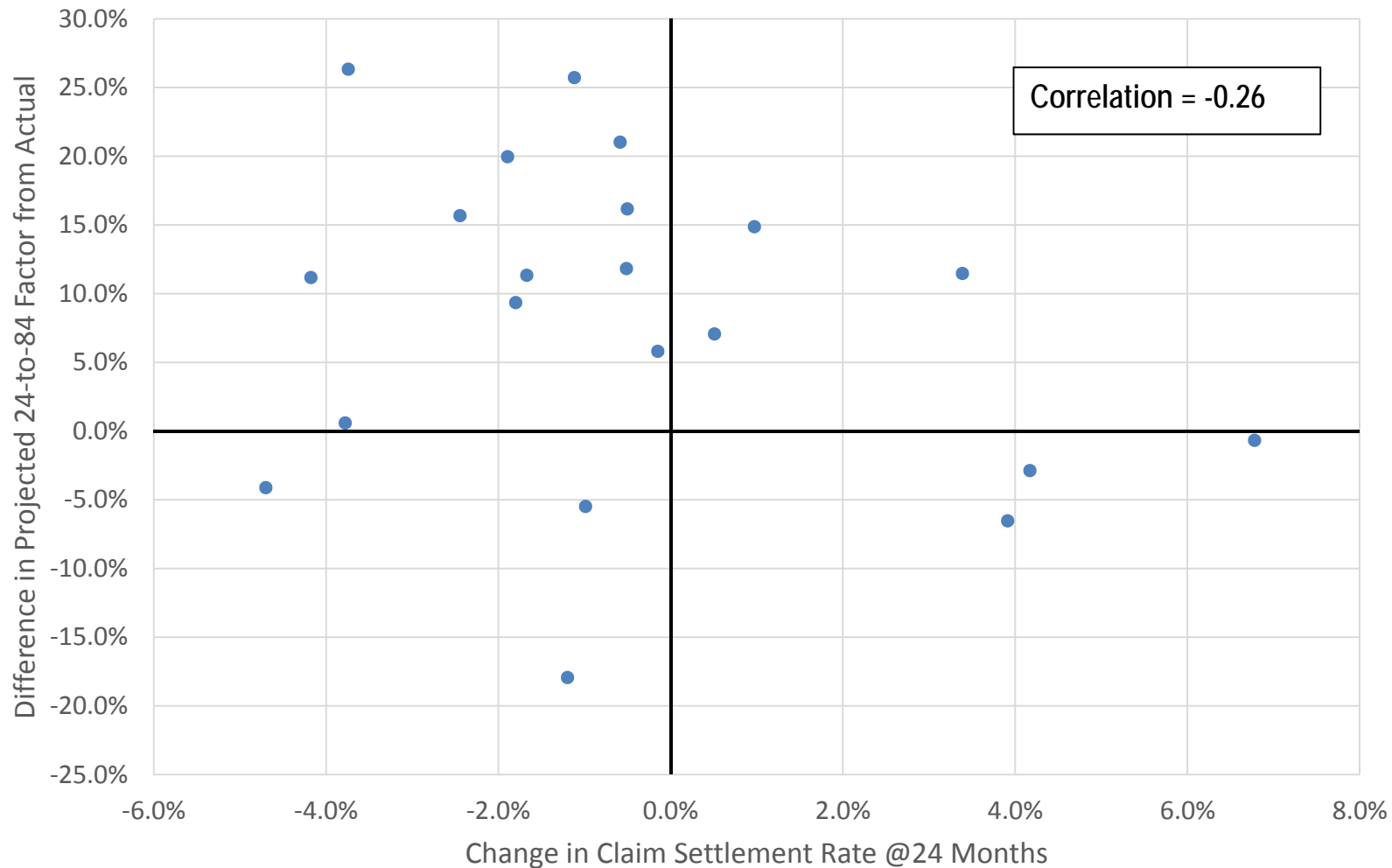
Impact on Tail Development

- Current adjustment for changes in settlement rates only adjusts the direct periods of change
- Changing settlement trends could significantly impact the loss development tail
 - Extreme example: Settlement rates change from 90% to 100% → no tail factor needed!
- Staff reviewed change in paid loss development following periods of significant settlement rate change for possible statistical relationship
 - Method 1 – Compare difference in projected CY development to actual AY development with change in settlement rates
 - Method 2 – Compare change in AY to AY development with change in settlement rates

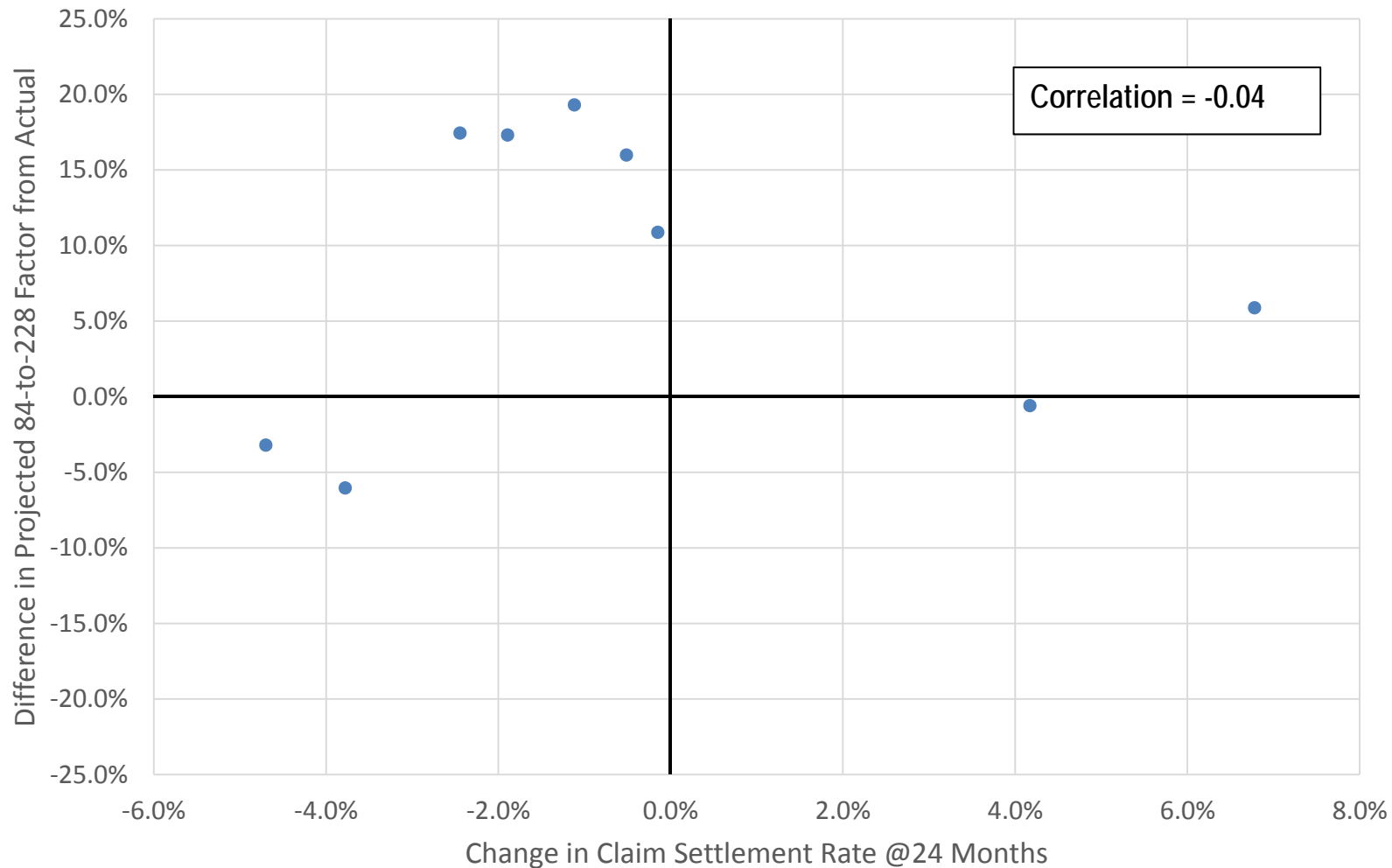
Comparison of Change in Settlement Rate to Change in Paid Medical Development



Comparison of Change in 24-Month Settlement Rate to Change in Paid Medical Development from 24 to 84 Months



Comparison of Change in 24-Month Settlement Rate to Change in Paid Medical Development from 84 to 228 Months



Summary of Change in Claim Settlement Rate Compared to Difference in Paid Medical Development

Development through 84 Months

Settlement Rate Change >1.0% in Absolute Value	CY to AY Change		AY to AY Change	
	Earlier Periods (12-24)	Later Periods (36-72)	Earlier Periods (12-24)	Later Periods (36-72)
% Moving in Opposite Direction	74%	76%	64%	51%
Correlation w/ Development Chg.	-0.20	-0.40	-0.07	0.09
# Observations	27	42	25	43

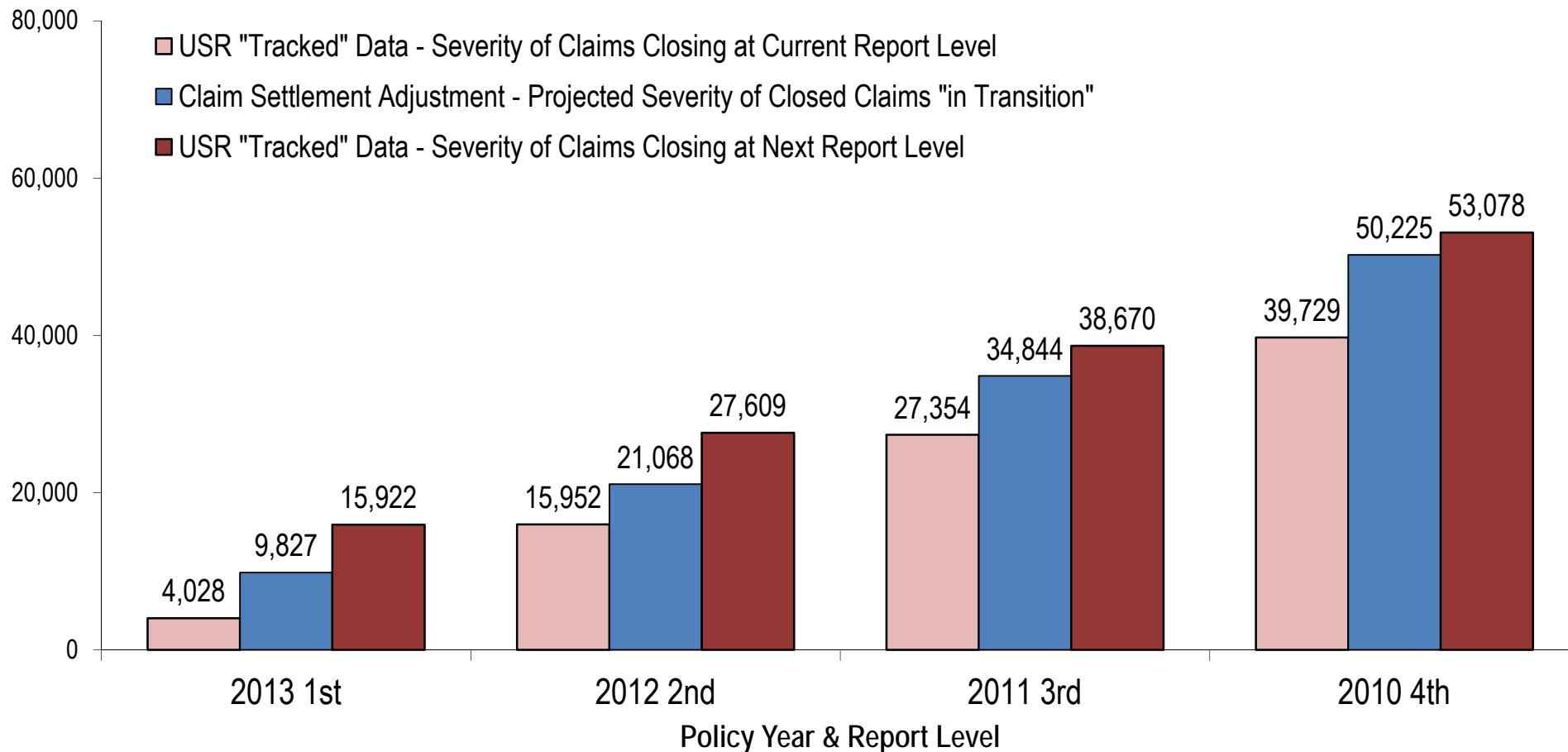
Development from 84 to 228 Months

Settlement Rate Change >1.0% in Absolute Value	CY to AY Change		AY to AY Change	
	Earlier Periods (12-24)	Later Periods (36-72)	Earlier Periods (12-24)	Later Periods (36-72)
% Moving in Opposite Direction	64%	59%	44%	64%
# Observations	25	37	9	14

Sensitivity Testing of Imputed Severities Used in Current Approach

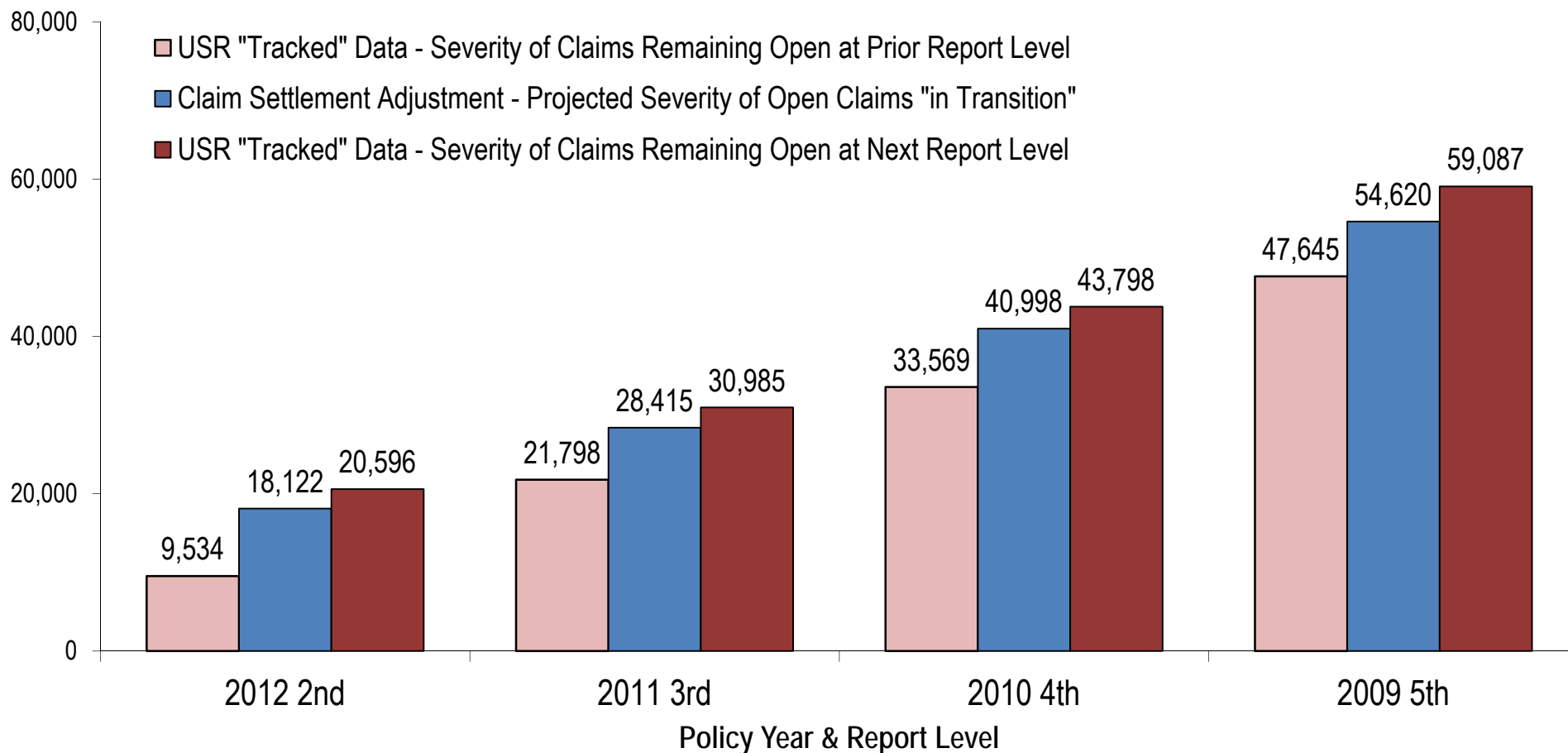
- Assumptions of imputed severities used in current approach
 - Paid on closed claims – log-linear interpolation between unadjusted paid per closed claim using settlement rate
 - Paid on open claims – average paid per open claim at prior/current maturity extends for another year
- Actual payments on closing or remaining open claims identified from “tracked” USR data
- Assumptions tested by replacing imputed severities with those from “tracked” data

Comparison of Closing Claim Severities – Paid Medical (Exhibit 9.2)



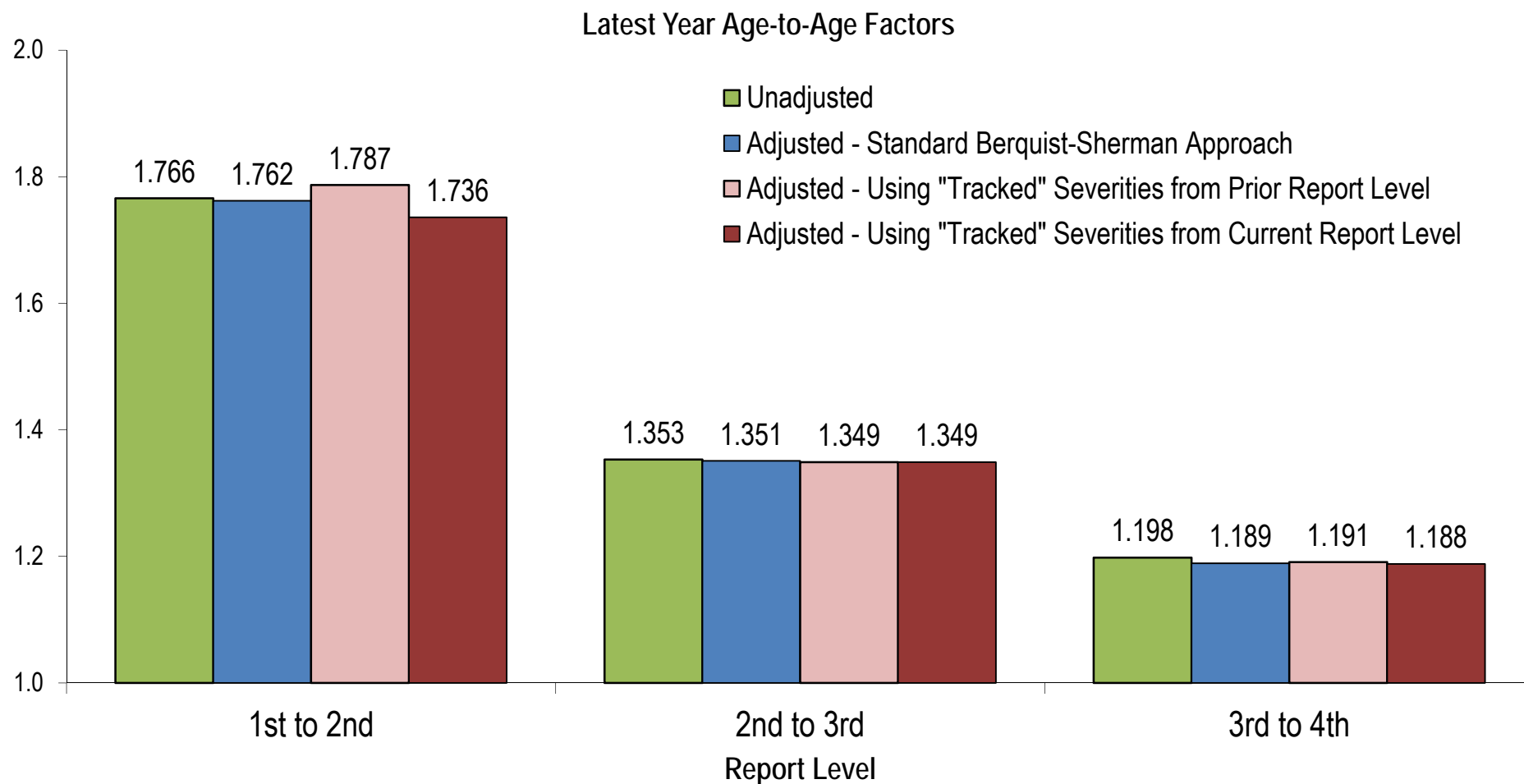
Note: Adjustment is occurring during period of claim settlement rate increase, therefore, claims that had closed at a later period are transitioning into closing at an earlier period.

Comparison of Open Claim Severities – Paid Medical (Exhibit 9.2)



Note: Adjustment is occurring during period of claim settlement rate increase, therefore, claims that had closed at a later period are transitioning into closing at an earlier period.

