



2017 STATE OF THE LINE GUIDE

Maximizing Your State of the Line Experience





2017 STATE OF THE LINE GUIDE—INTRODUCTION

NCCI's annual **State of the Line** presentation provides an exclusive review of trends, cost drivers, and significant developments shaping the workers compensation industry. This Guide provides a slide-by-slide examination of the key takeaways, data sources, and formulas underlying the **State of the Line** presentation.

As you review the information contained in this Guide, it may be useful to keep in mind the following market indicators and trends that were highlighted in NCCI's 2017 **State of the Line** presentation:

- The workers compensation 2016 calendar year combined ratio for private carriers was 94%, primarily driven by continued improvement in the loss ratio.
- The overall reserve position for private carriers improved in 2016. NCCI estimates the year-end 2016 reserve position to be a \$5 billion deficiency—down from \$7 billion in 2015.
- Average lost-time claim frequency across NCCI states declined by 4% in 2016, on a preliminary basis.
- In NCCI states, the preliminary 2016 accident year average indemnity cost per lost-time claim increased by 3% relative to the corresponding 2015 value. For medical, the preliminary average cost per lost-time claim increased by 5% relative to that observed in 2015.
- The workers compensation Residual Market Pool premium volume remained flat between 2015 and 2016, and the average residual market share remained stable at 8%.

We hope you find the **2017 State of the Line Guide** both a beneficial and informative resource.

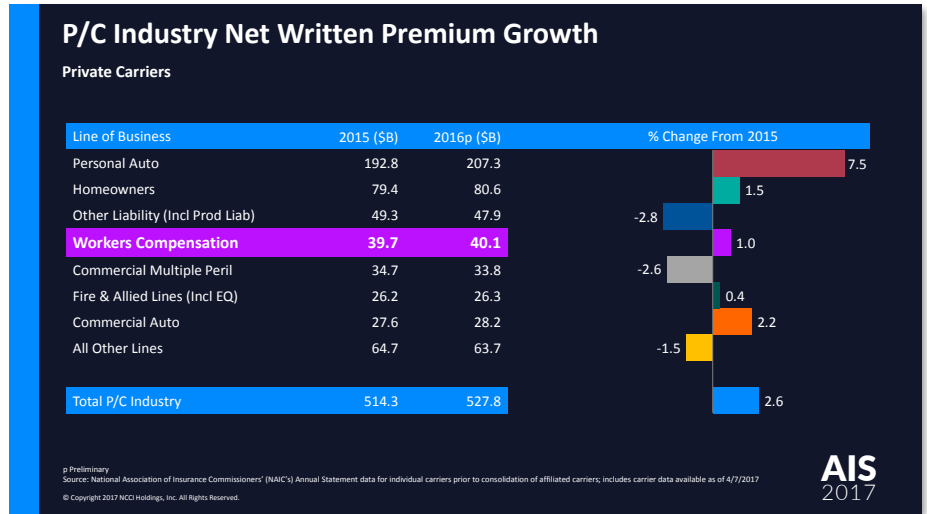
P/C INDUSTRY NET WRITTEN PREMIUM GROWTH—SLIDE 3

Background

The net written premium in this slide provides a measure of the size of each major line of business in the property/casualty (P/C) insurance industry.

Key Takeaways

- Total P/C net written premium for private carriers increased by 2.6% to almost \$530 billion in 2016.
- Premium volume in both the personal and commercial auto lines of business increased in 2016. This was due, in part, to the prices paid for auto insurance having increased at a faster pace than the overall CPI and a continuing increase in the number of drivers on the road.
- Other liability and commercial multiple peril were the only major lines that saw decreases in net written premium in 2016.



Data Sources

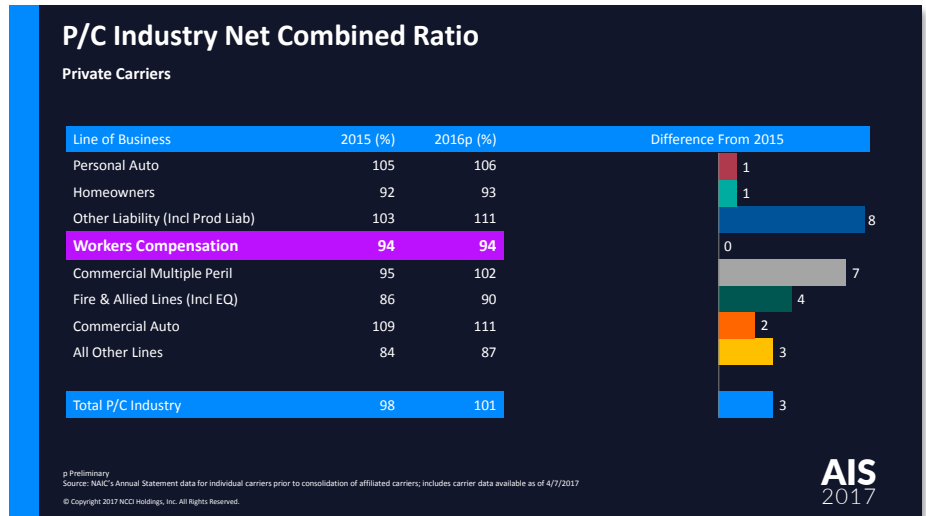
- National Association of Insurance Commissioners' (NAIC's) Annual Statement data for individual carriers prior to consolidation of affiliated carriers, including all data available as of 4/7/2017
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

P/C INDUSTRY NET COMBINED RATIO—SLIDE 4

Background

The calendar year [combined ratios](#) in this slide measure the overall performance of each line of business and the P/C industry as a whole, prior to the consideration of investment and other income. A combined ratio is the sum of the [loss ratio](#), the [loss adjustment expense \(LAE\) ratio](#), the [dividend ratio](#), and the [underwriting expense ratio](#). The loss, LAE, and dividend ratios are calculated as ratios to earned premium. The underwriting expense ratio is calculated as a ratio to written premium to provide a better match of the timing of the numerator and denominator.



Key Takeaways

- The total P/C industry’s 2016 combined ratio (101%) represents a three-point increase versus that for 2015
- Combined ratios increased in all lines of business except workers compensation

Data Sources

- NAIC’s Annual Statement data for individual carriers prior to consolidation of affiliated carriers, including all data available as of 4/7/2017
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