Impact of Sensitivity Test of Severity Assumptions – Paid Medical (Exhibit 10)



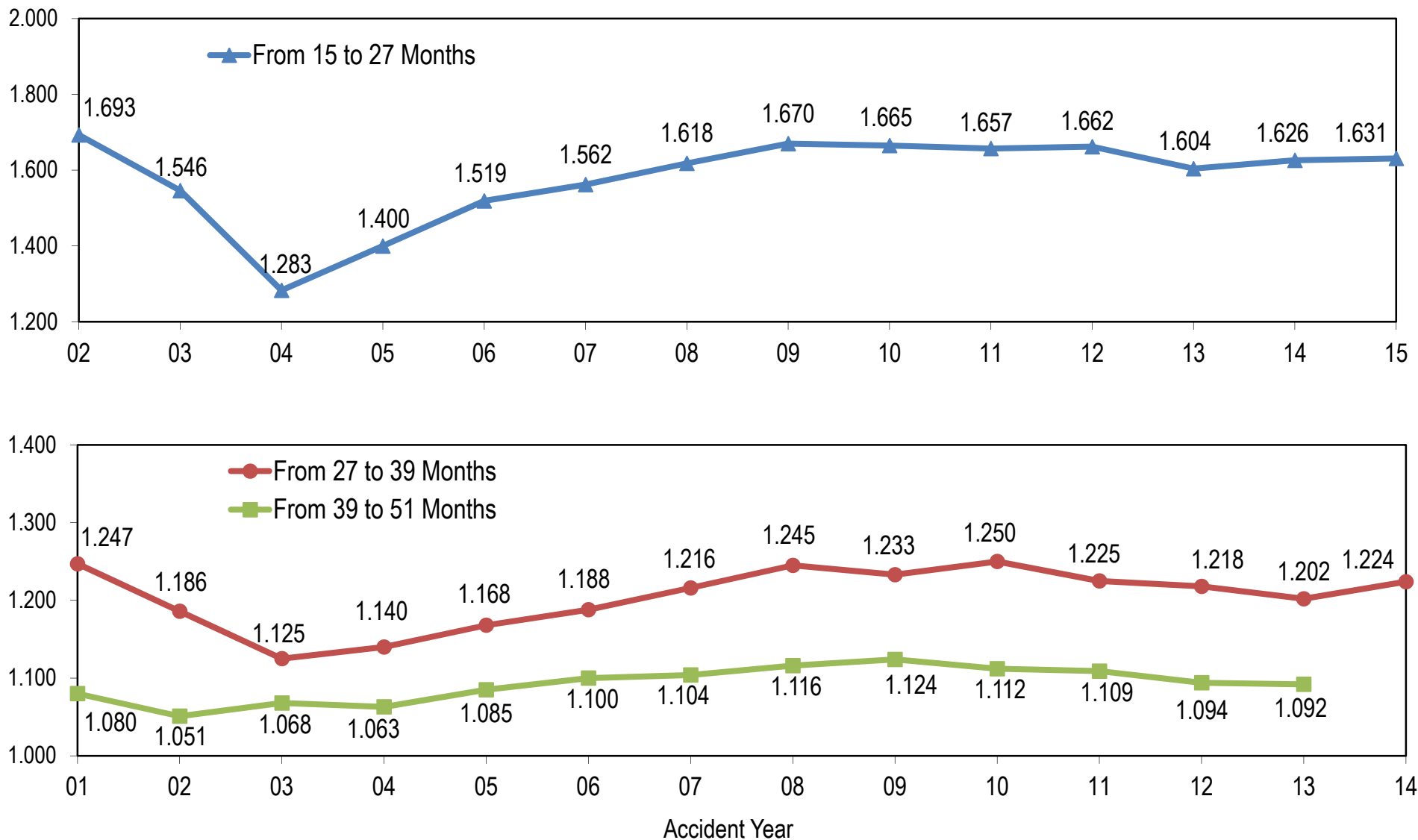
3/31/2017 Experience – Review of Methodologies

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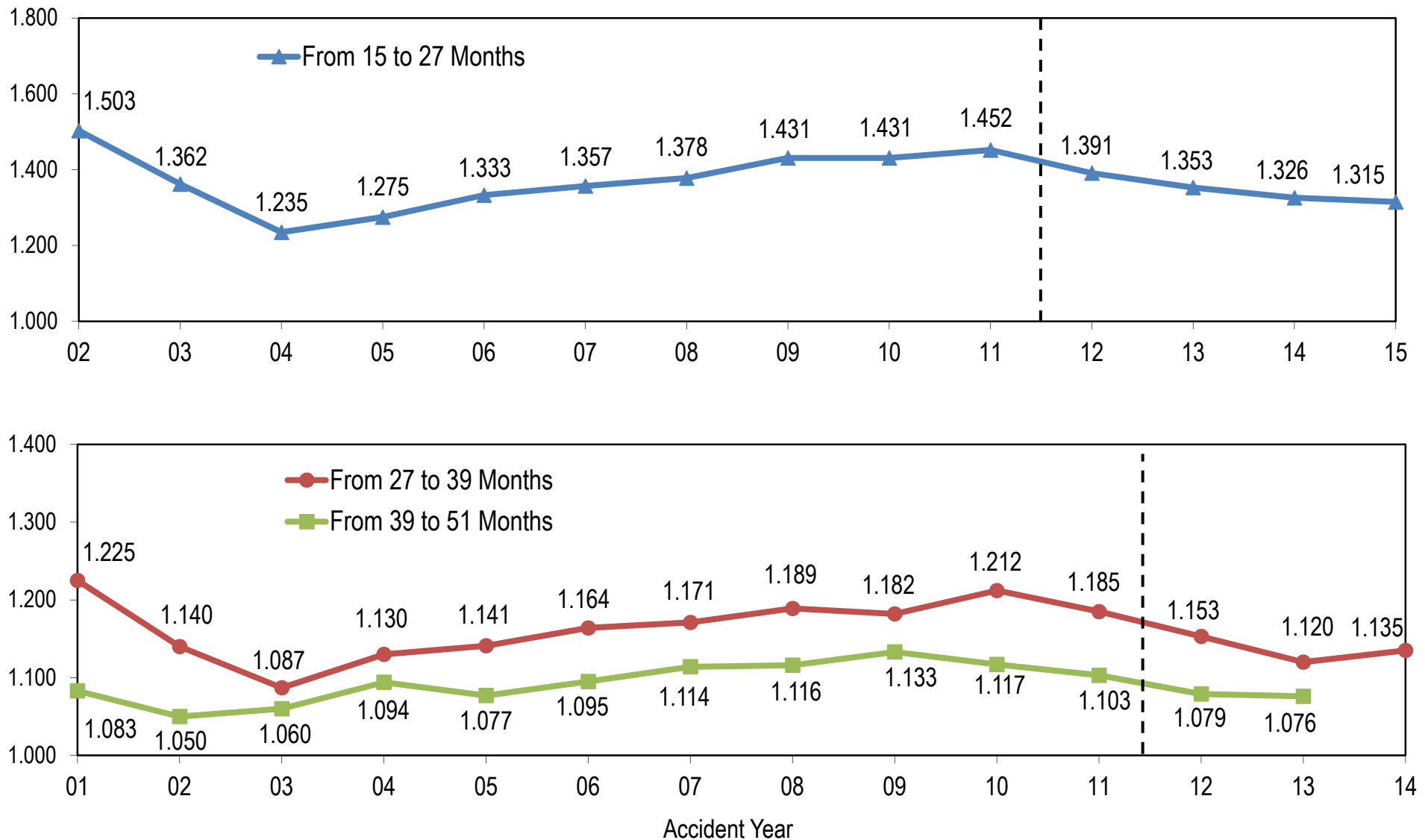
Summary of March 31, 2017 Experience

- Almost 100% of market reflected
- Same methodologies as 7/1/17 Filing
- Projected Policy Year 2018 loss ratio: 0.612
- Approx. 1.5 point decrease from 7/1/17 Filing (0.626)
 - Principally driven by extending trending period to policy year 2018
 - Overall change in loss development modest

Incurred Indemnity Loss Development Factors (Exhibit 2.1.1)

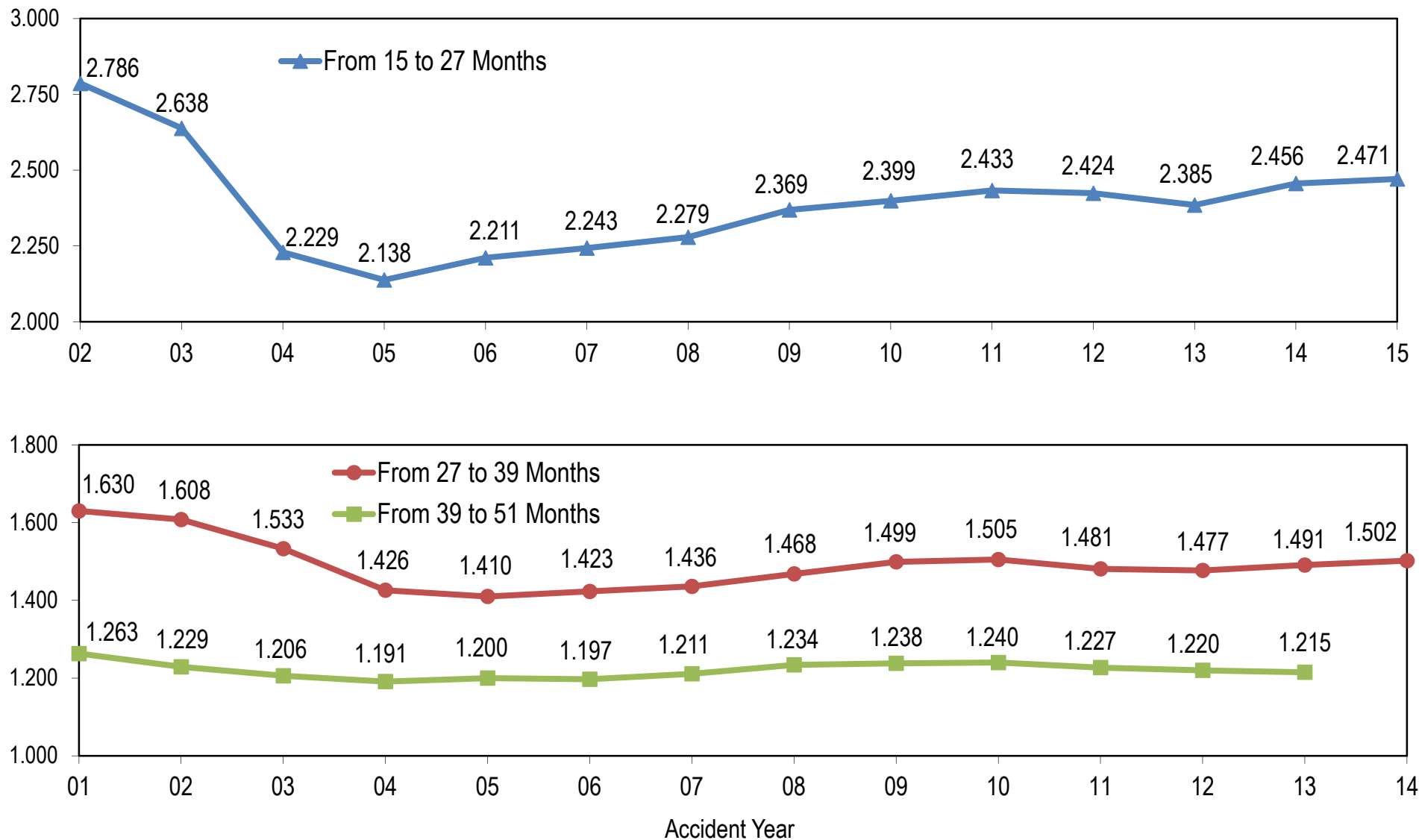


Incurred Medical Loss Development Factors (Exhibit 2.2.1)

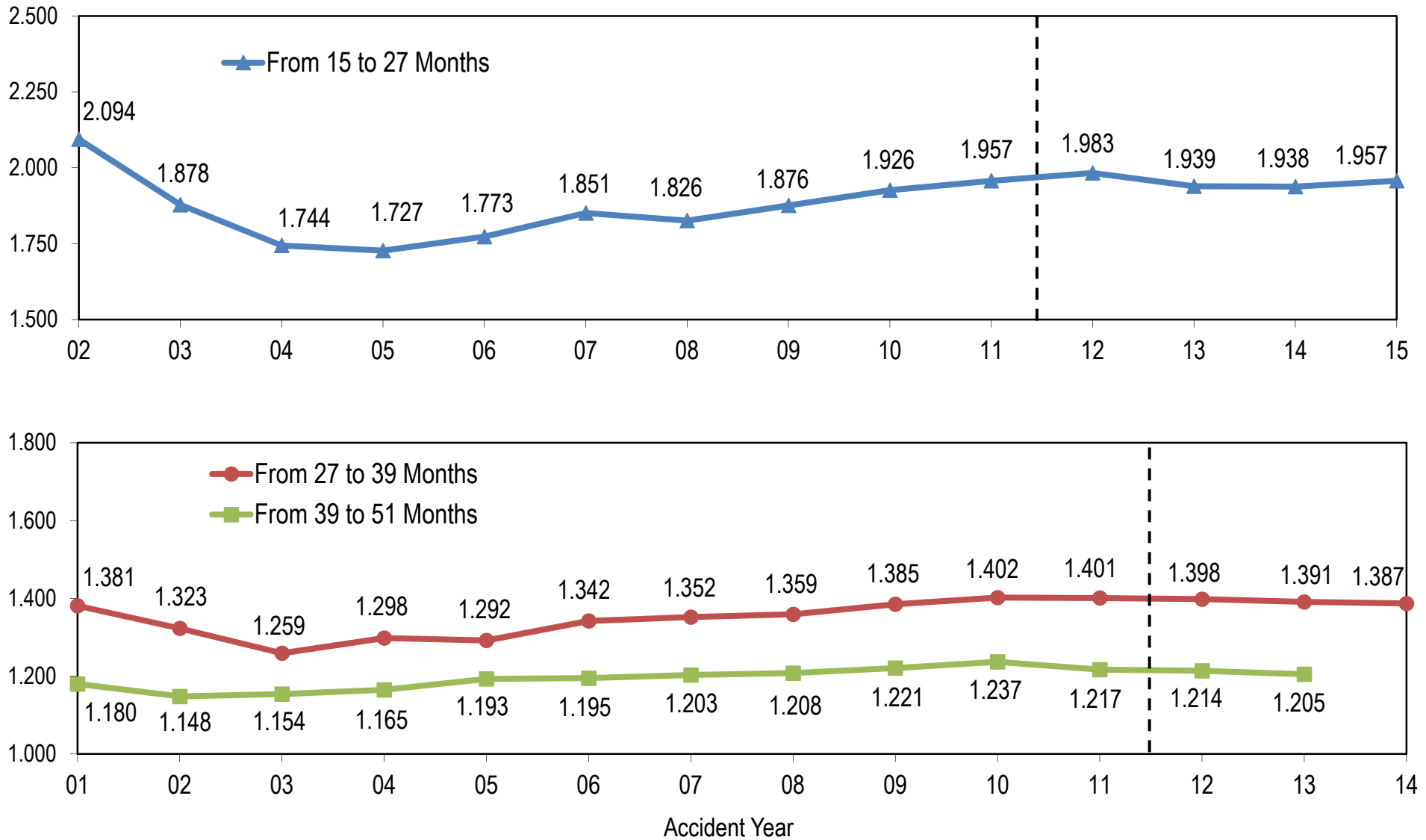


Note: MCCP development is included in incurred medical loss development for 2011 and prior.

Paid Indemnity Loss Development Factors (Exhibit 2.3.1)

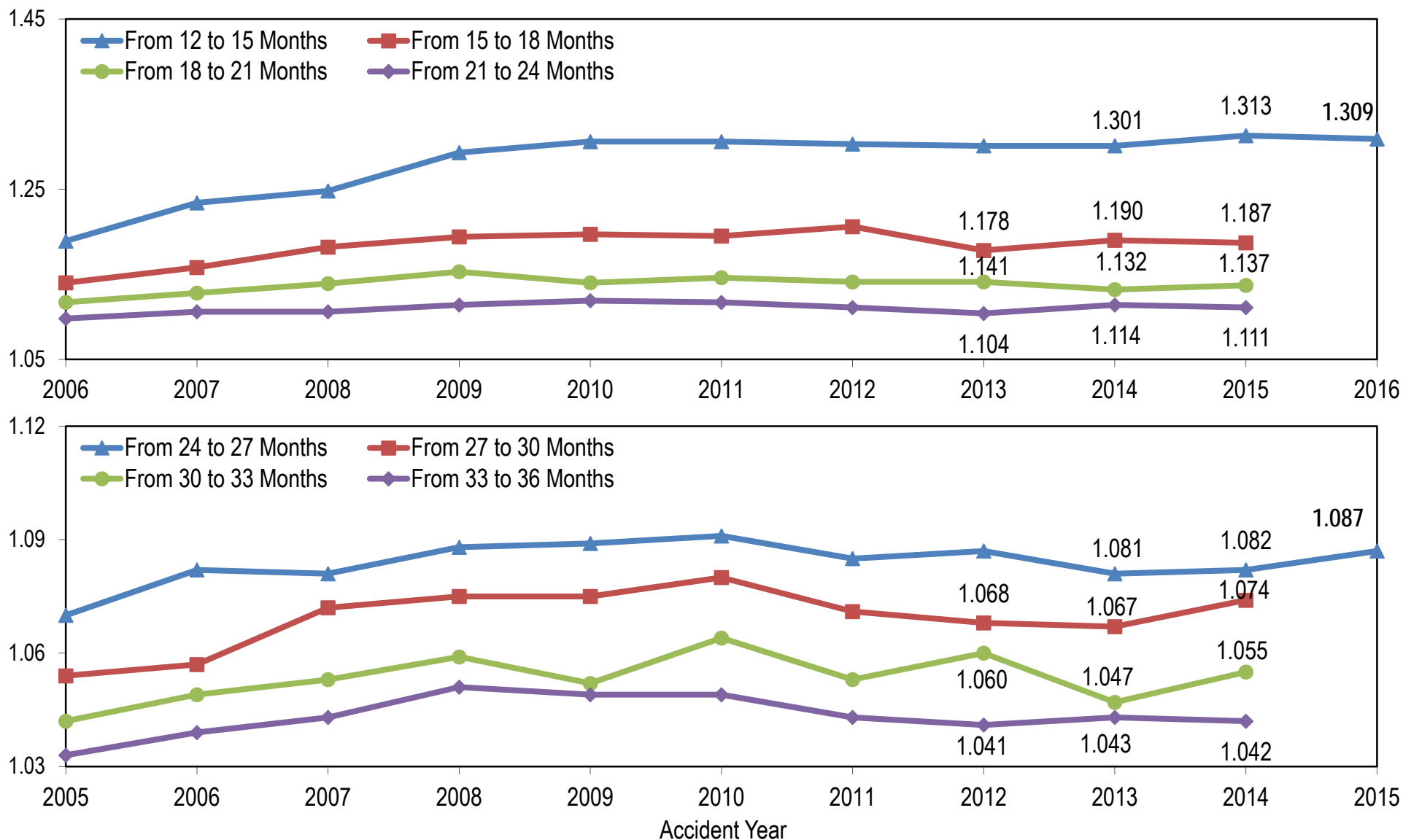


Paid Medical Loss Development Factors (Exhibit 2.4.1)

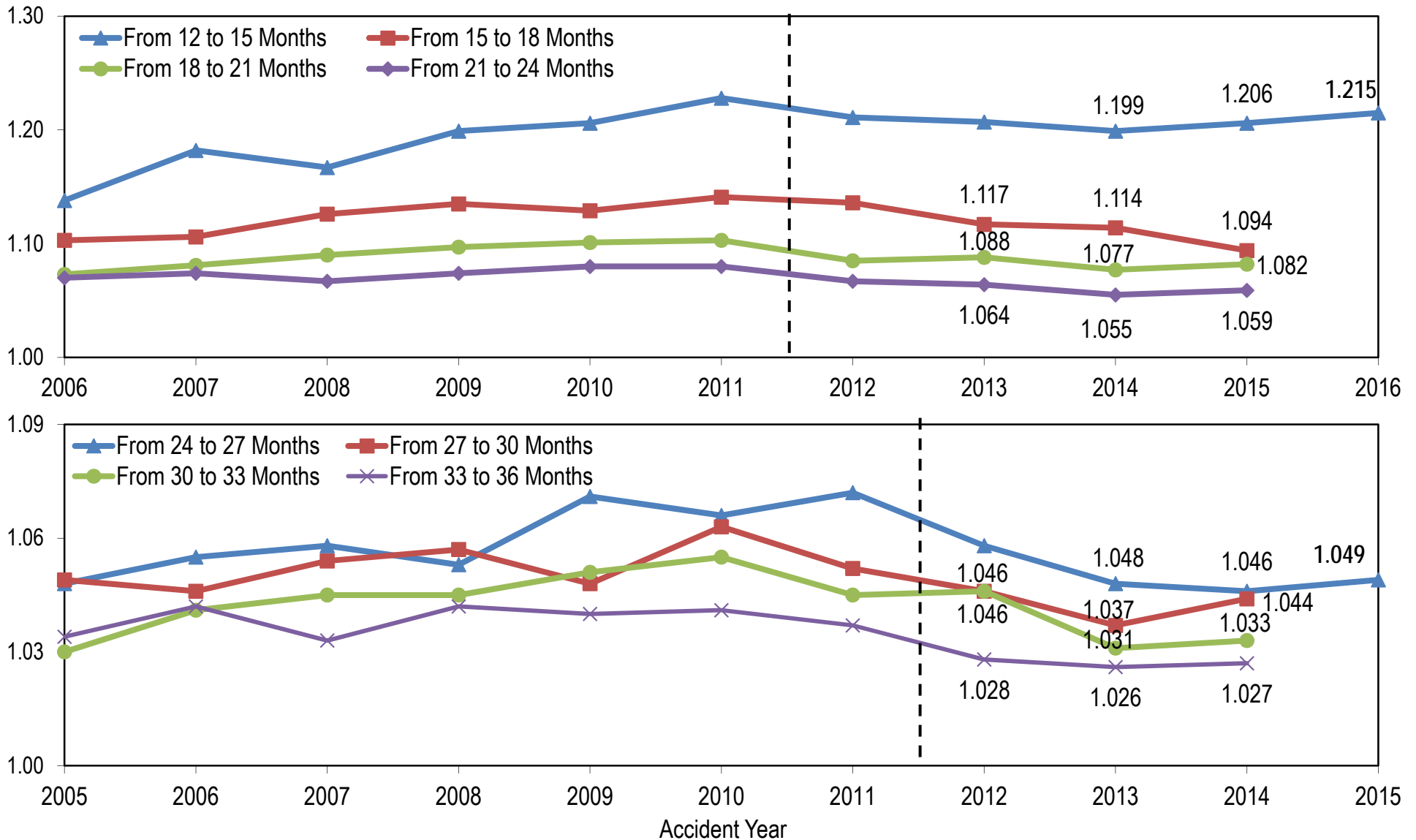


Note: MCCP development is included in paid medical loss development for 2011 and prior.

Quarterly Incurred Indemnity Development (Exhibit 9.1)

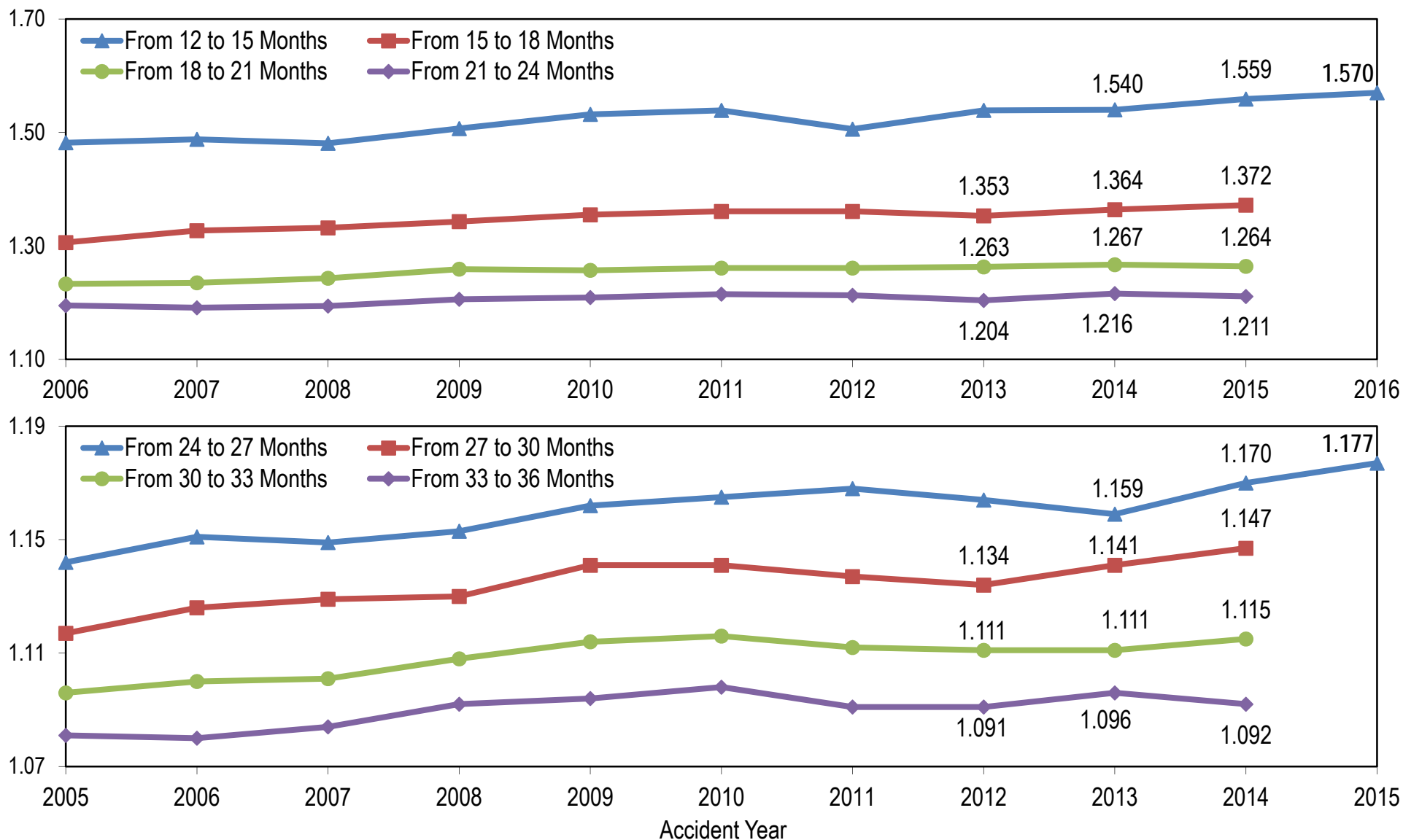


Quarterly Incurred Medical Development (Exhibit 9.2)

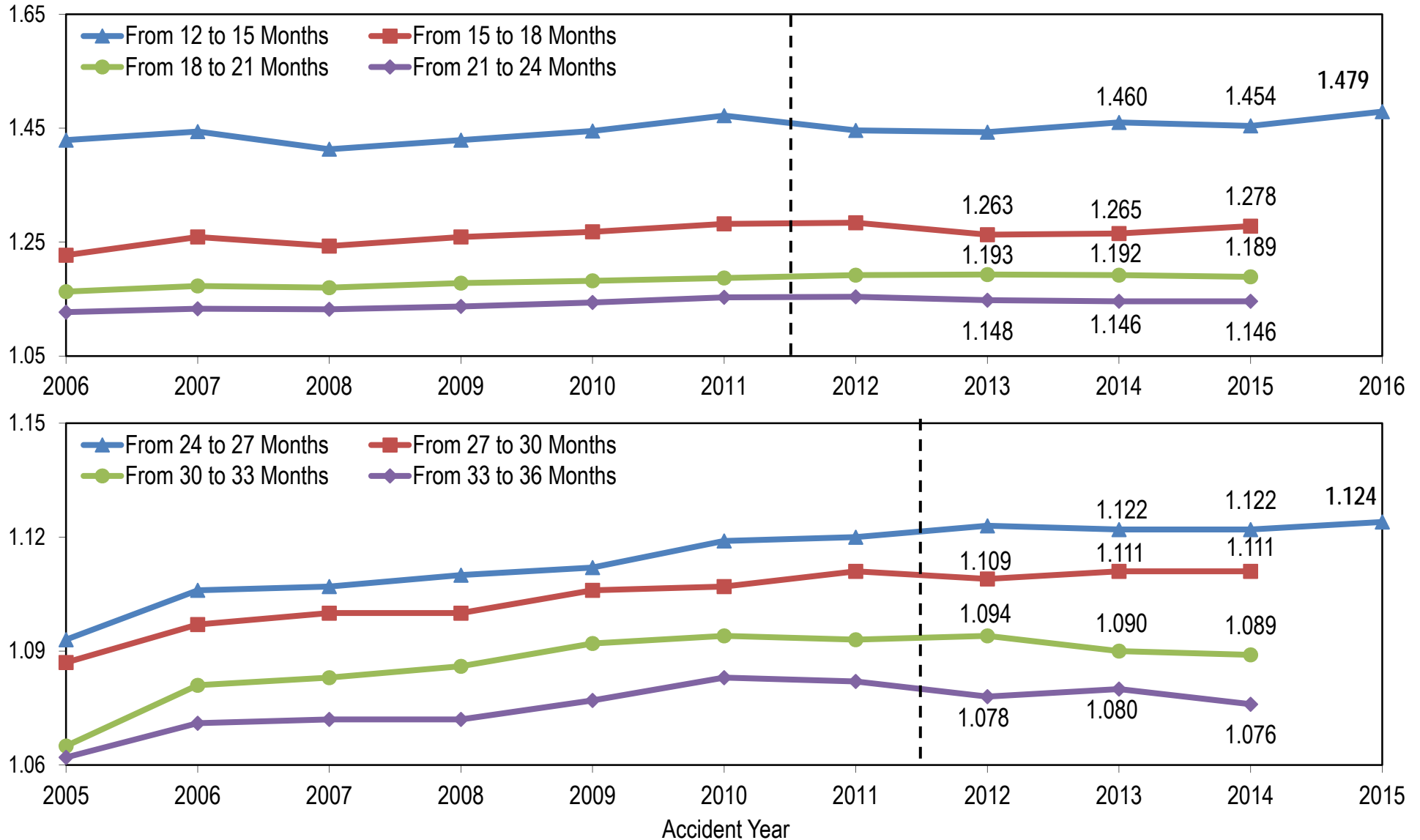


Note: MCCP development is included in incurred medical loss development for 2011 and prior.

Quarterly Paid Indemnity Development (Exhibit 9.3)

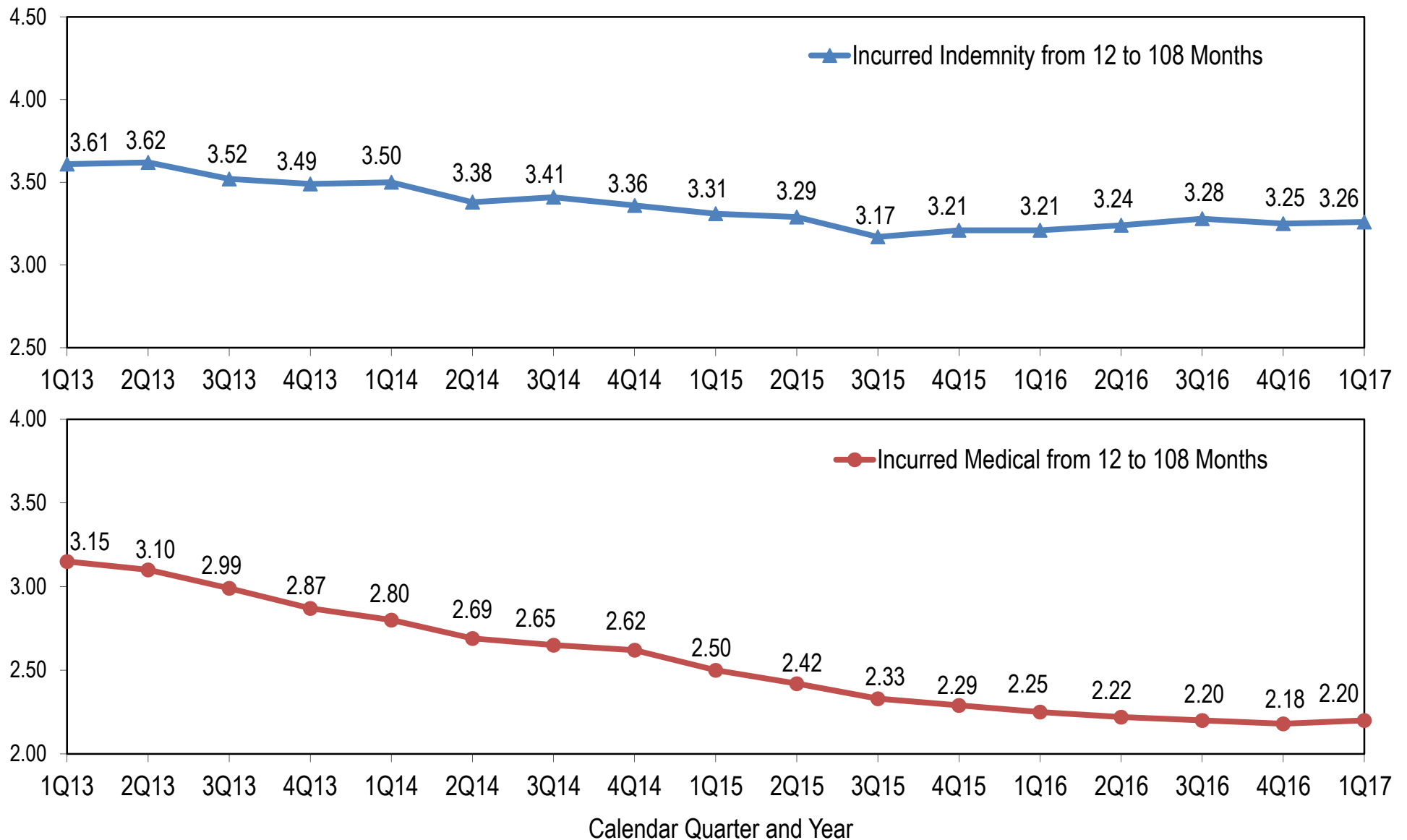


Quarterly Paid Medical Development (Exhibit 9.4)

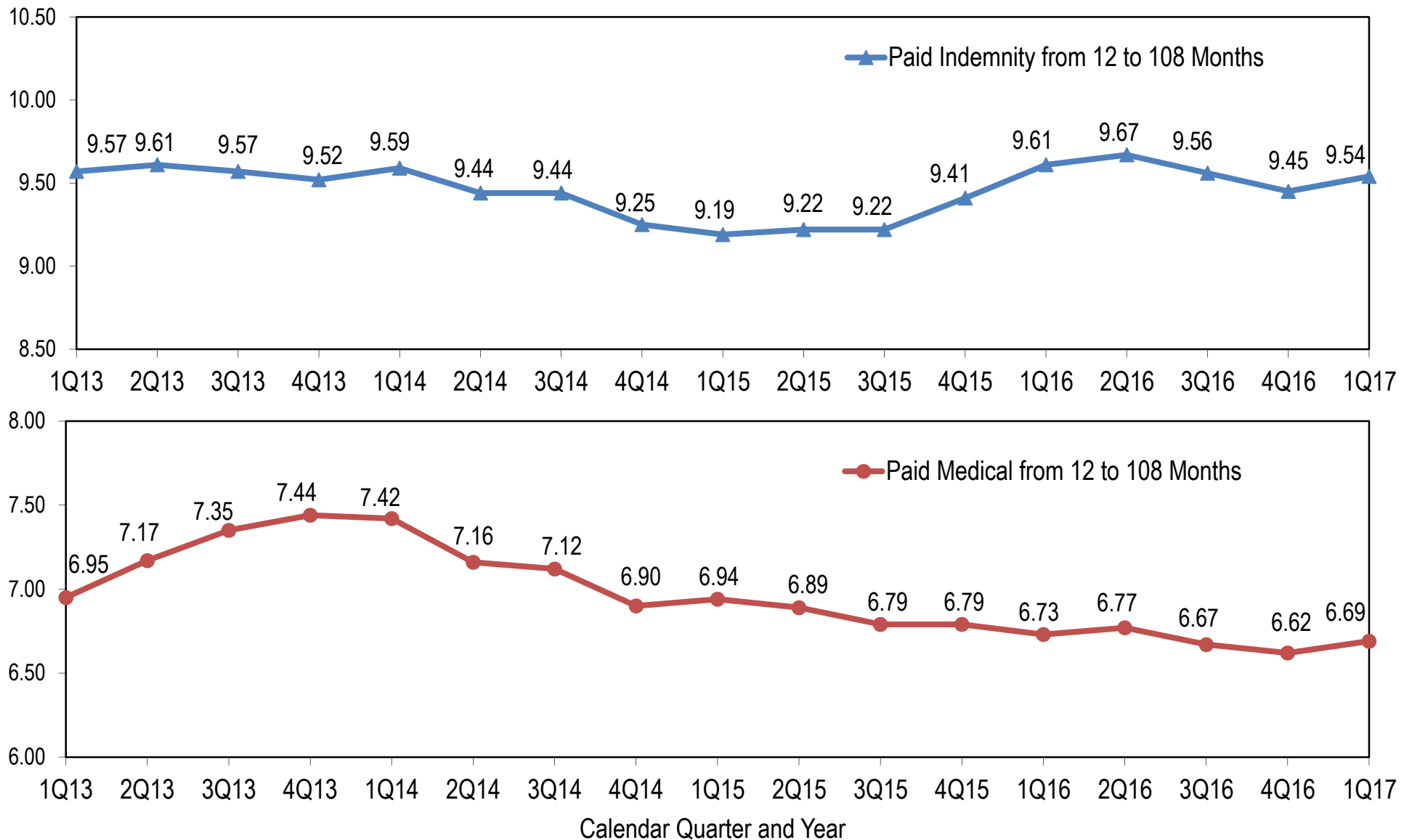


Note: MCCP development is included in paid medical loss development for 2011 and prior.

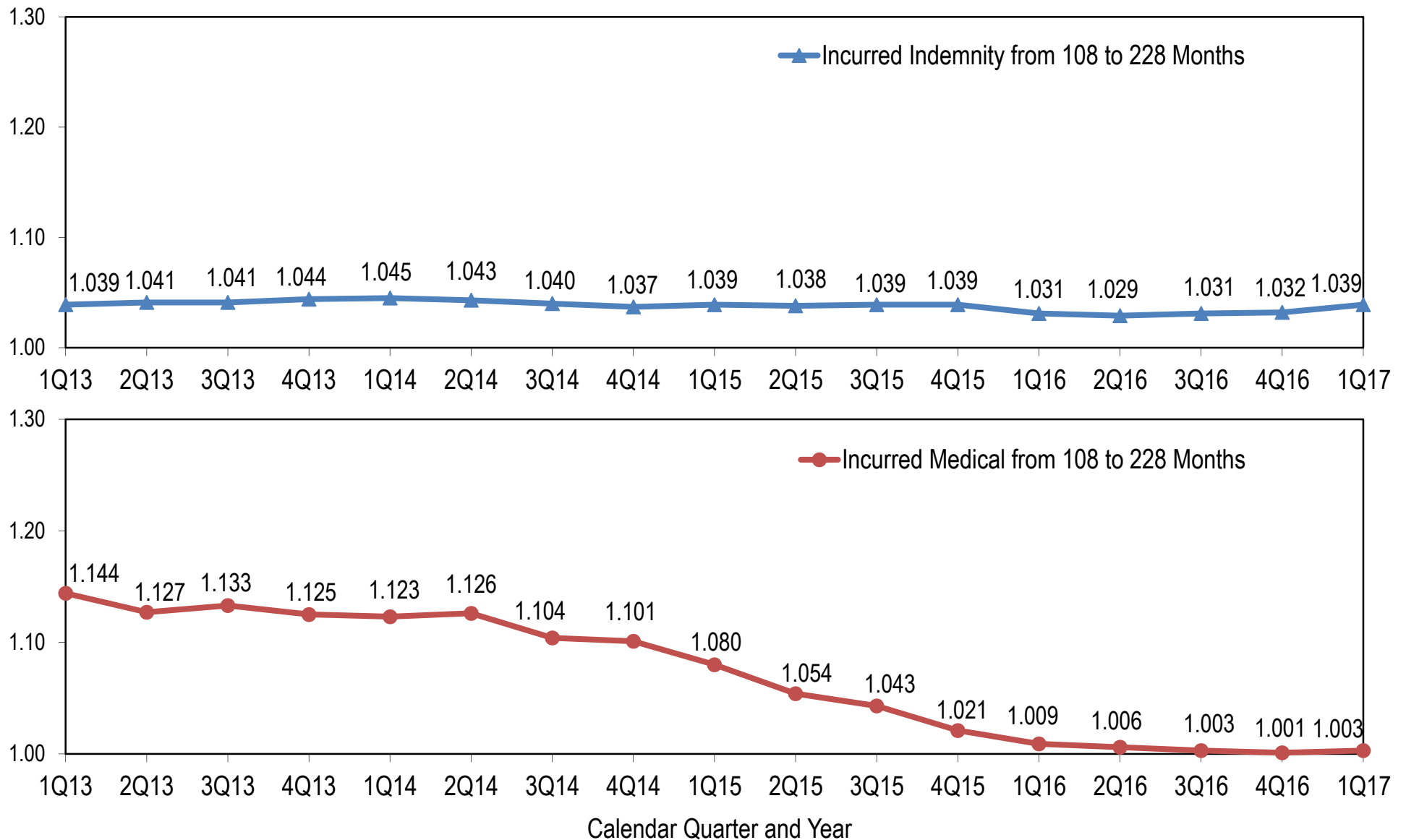
Cumulative Incurred Development by Quarter



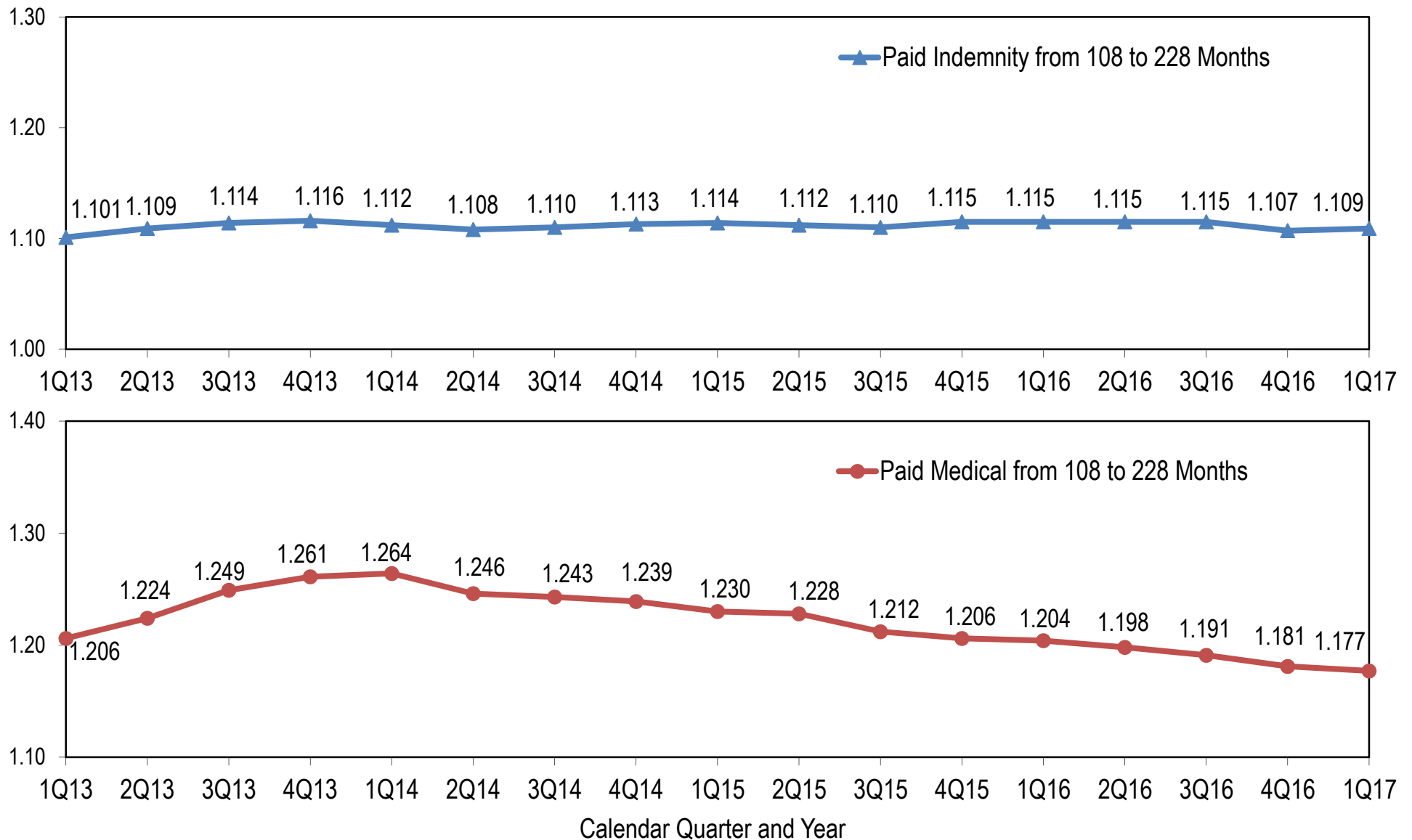
Cumulative Paid Development by Quarter



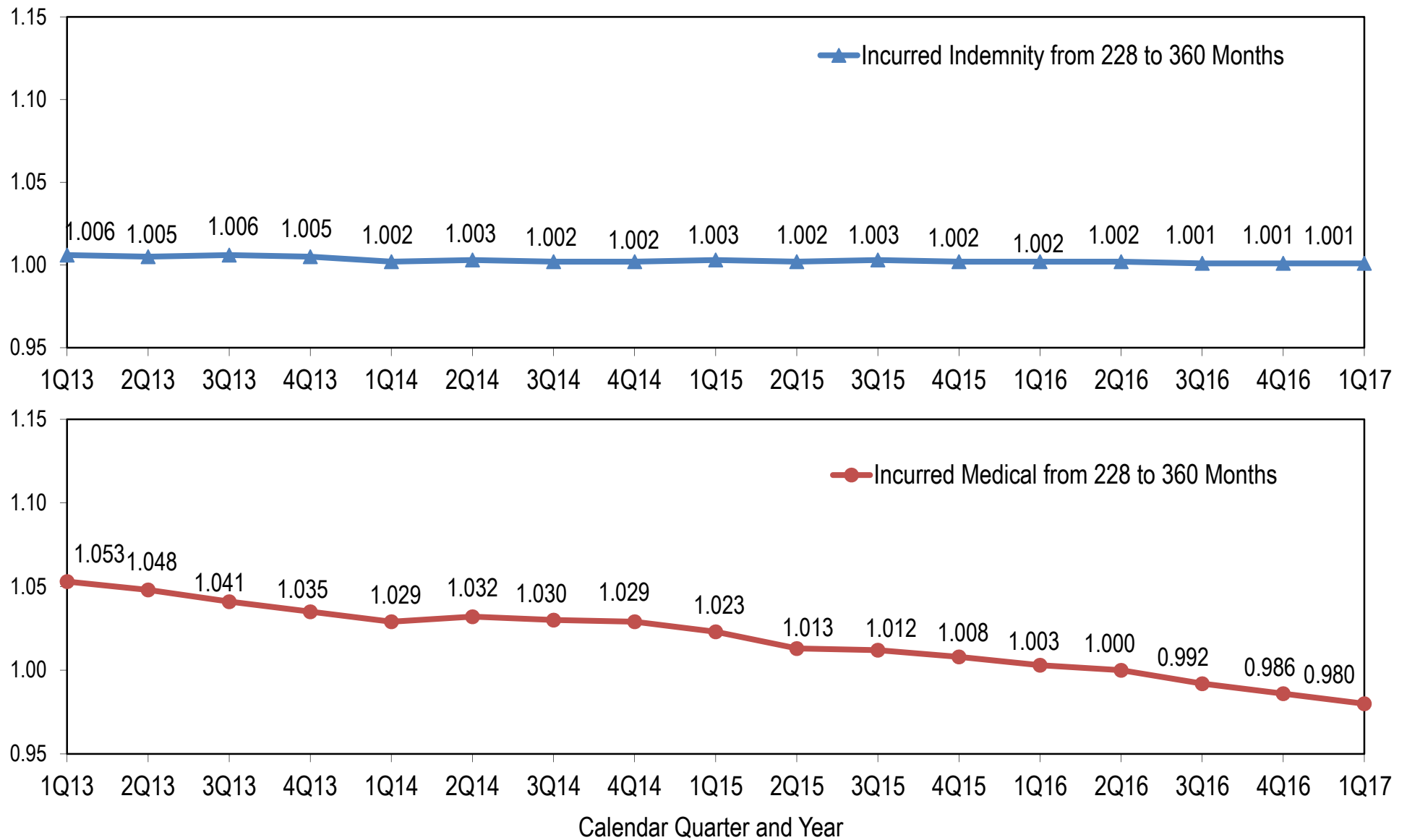
Cumulative Incurred Development by Quarter



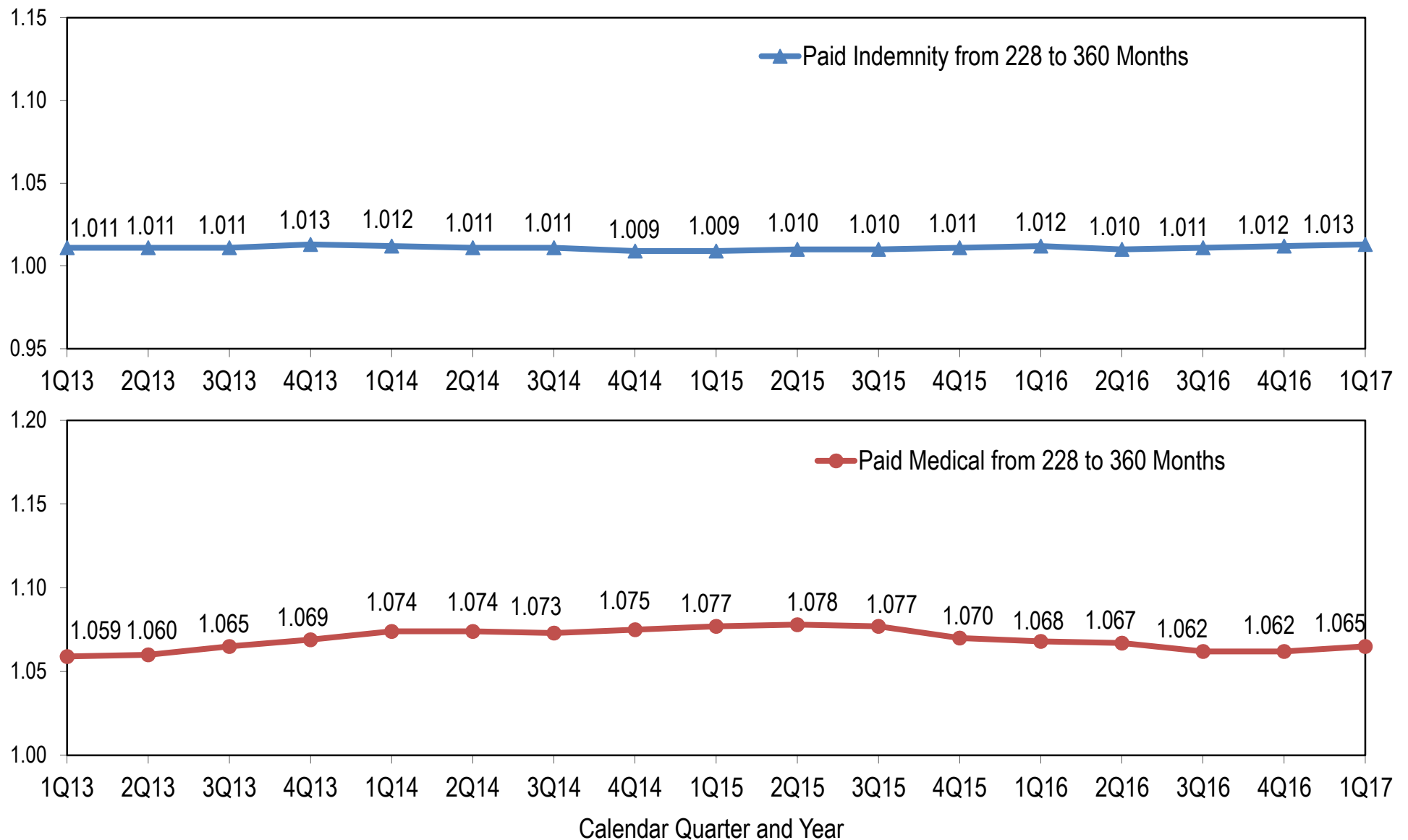
Cumulative Paid Development by Quarter



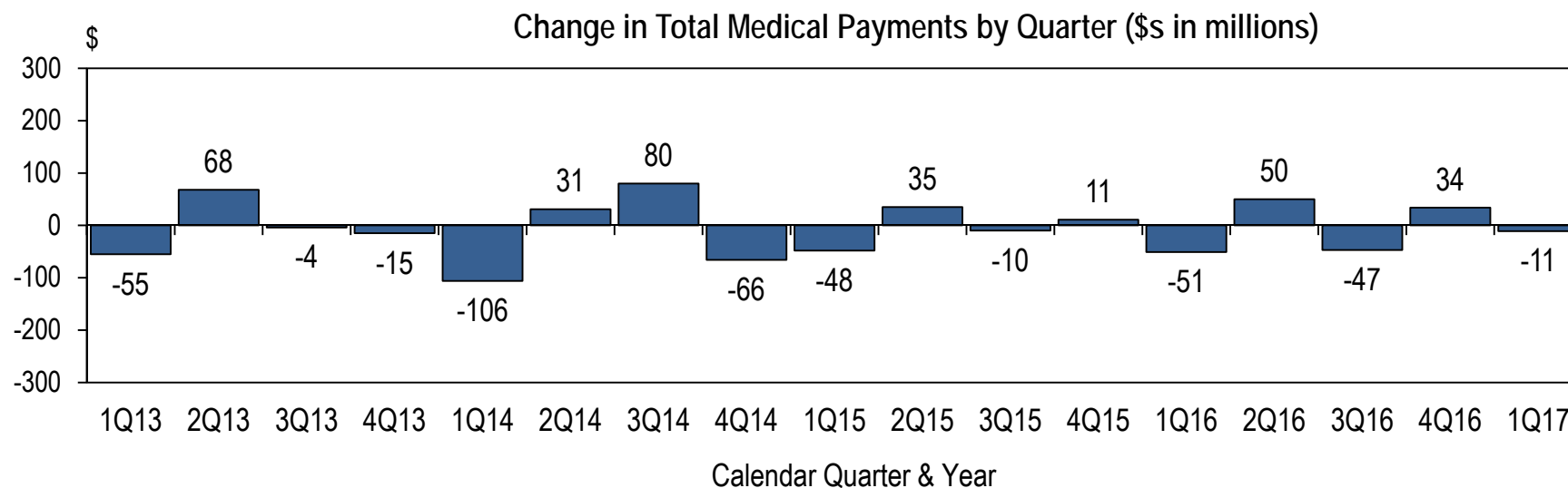
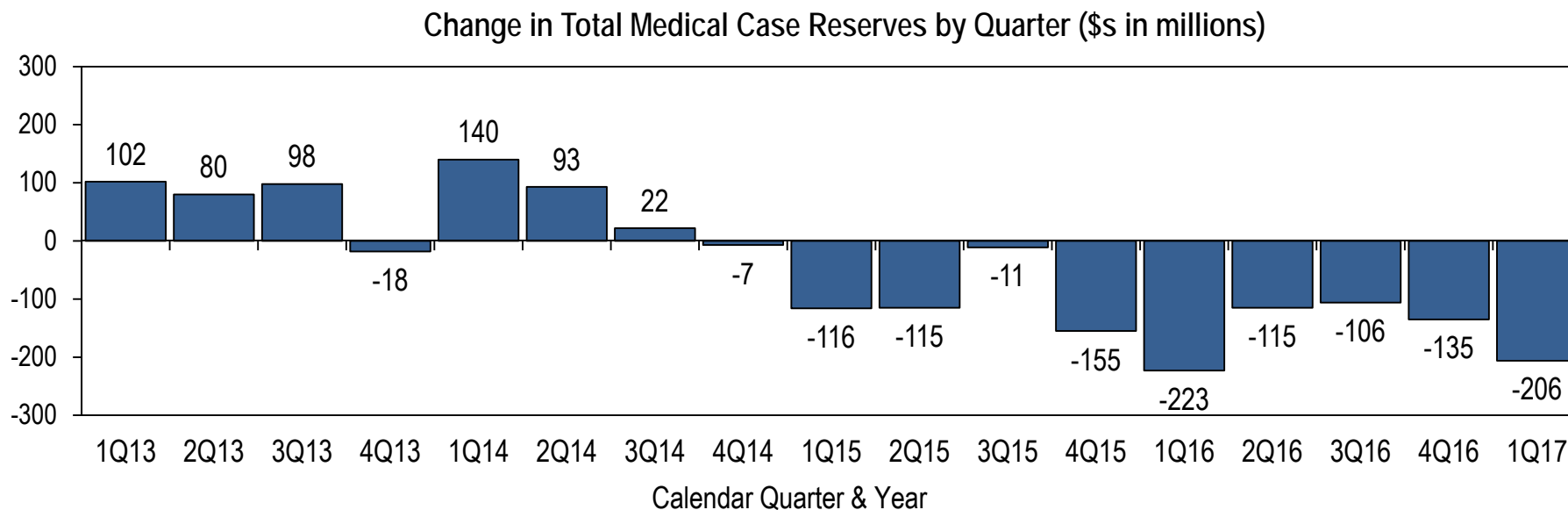
Cumulative Incurred Development by Quarter



Cumulative Paid Development by Quarter

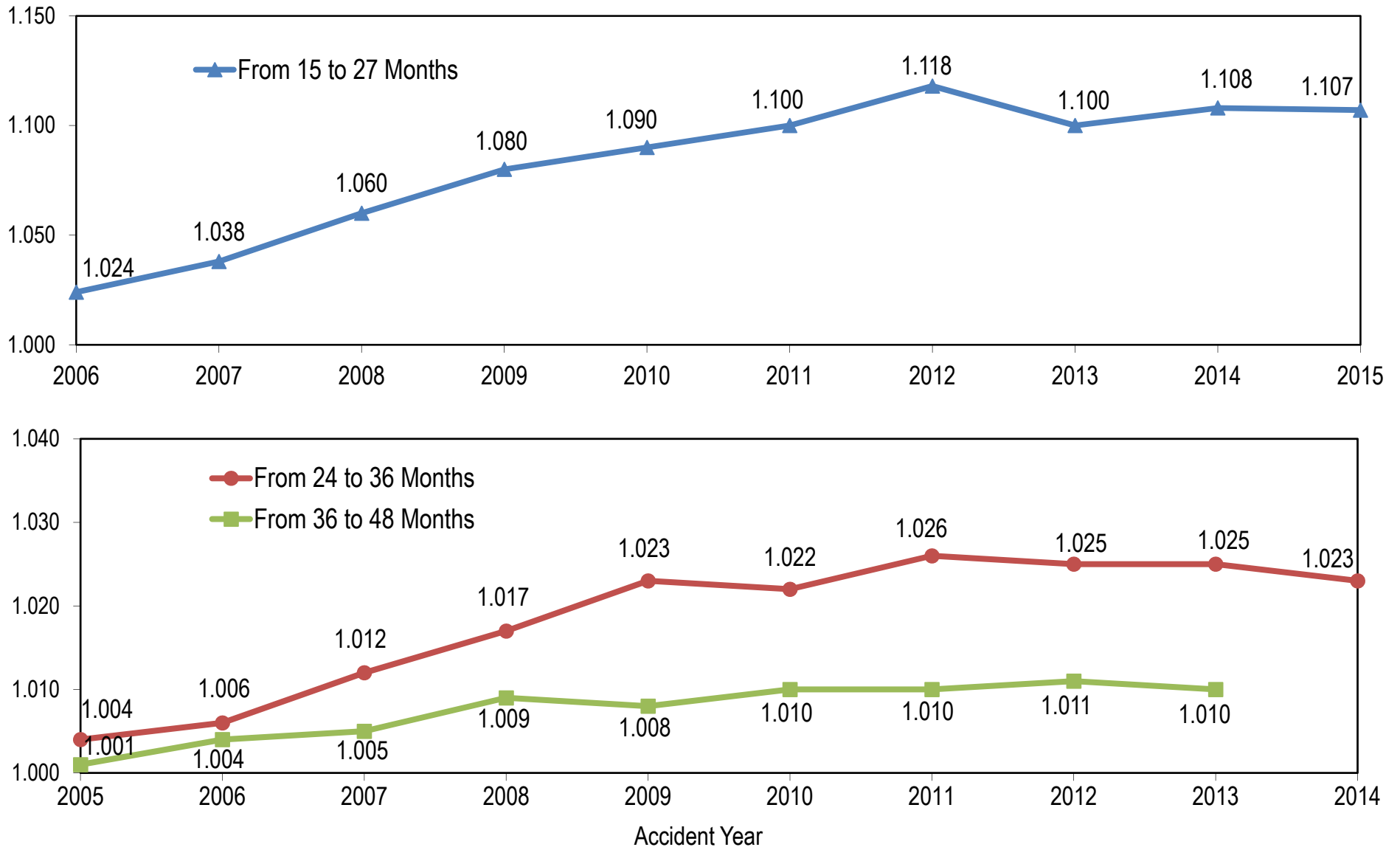


Change in Total Medical Case Reserves and Payments by Quarter

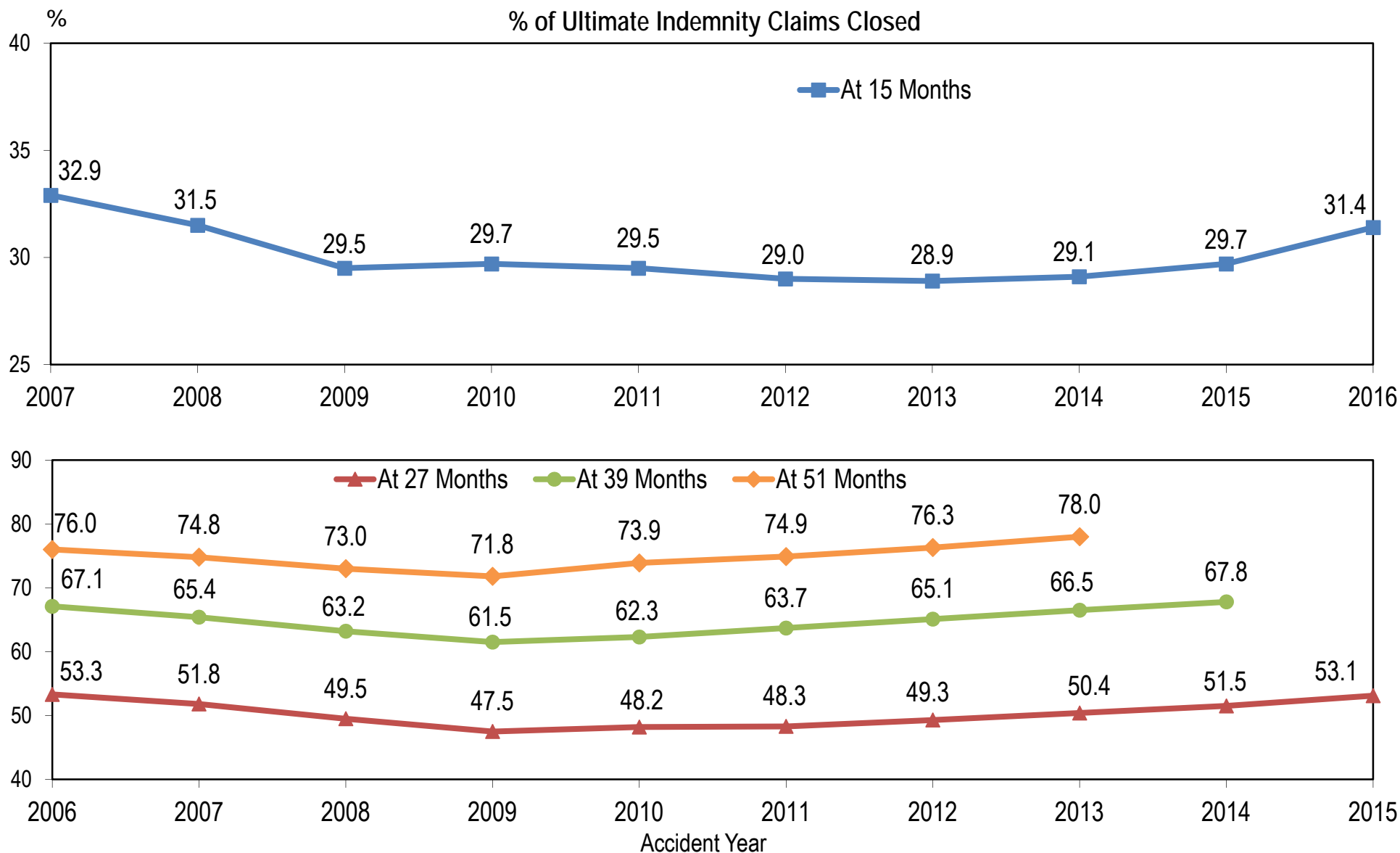


Source: WCIRB Quarterly Calls for Experience

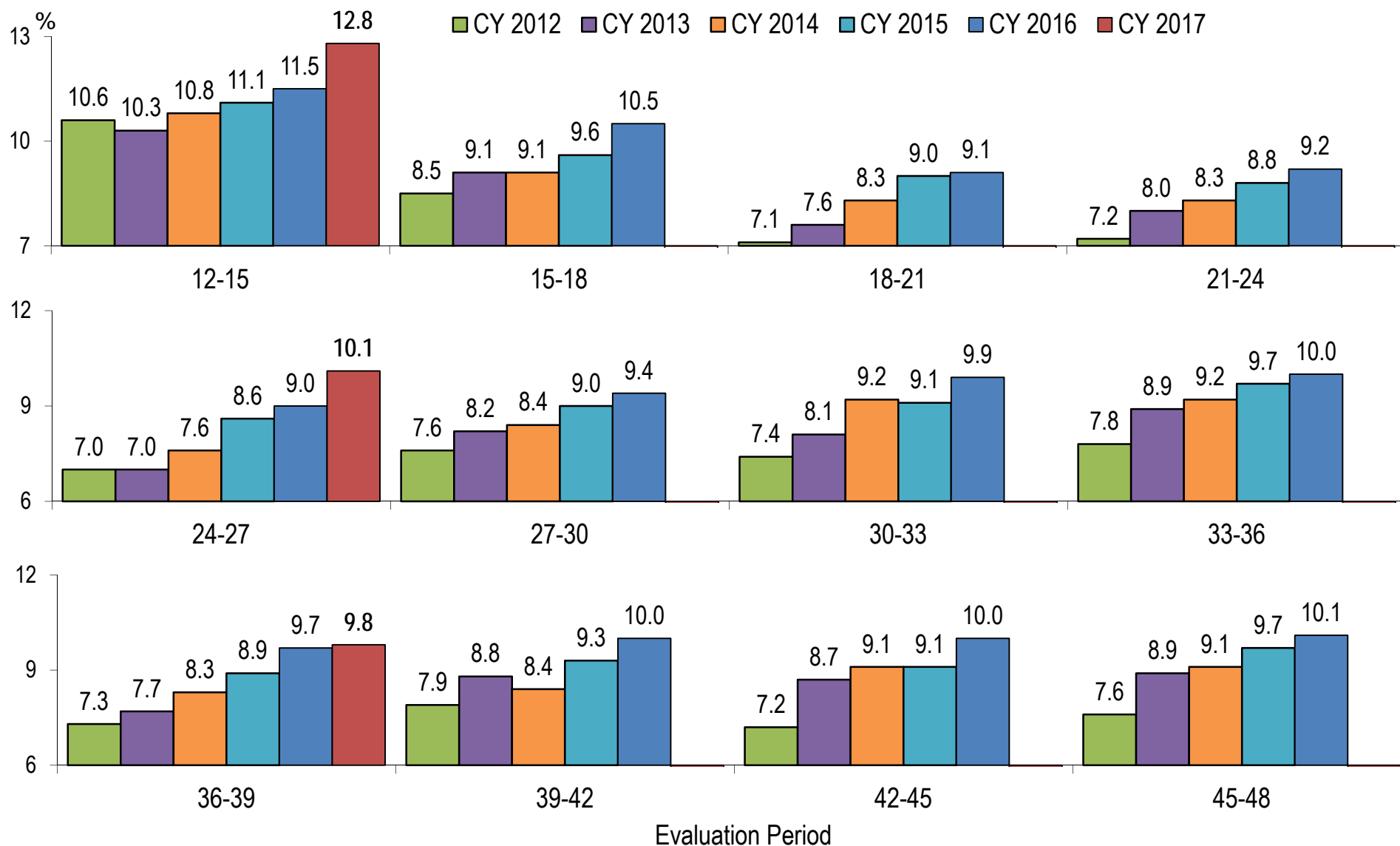
Indemnity Claim Count Development (Exhibit 10.1)



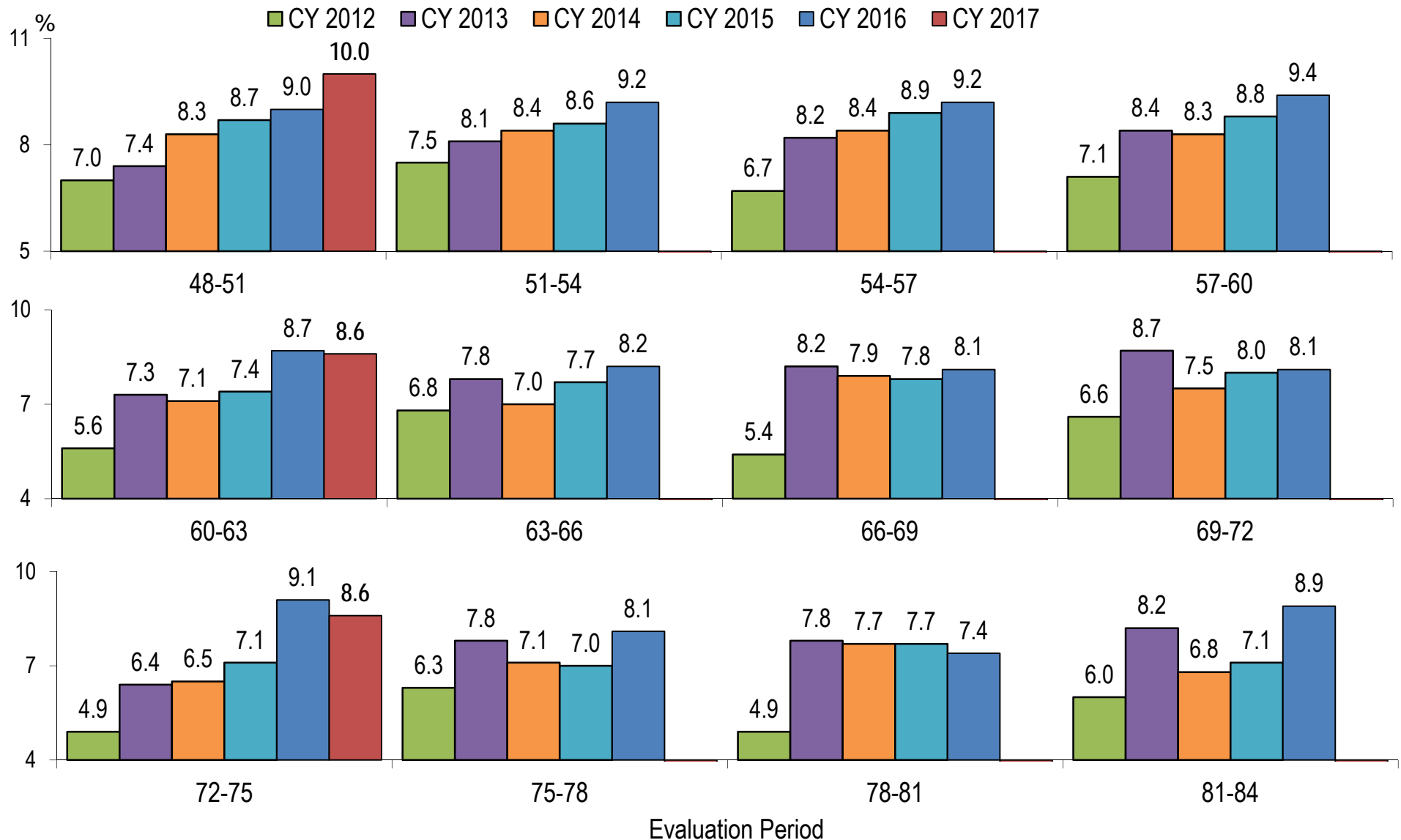
Indemnity Claim Settlement Ratios (Exhibit 11.2)



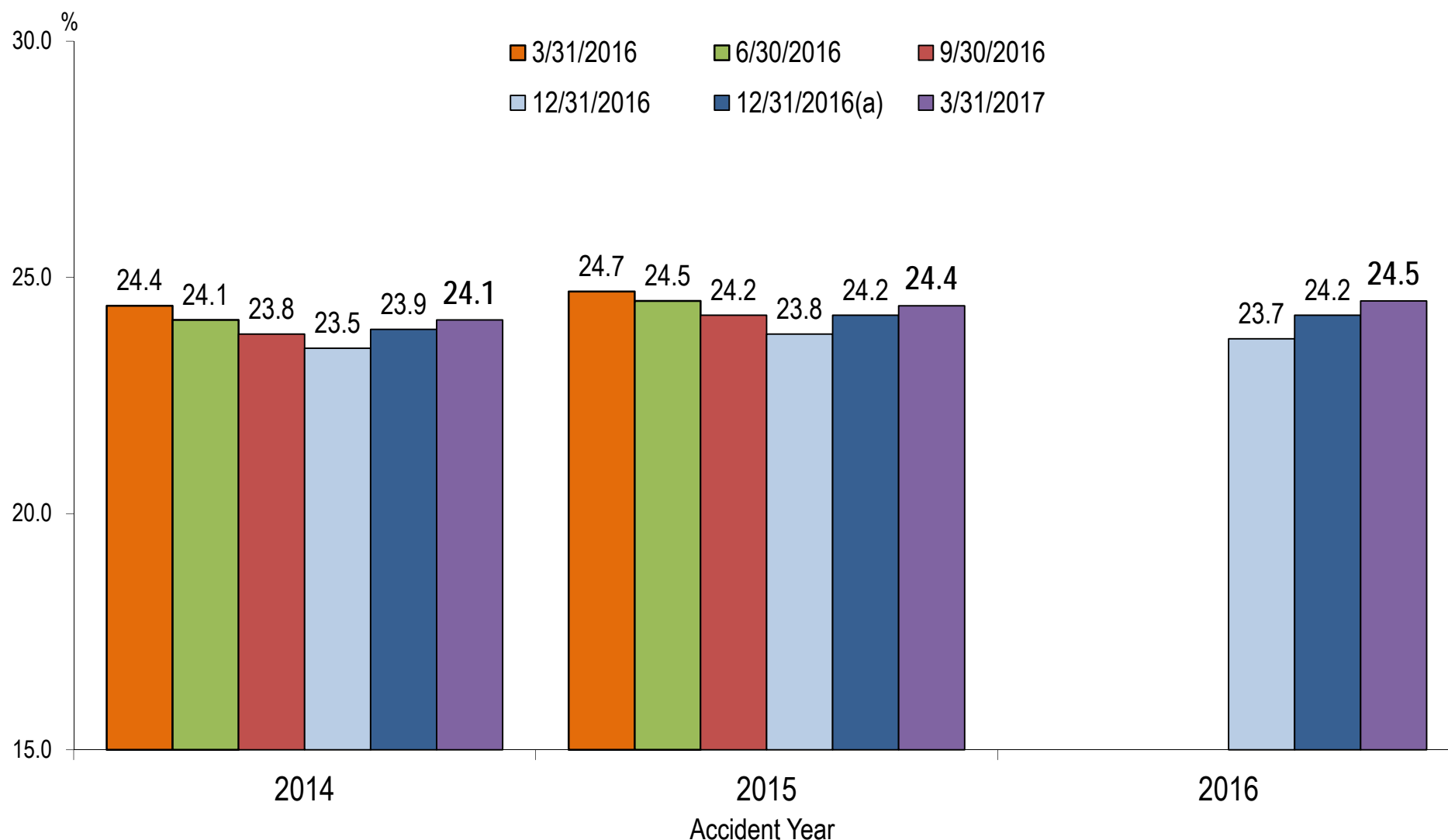
Ratio of Incremental Closed Indemnity Claims to Estimated Open Indemnity Claims



Ratio of Incremental Closed Indemnity Claims to Estimated Open Indemnity Claims (Continued)

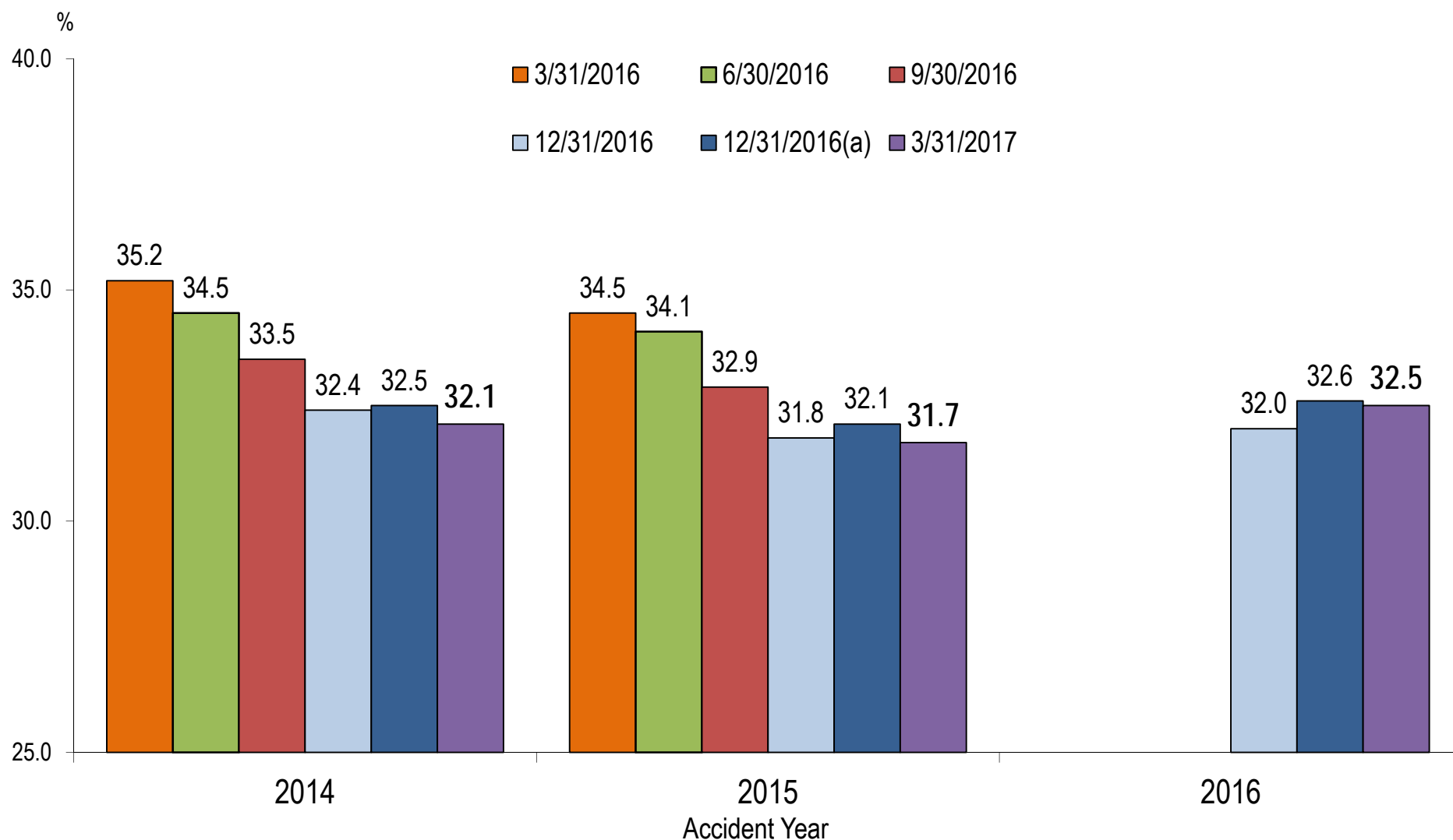


Projected Ultimate Indemnity Loss Ratios (Exhibit 3.1)



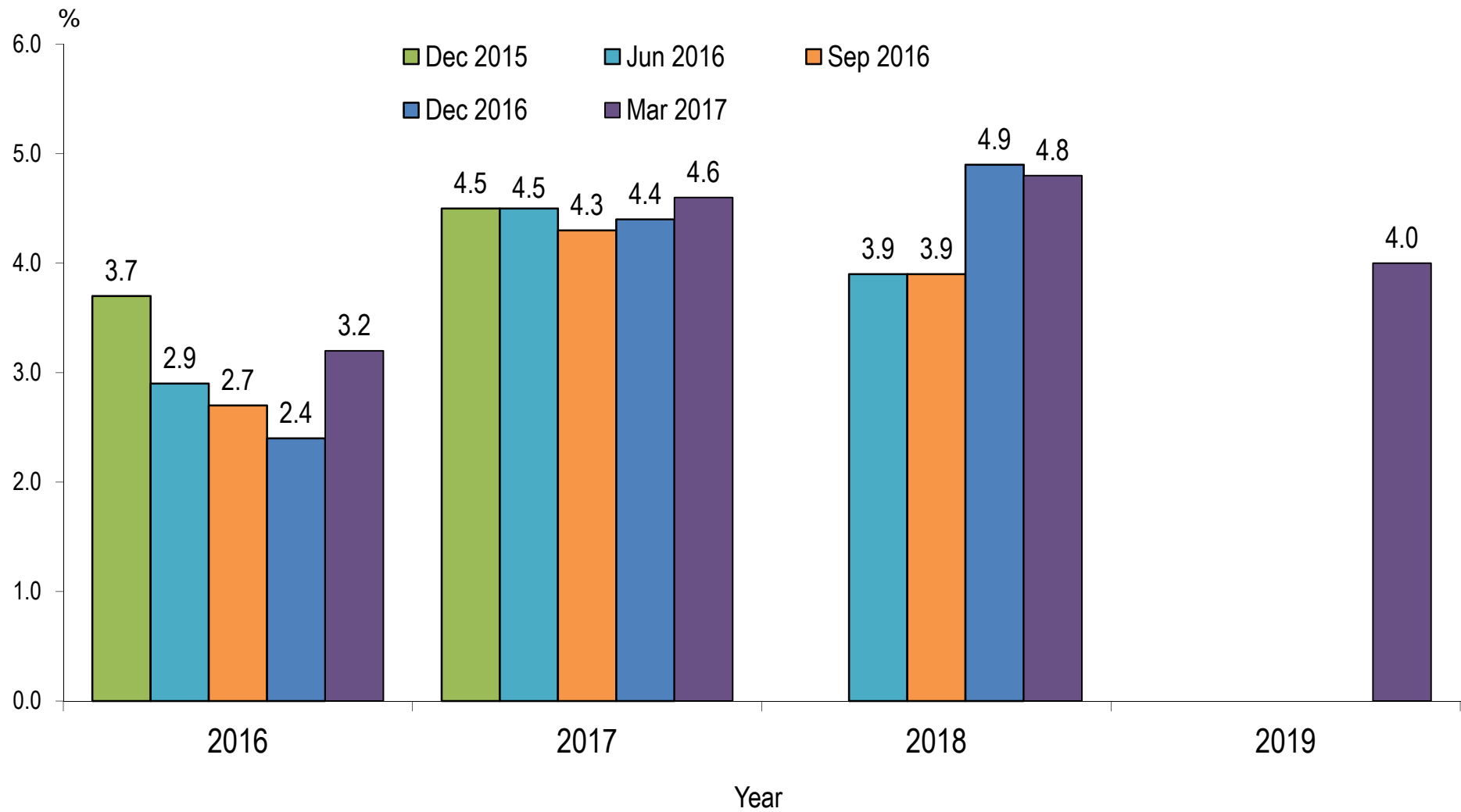
(a) Updated with SB 863 adjustments to loss development adopted at 3/21/17 meeting

Projected Ultimate Medical Loss Ratios (Exhibit 3.2)

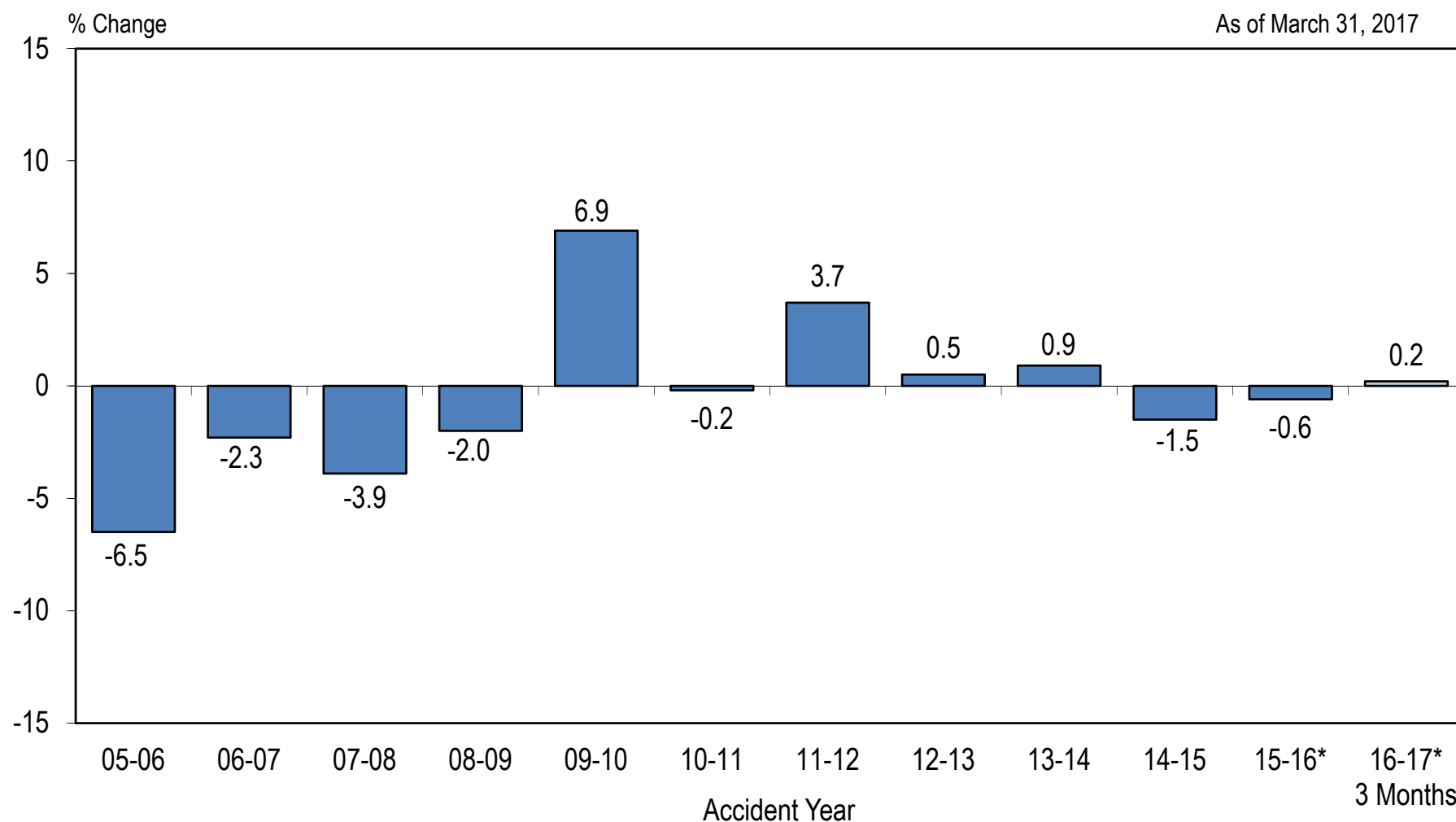


(a) Updated with SB 863 adjustments to loss development adopted at 3/21/17 meeting

UCLA Forecasts of Wage Level Changes (Exhibit 5.1)

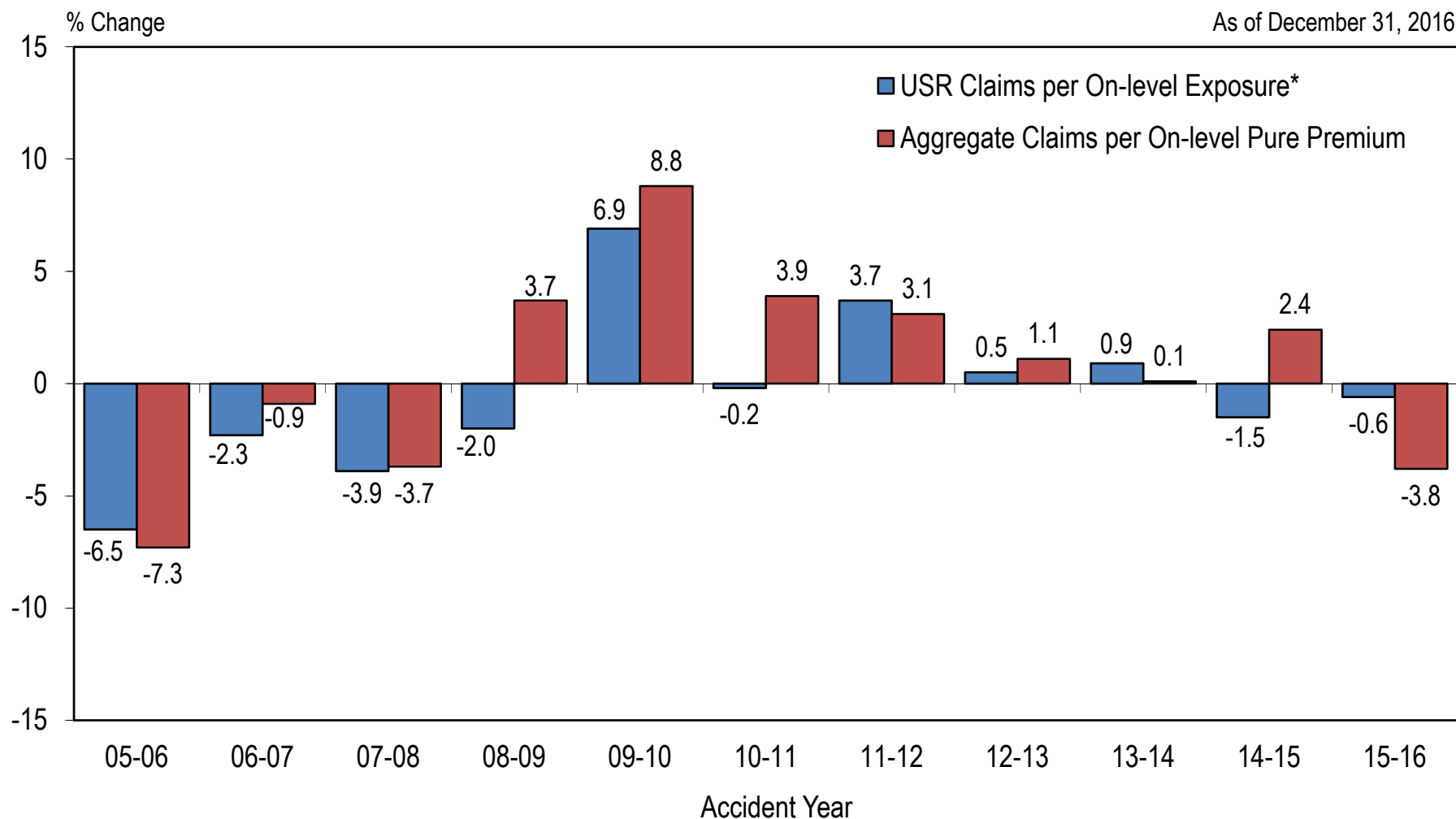


Estimated Change in Indemnity Claim Frequency (Exhibit 12)



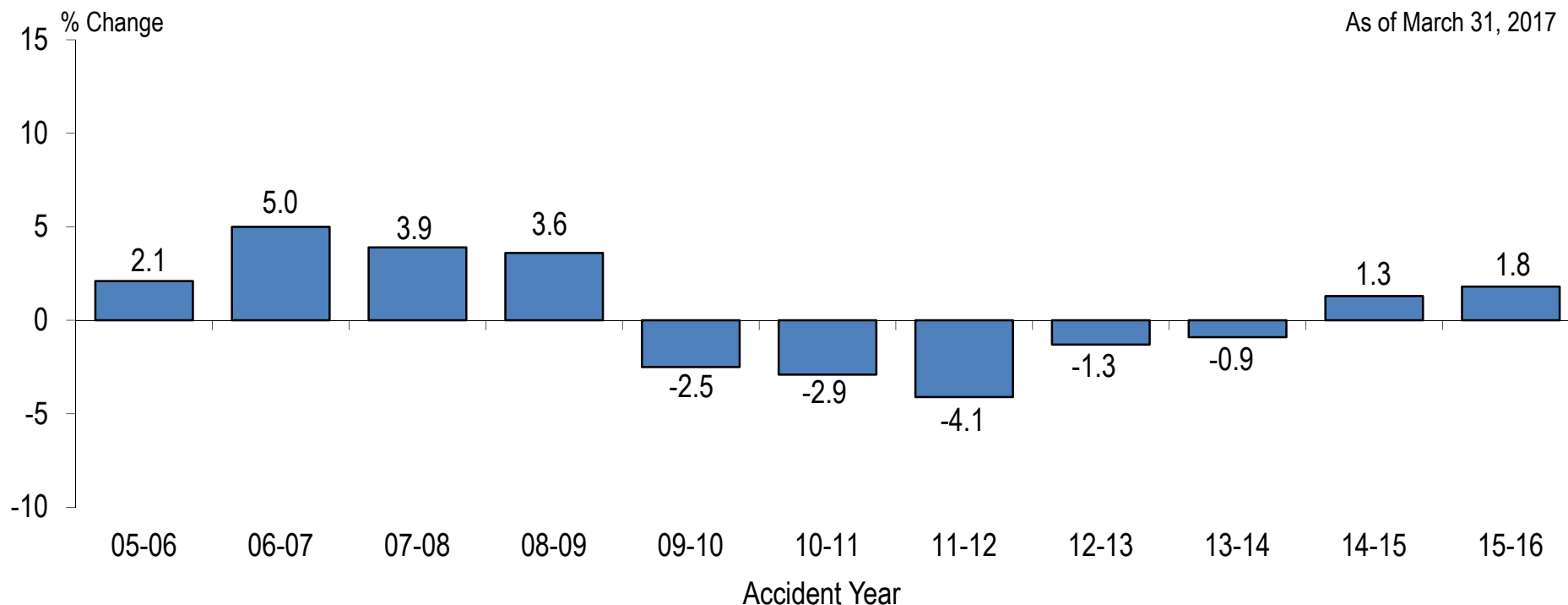
* Based on changes in reported aggregate indemnity claim counts compared to changes in statewide employment. All other estimates based on unit statistical indemnity claims compared to reported insured payroll.

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)



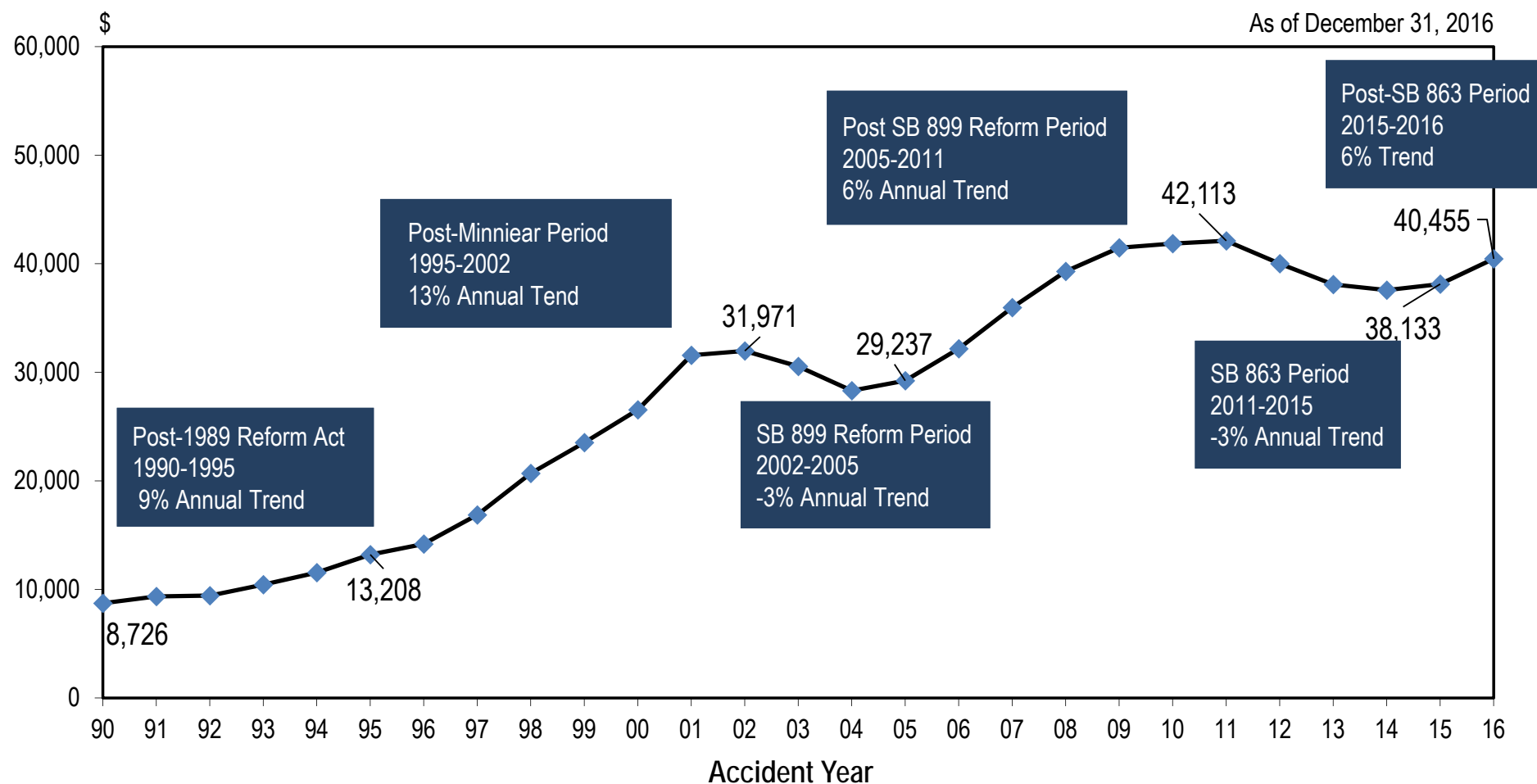
Annual Exponential Trend Based on:

2005 to 2016: -0.1%

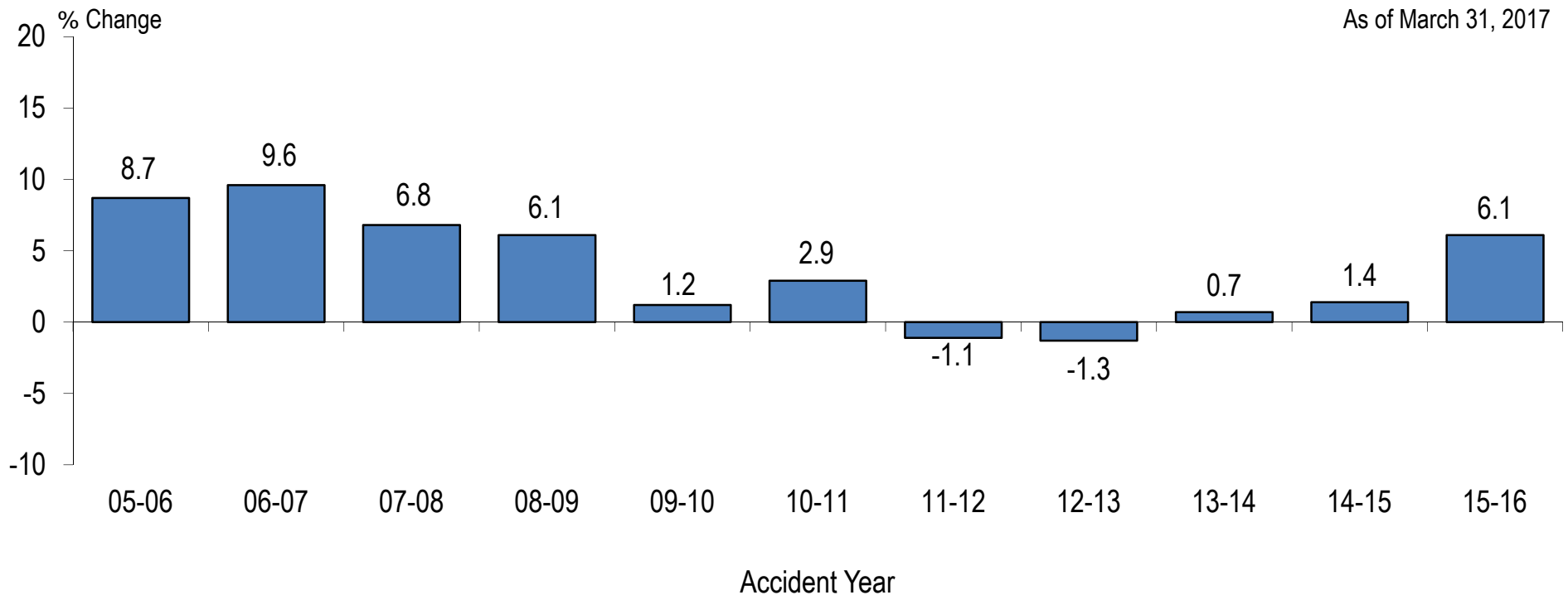
2011 to 2016: -0.6%

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)



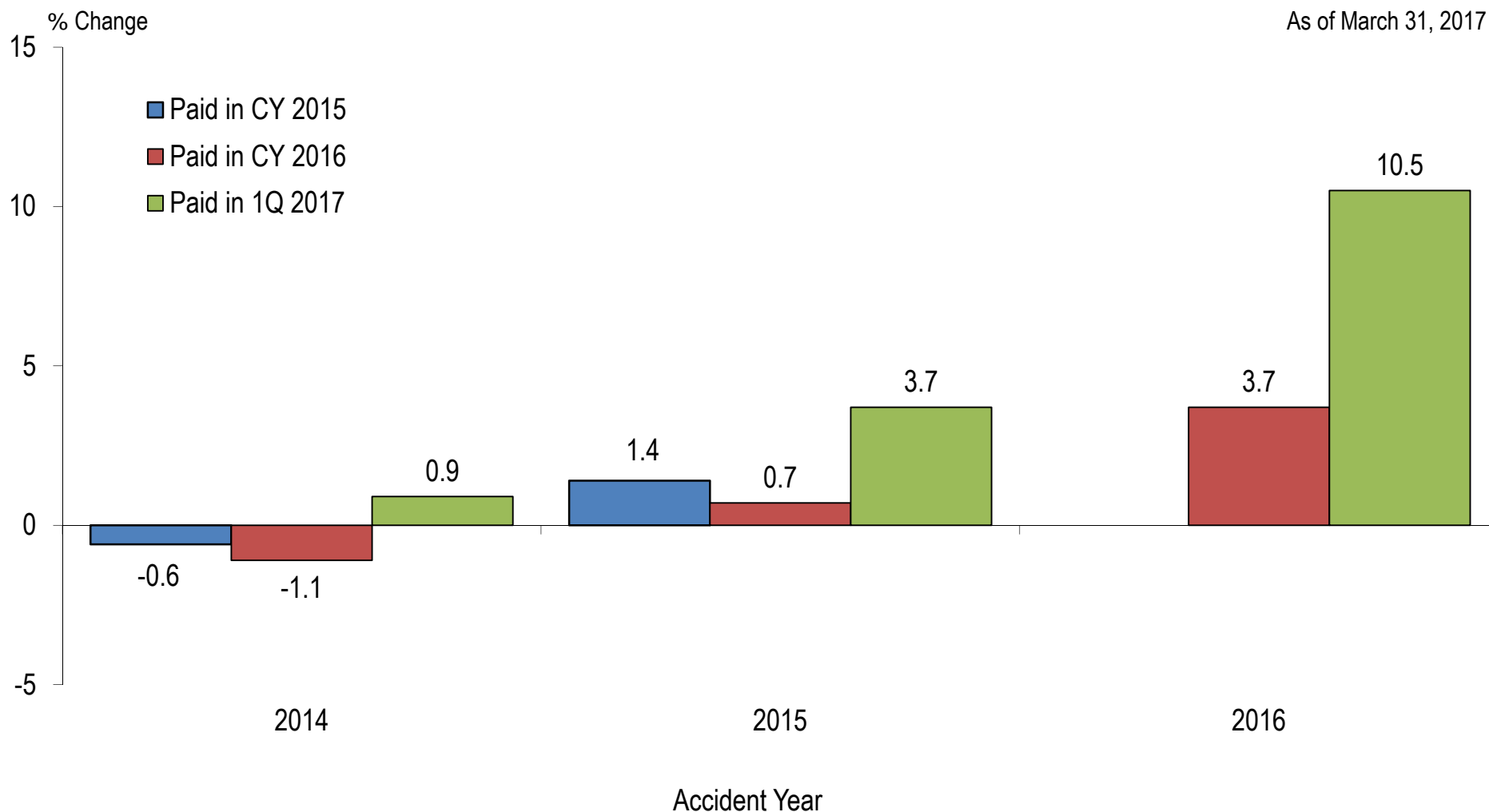
Annual Exponential Trend Based on:

2005 to 2016: +2.9%

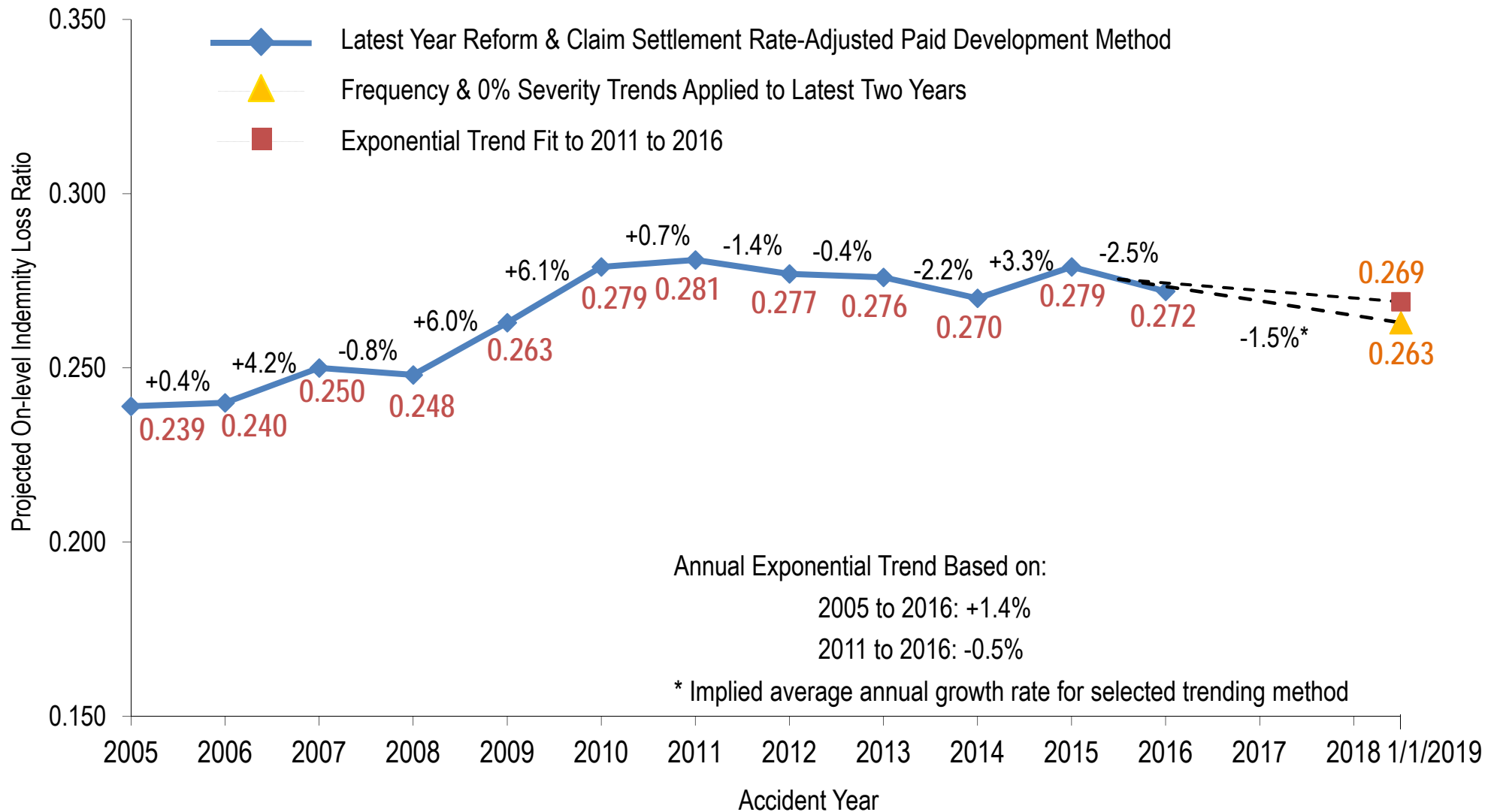
2011 to 2016: +0.9%

Agenda Selected: 2.5%

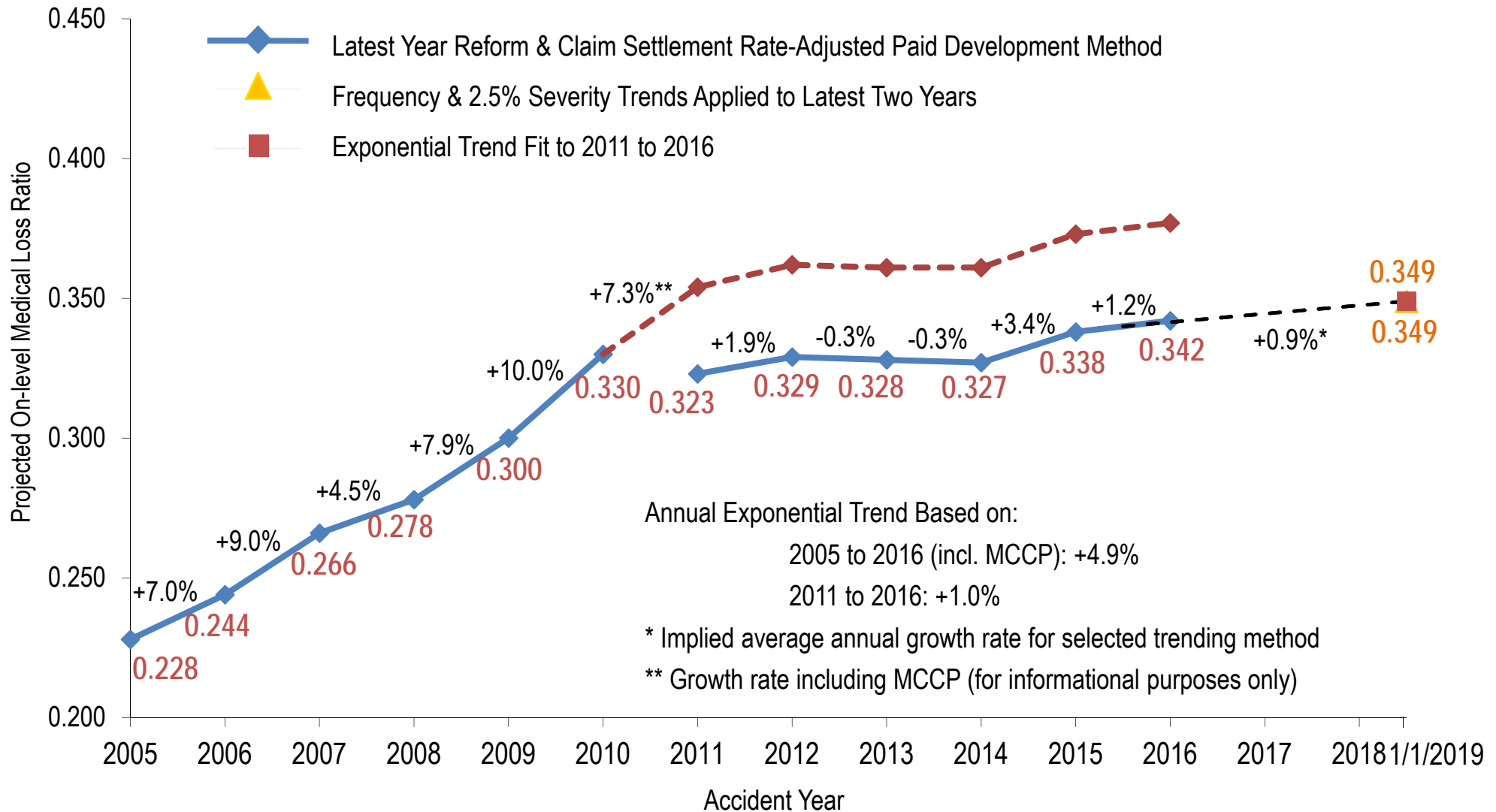
Change in Paid Medical (Including MCCP) to Indemnity Claims Inventory



Indemnity Loss Trend & Projections (Exhibit 7.1)



Medical Loss Trend & Projections (Exhibit 7.3)



1/1/2018 Regulatory Filing – Experience Rating Plan Values

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Projection of Actual to Expected Losses For Policy Year 2018 Experience Rated Risks

	2015	2016	Preliminary 2017
1. Average Modification for Rated Risks	0.948	0.944	0.960
2. Average Credibility for Rated Risks	0.547	0.548	0.585
3. Average Actual to Expected Ratio for Rated Risks (unadjusted) [(1) - 1.0 + (2)] / (2)	0.904	0.899	0.931
Factors Applied to Expected Loss Rates in 2015 Through 2017			
4. Off-Balance Factor in Expected Loss Rates	1.030	1.028	1.026
5. Adjustment to Reflect Insurance Code Section 11751.9 Rerates in Expected Loss Rates	0.992	0.992	0.992
6. Total of All Factors Applied to Expected Loss Rates (4) x (5)	1.022	1.020	1.018
7. Hindsight Correction to Average Expected Losses	1.050	1.070	1.080
8. Adjustment to Reflect January 1, 2017 Change in Primary and Excess Loss Split Point	1.002	1.002	1.000
9. Average Actual to Expected Ratio for Rated Risks (adjusted) (3) x (6) x (7) x (8)	0.972	0.984	1.024
10. Projected Policy Year 2018 Ratio of Actual to Expected Losses for Rated Risks			0.993
11. Projected Policy Year 2018 Average Credibility for Rated Risks			0.548

Draft

Experience Rating Off-Balance Correction Factor Calculation For Policy Year 2018

1. Projected Ratio of Actual to Expected Losses for Rated Risks	0.993
2. Projected Average Credibility for Rated Risks	0.548
3. Ratio of Experience-Rated Premium to Total Premium	0.869
4. Indicated Off-Balance in 2018 Pure Premium Rates $\{1.0 - [(1) \times (2) \times (3)]\} / \{[1.0 - (2)] \times (3) + [1.0 - (3)]\}$	1.006
5. Selected Off-Balance in 2017 Pure Premium Rates	1.026
6. Indicated Change in Off-Balance $(4)/(5)-1.0$	-1.9%

Draft

Factors to Adjust 2018 Indicated Limited Loss to Payroll Ratios to Expected Loss Rate Level All NAICS Sectors Combined

1. Total payroll 2013 and 2014 (in 00s)		\$11,479,102,285			
				Indemnity	Medical
2. Total payroll 2013 and 2014 x indicated limited loss to payroll ratios				\$6,445,613,963	\$7,918,428,113
3. Average indicated limited loss to payroll ratios: (2) ÷ (1)				0.562	0.690
4. Expected loss to payroll ratios for experience rating period					
	Policy Year	1st Report Ratio of Losses to Payroll	Development	Expected Ratio of Losses to Payroll	
Indemnity	2014	0.287	1.728	0.495	
	2015	0.282	1.468	0.415	
	2016	0.279	1.000	0.279	
Medical	2014	0.424	1.391	0.590	
	2015	0.405	1.249	0.506	
	2016	0.402	1.000	0.402	
				Average:	
				0.396	0.499
5. Factors to adjust indicated limited loss to payroll ratios to level of experience rating data: (4) ÷ (3)				0.706	0.724
6. Selected experience rating off-balance				1.006	1.006
7. Factor to reflect loss limitation				0.921	0.878
8. Adjustment for impact of Insurance Code Section 11751.9				0.992	0.992
9. Factors to adjust indicated limited loss to payroll ratios to expected loss rate level: (5) x (6) x (7) x (8)				0.649	0.634

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Number of Classes with ELR Capped by 15% Swing Limitation

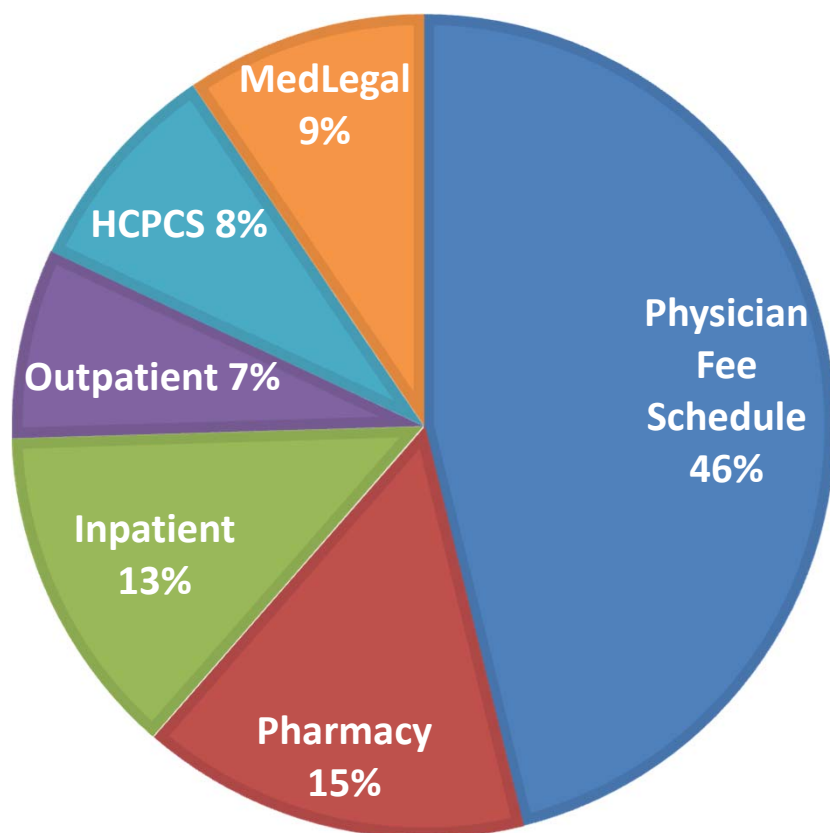
	Number of ELRs Limited at -15%	Number of ELRs Limited at +15%	%age of Total Expected Losses <u>Redistributed</u>
1/1/2014	12	17	0.5%
1/1/2015	15	41	0.4%
1/1/2016	27	56	0.1%
1/1/2017	36	45	0.3%
1/1/2018	35	40	0.3%

Update on Medical Severity Cost Trends

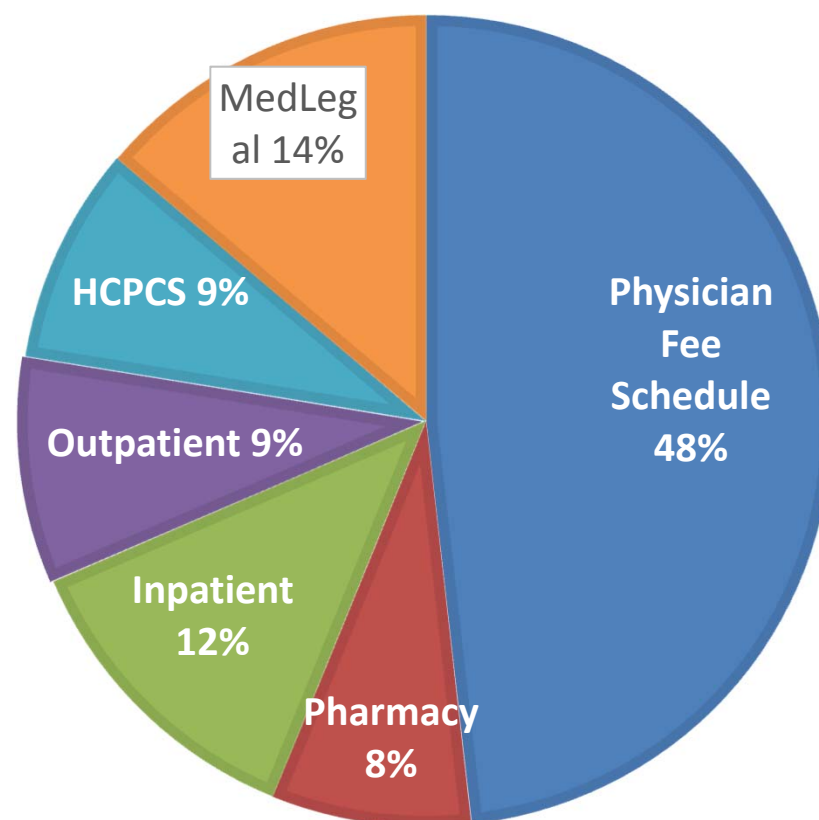
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Total % Medical Paid by Service Type

Service Half **2012H2**



Service Year **2016**



Update on Medical Cost Trends – Payment Data through 12/31/16

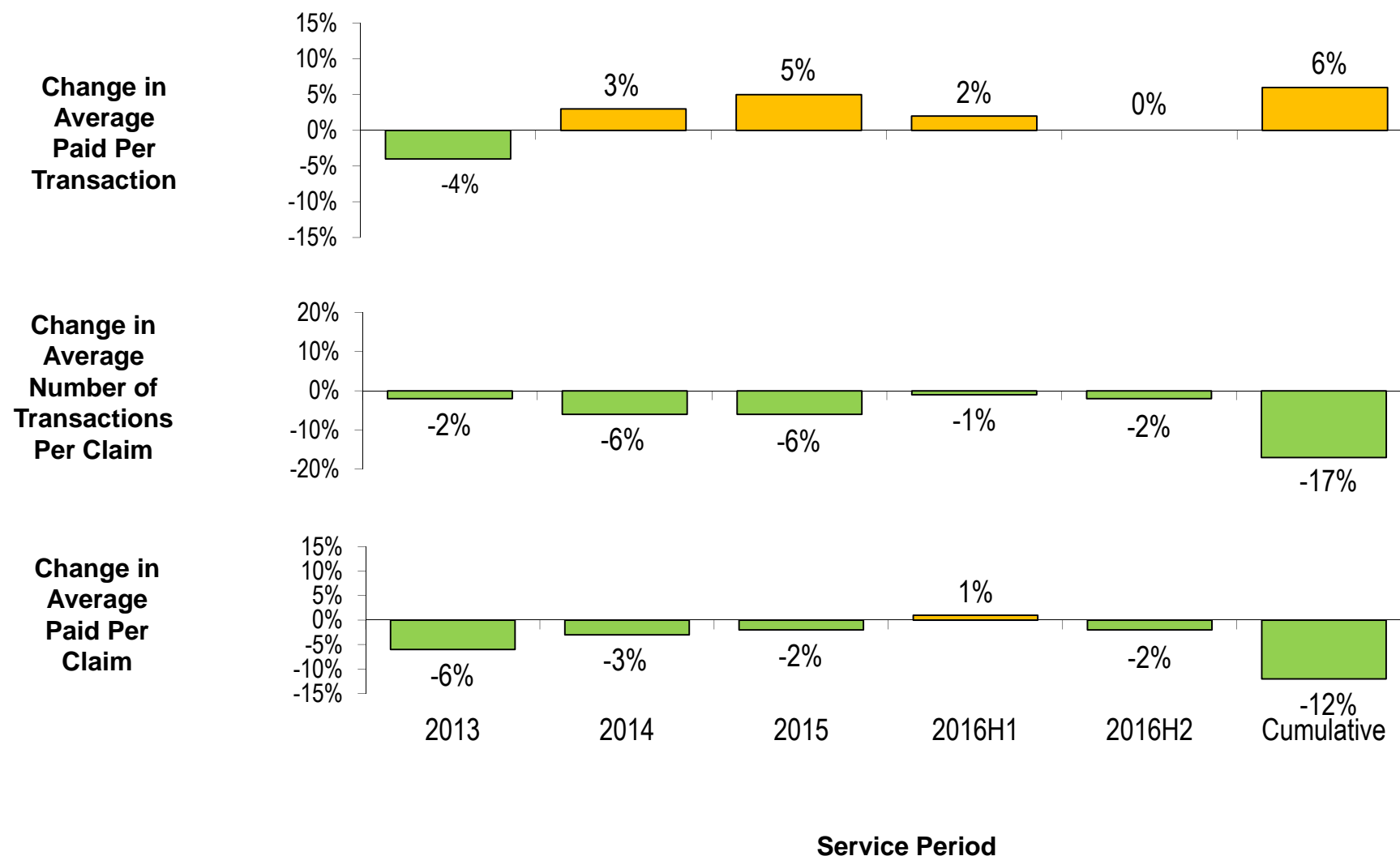
- Payments per claim for all medical services increased 1% in the first half of 2016 then decreased 2% in the second half of 2016
- Pharmacy cost share nearly halved from 15% to 8%
- Medical legal cost share increased from 9% to 14%
- Pharmaceutical payments per claim declined significantly in both halves of 2016: 21% & 26% continuing sharp downward trend
 - MediCal fee changes that incorporated the Average Federal Upper Limit
 - Decreased opioid prescribing
 - Independent medical review
 - Reduced physician prescribing
 - Fewer spinal implant surgeries
 - Fraud indictments
- Payments per claim for physical therapy up significantly
 - Potential substitute for pharmaceuticals
- Reduced inpatient costs with increasing outpatient costs

Assumptions

- Medical Services transaction data with service dates 7/1/12 or later were used to calculate cumulative payments per claim.
- Aggregate claim count was used for the denominator.
- The Insurer mix includes insurers active the entire time from 2012H2 to 2016H2.
- HCPCS* codes include ambulance services, DMEPOS (Durable Medical Equipment, prosthetics, orthotics, and supplies used outside a physician's office), Home health services, interpreter services.
- Pathology and Laboratory testing were included with the Physician Fee Schedule.
- Paradigm-assigned bills (PM1CA) and Paid Procedure Code 99199 paid to Paradigm's Provider ID were removed.
- Medical Lien costs are not included.

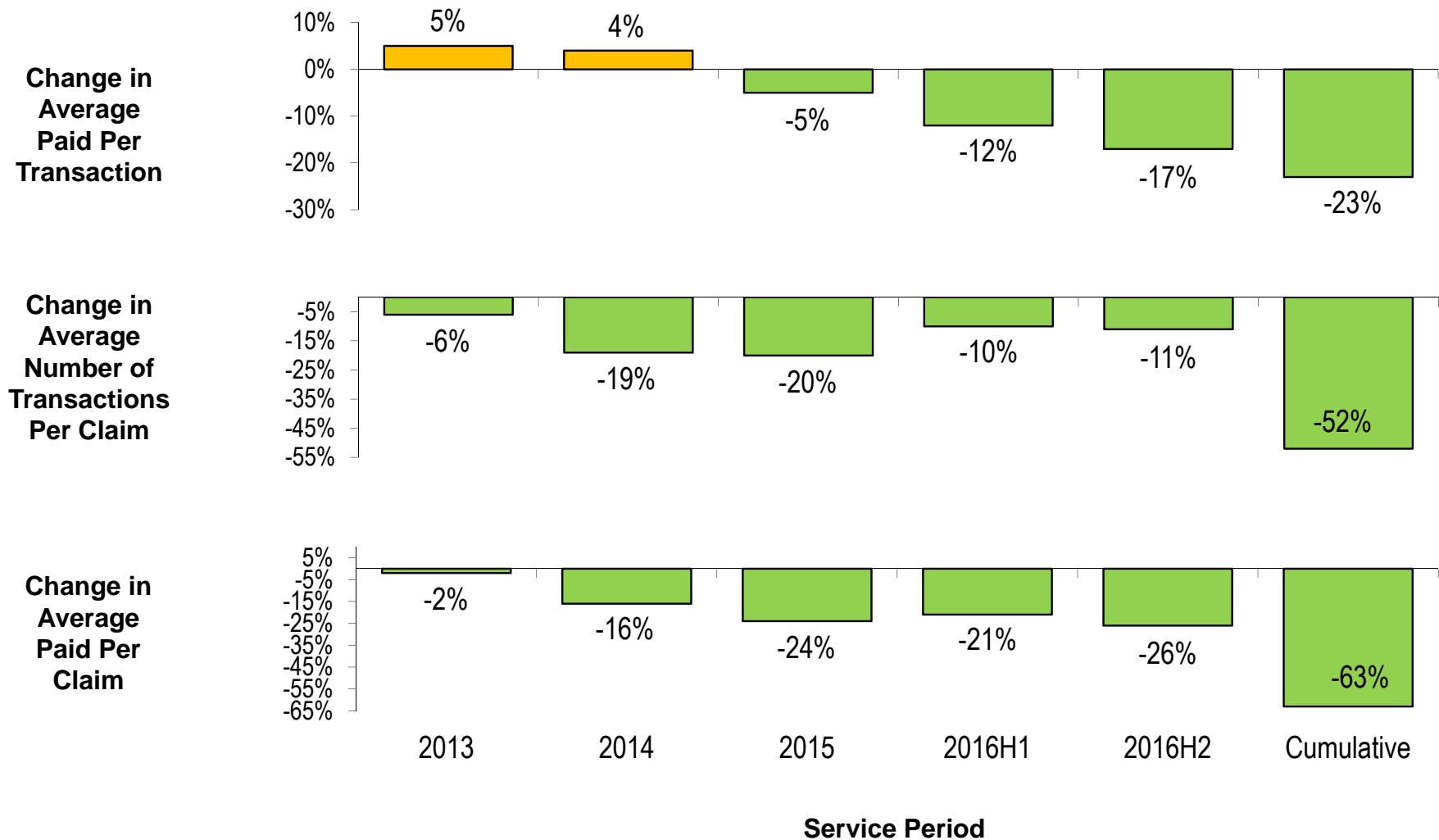
* Health Care Procedure Coding System

% Change in *Total Medical Services Costs Per Claim*



Source: WCIRB medical transaction data collected beginning in the third quarter of 2012.

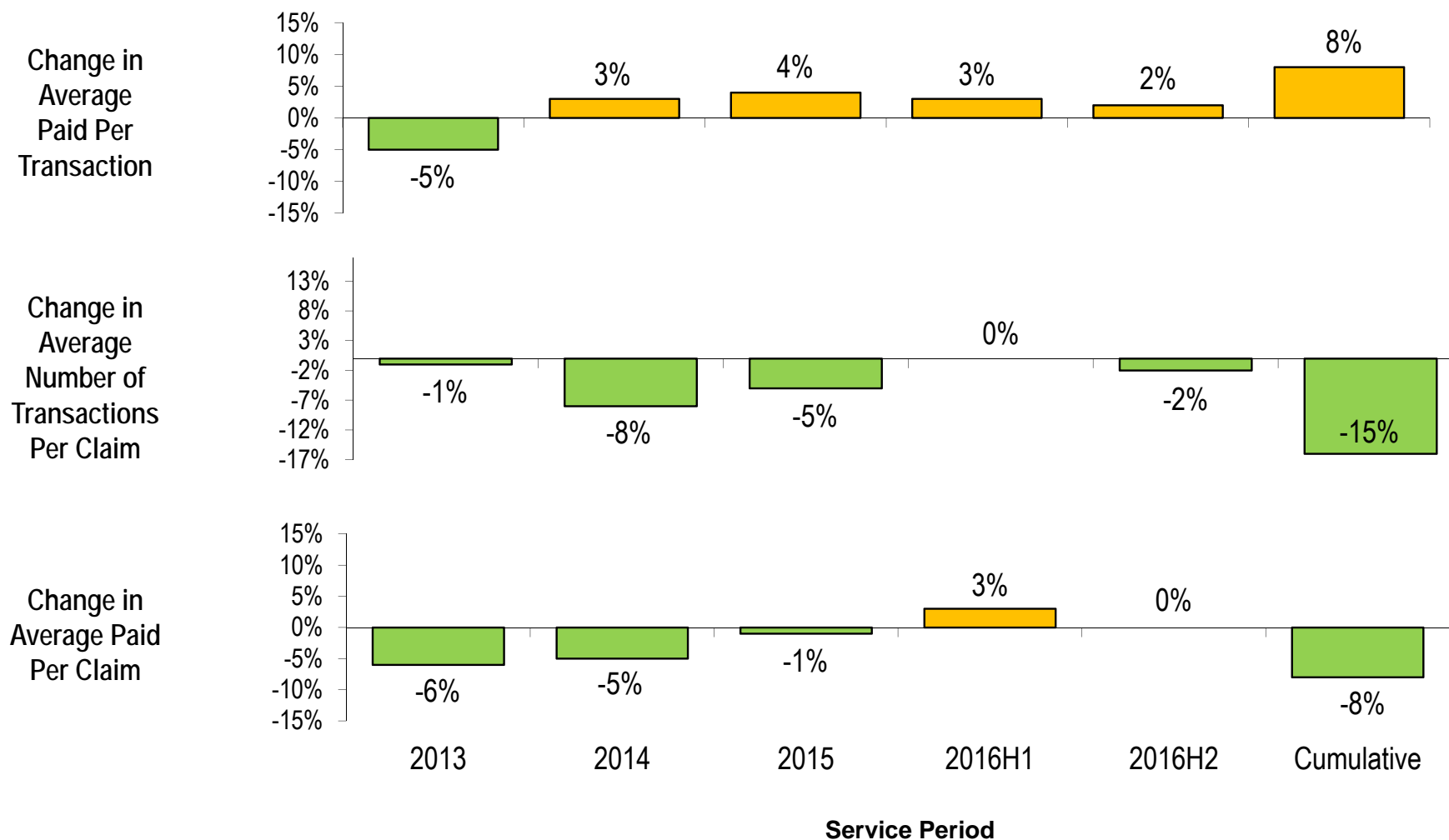
% Change in *Pharmaceutical* Per Claim (8% of Medical Paid in 2016)



Downward cost impacts from the CA MediCal Fee methodology change (Federal Upper limit/AWP), reduced physician prescribing (including opioids) and increased PBM transactions, and impacts from IMR and fraud indictments.

Source: WCIRB medical transaction data collected beginning in the third quarter of 2012.

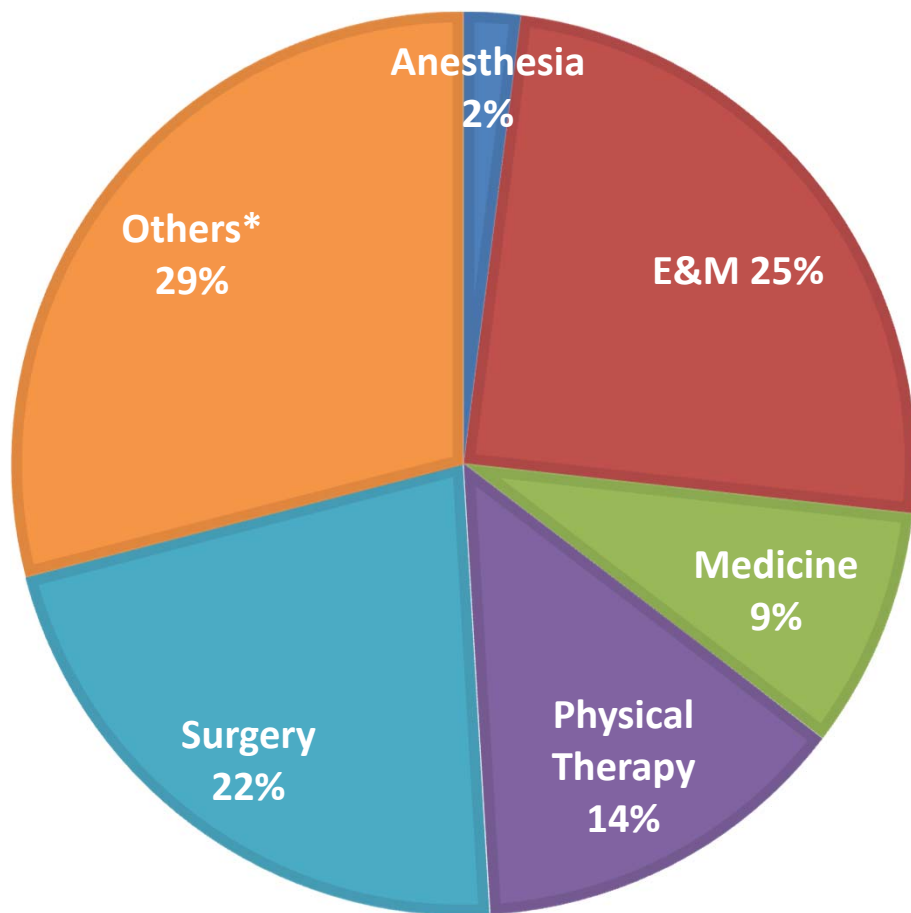
% Change in *Physician Fee Schedule* Per Claim (48% of Medical Paid in 2016)



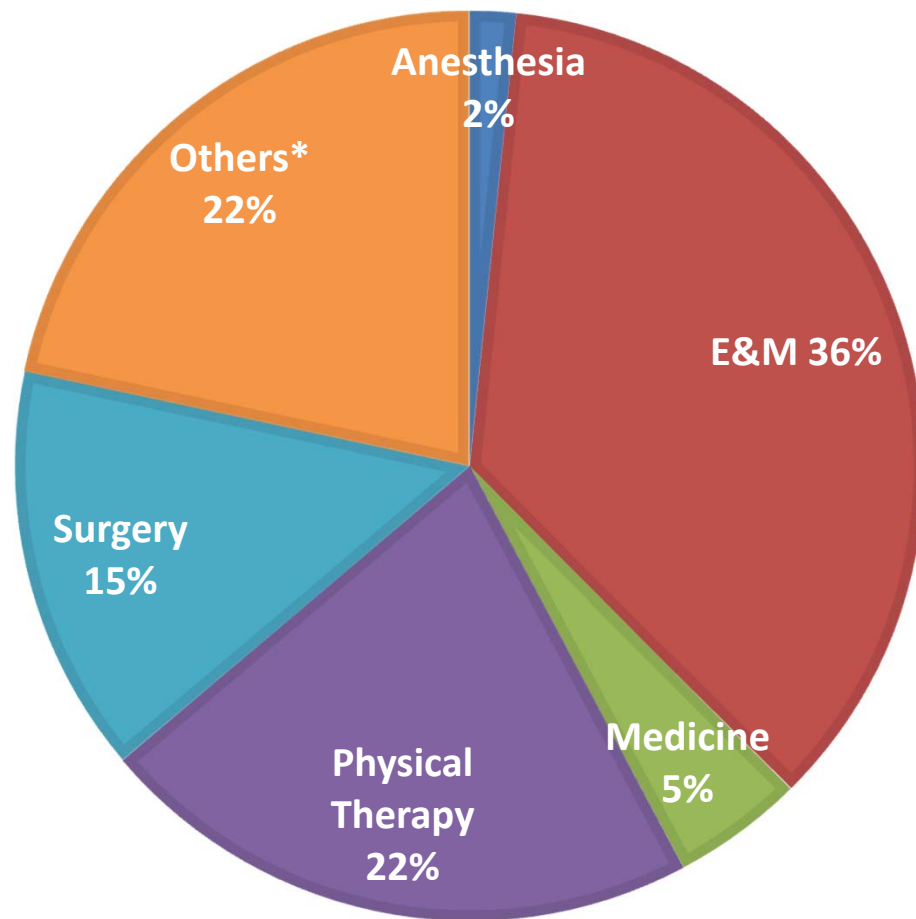
Source: WCIRB medical transaction data collected beginning in the third quarter of 2012.

% Change in Physician Fee Schedule Changes

Service half **2012H2**

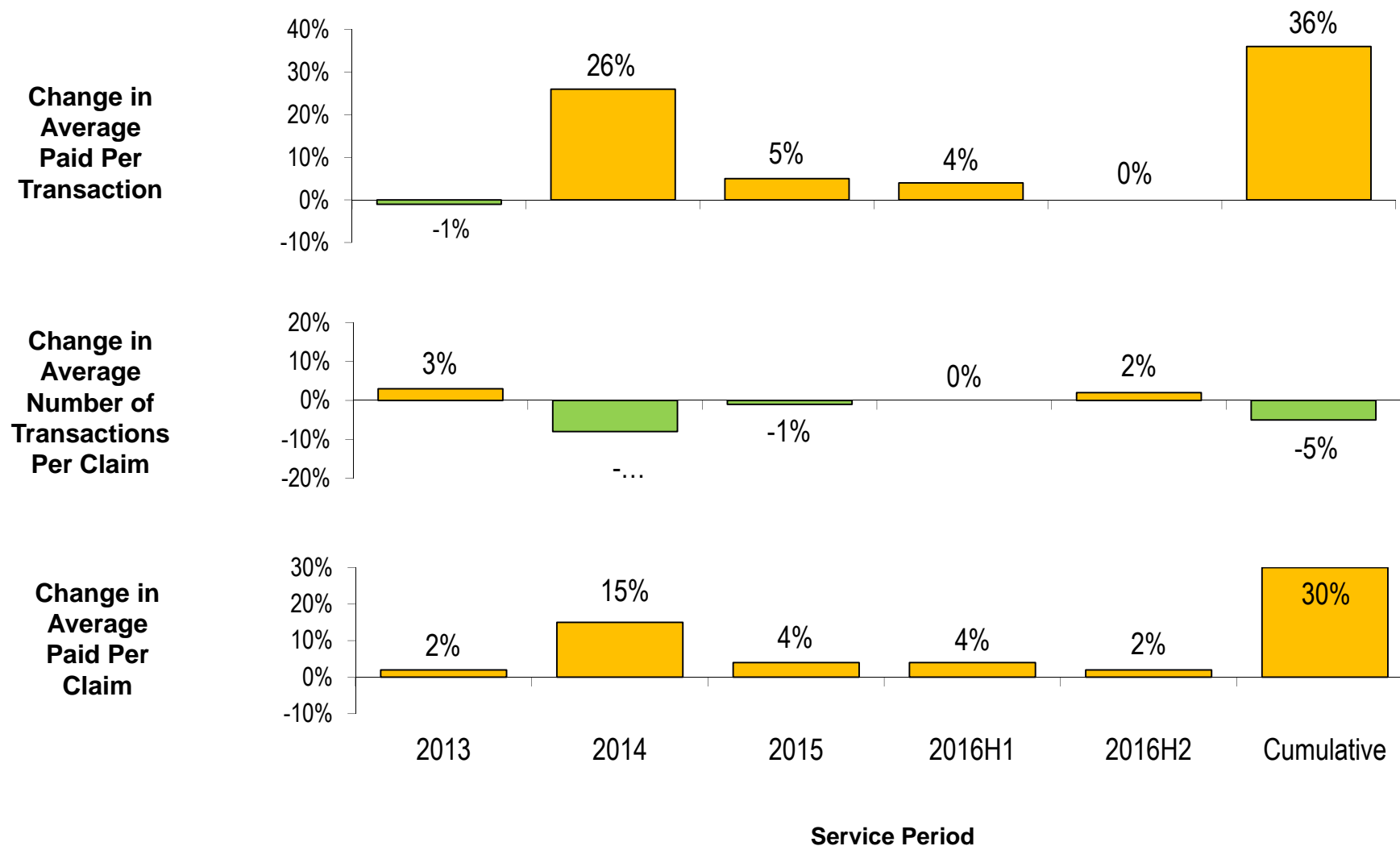


Service Year **2016**



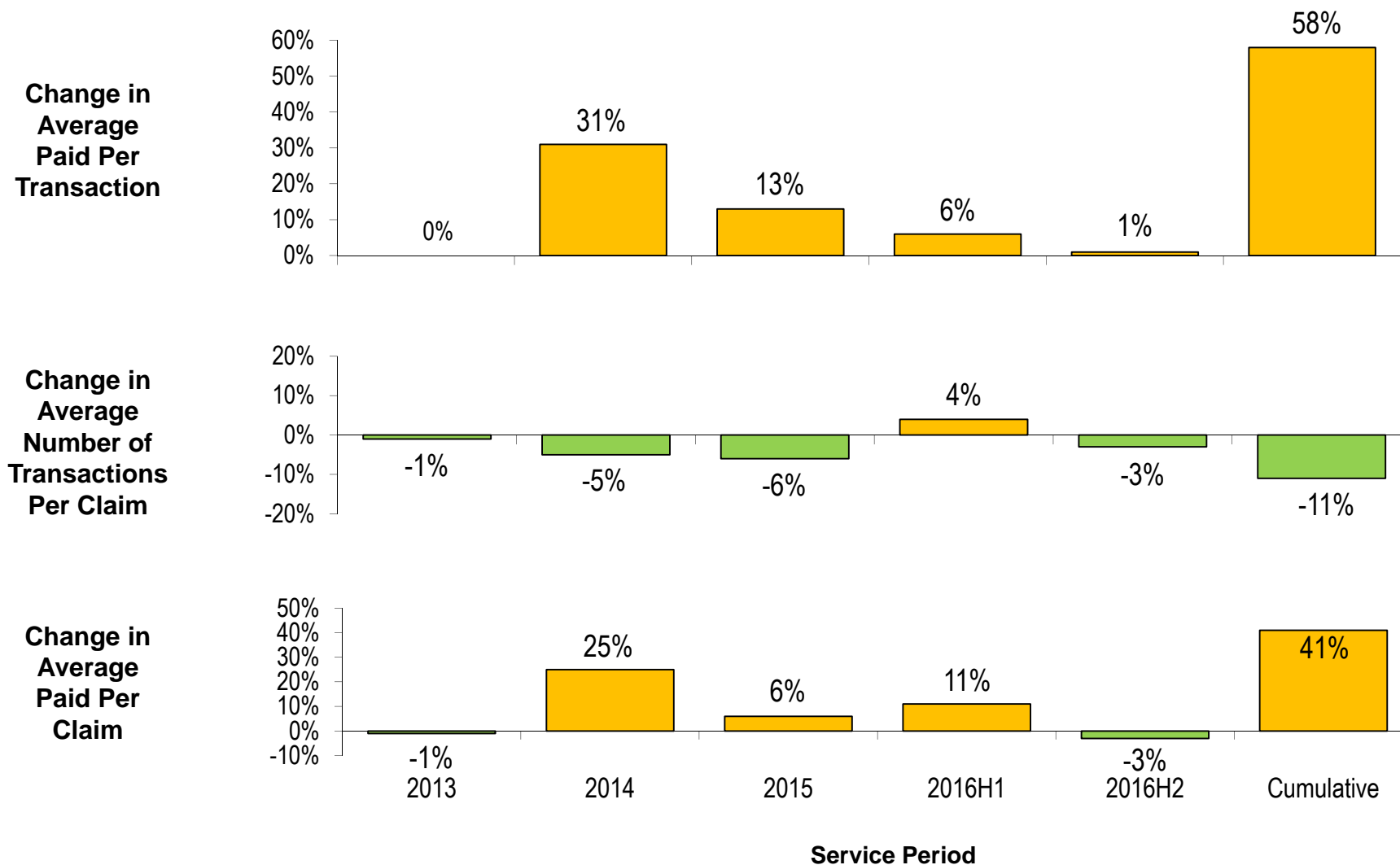
* 'Others' category include Acupuncture, Radiology, Path & Lab, Special Services & Reports, Chiropractic, Copy Services and Unclassifiable

% Change in *Evaluation & Management* Costs Per Claim (36% of Physician Fee Schedule)



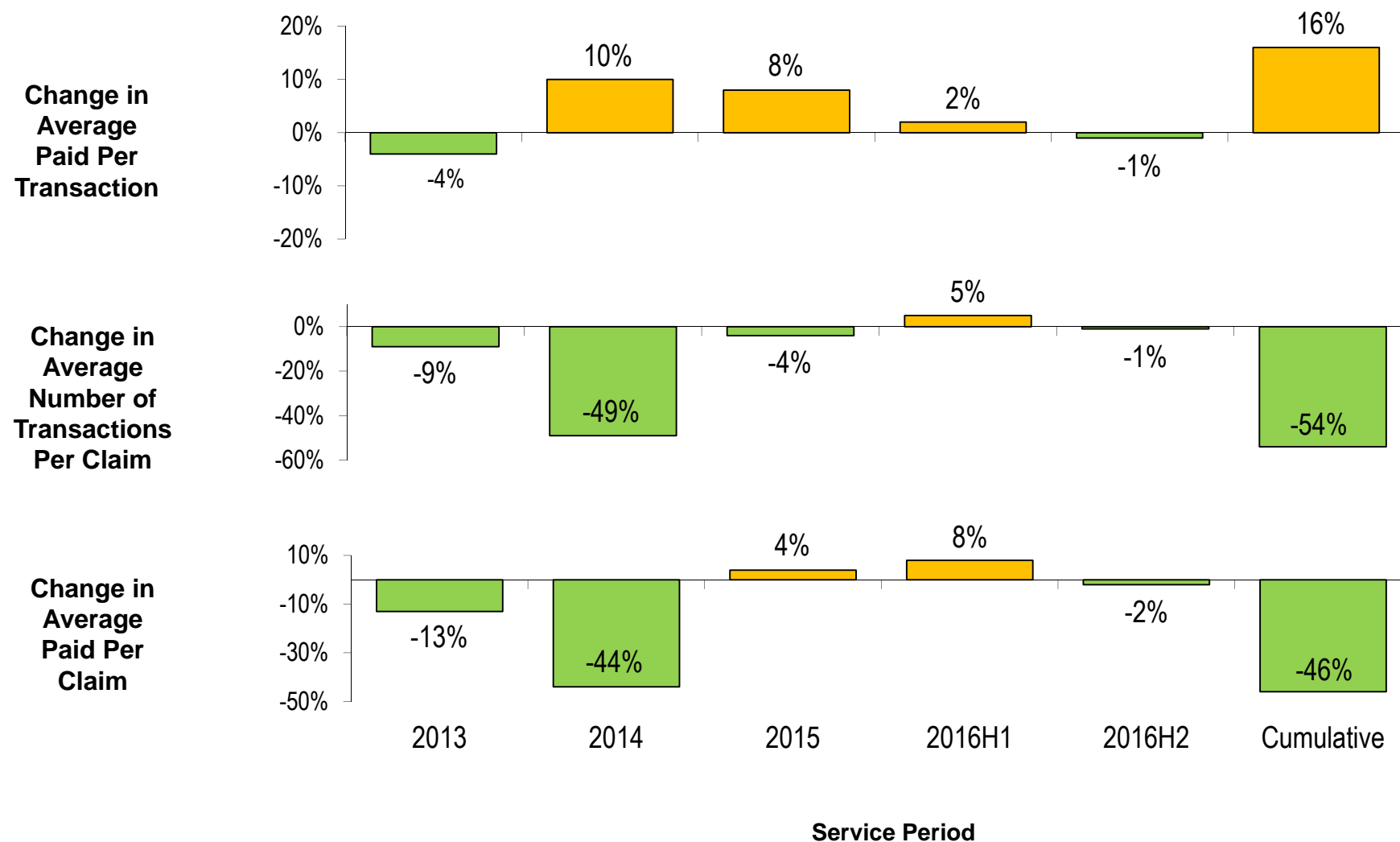
Source: WCIRB medical transaction data collected beginning in the third quarter of 2012.

% Change in *Physical Therapy* Costs Per Claim (22% of Physician Fee Schedule)



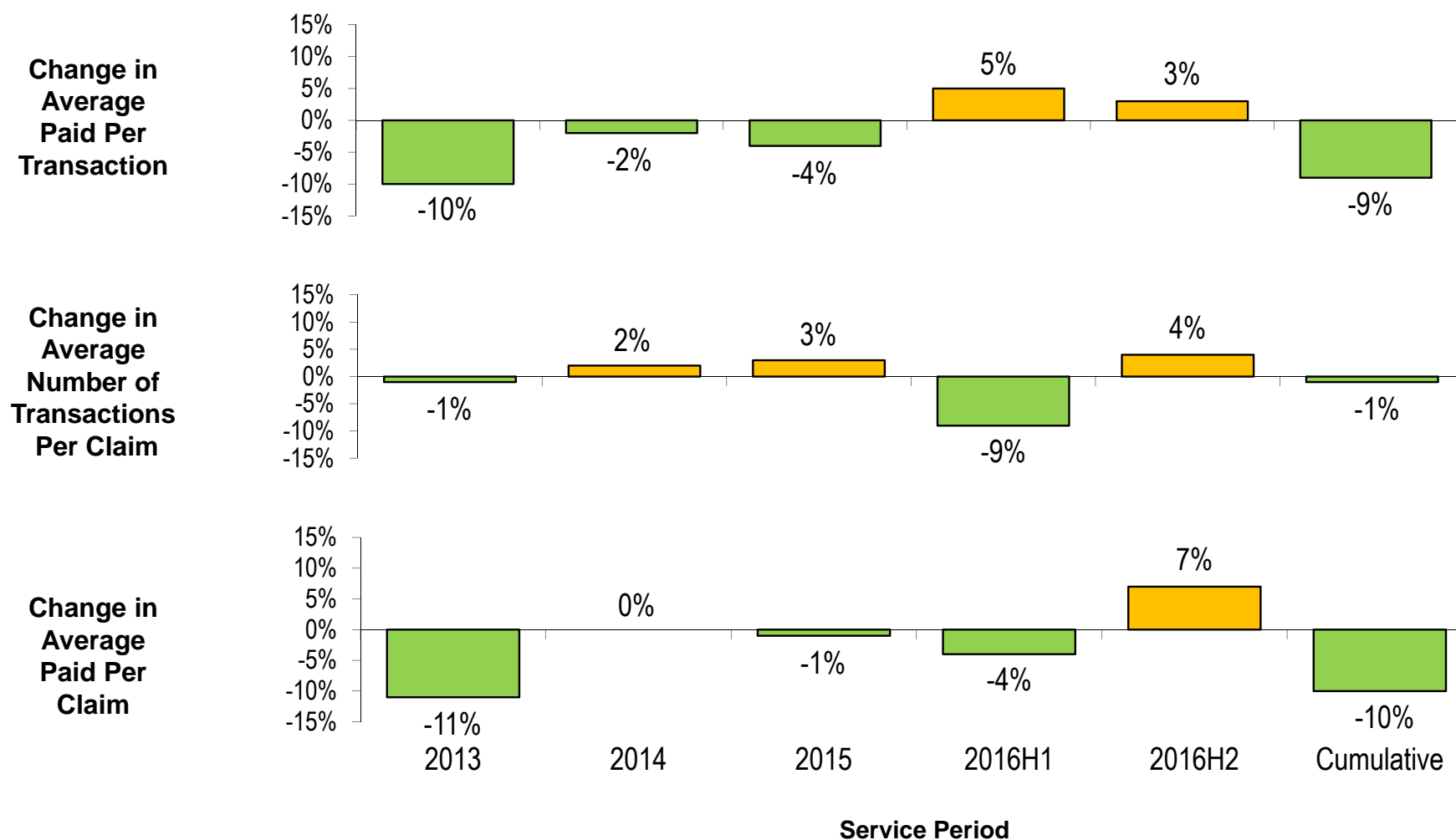
Source: WCIRB medical transaction data collected beginning in the third quarter of 2012.

% Change in *Medicine* Costs Per Claim (5% of Physician Fee Schedule)



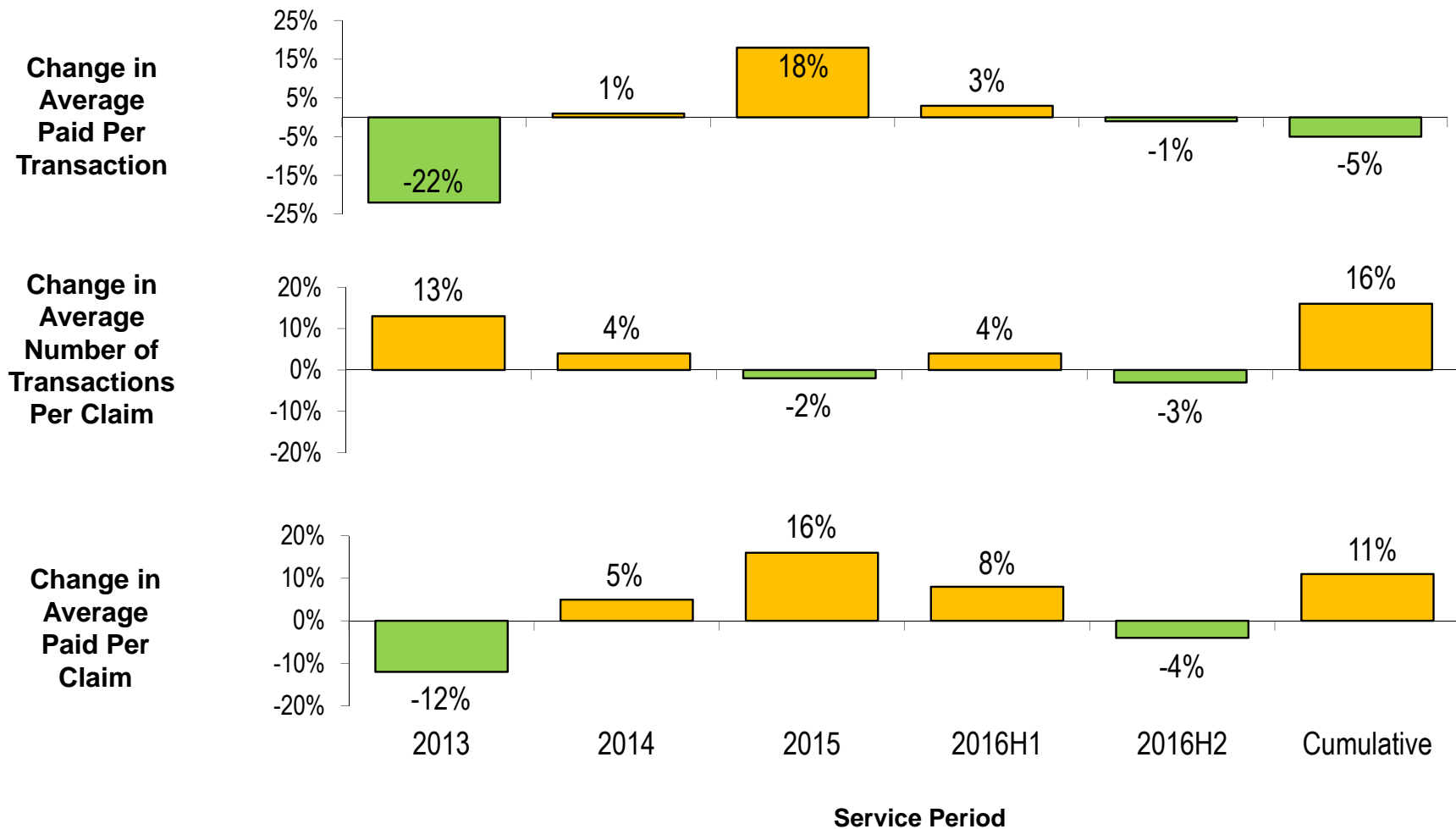
Source: WCIRB medical transaction data collected beginning in the third quarter of 2012.

% Change in *Inpatient Facility* Per Claim (12% of Medical Paid in 2016)



Source: WCIRB medical transaction data collected beginning in the third quarter of 2012.

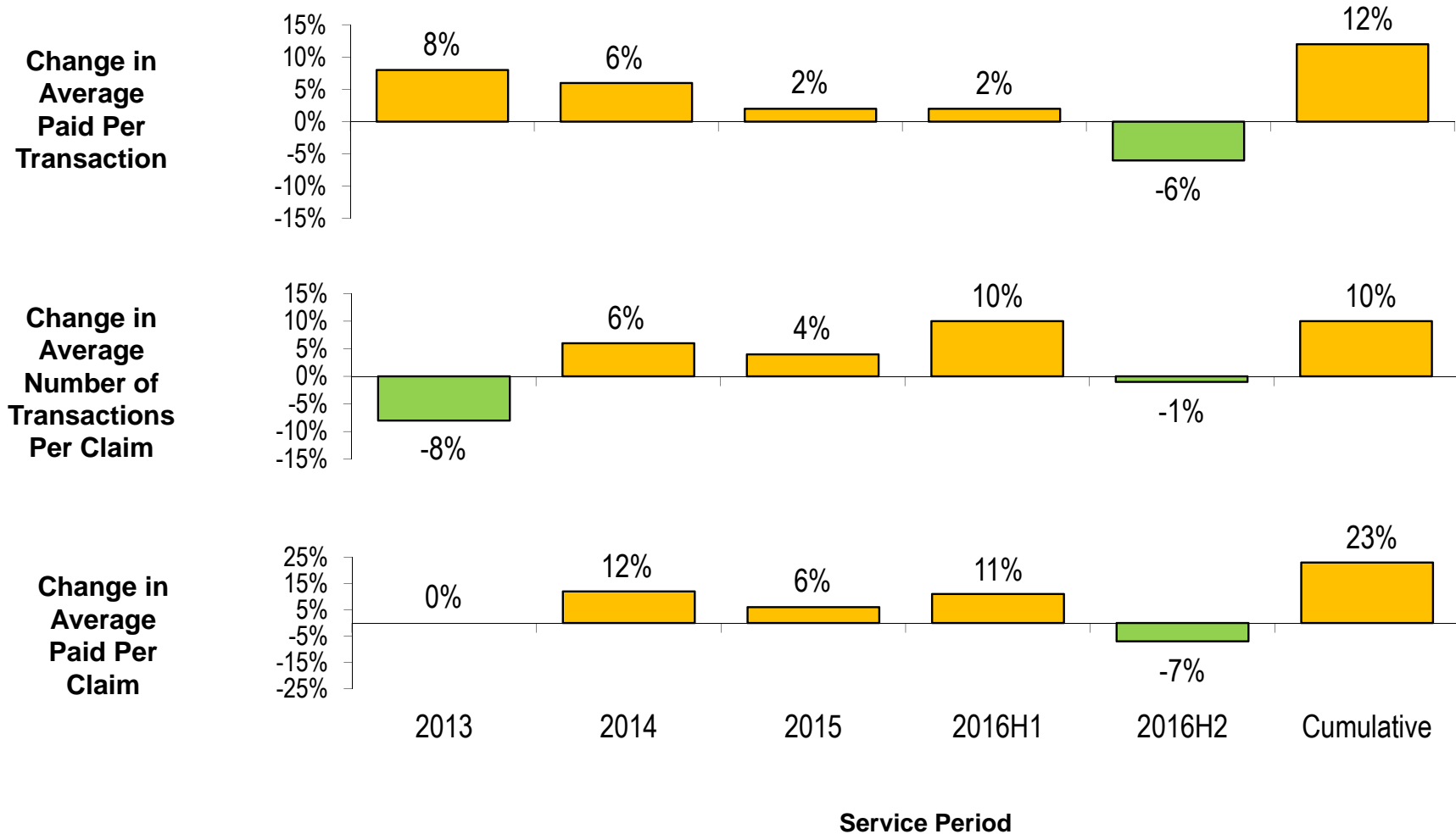
% Change in *Outpatient Facility* Per Claim (9% of Medical Paid in 2016)



Medicare's upward adjustments in ASC rates may have continued to drive increases for these payments through the first half of 2016.

Source: WCIRB medical transaction data collected beginning in the third quarter of 2012.

% Change in *Medical Legal* Per Claim (14% of Medical Paid in 2016)



While medical legal costs and utilization decreased during 2H2016 overall this schedule has had increased costs and utilization since 2012.

Source: WCIRB medical transaction data collected beginning in the third quarter of 2012.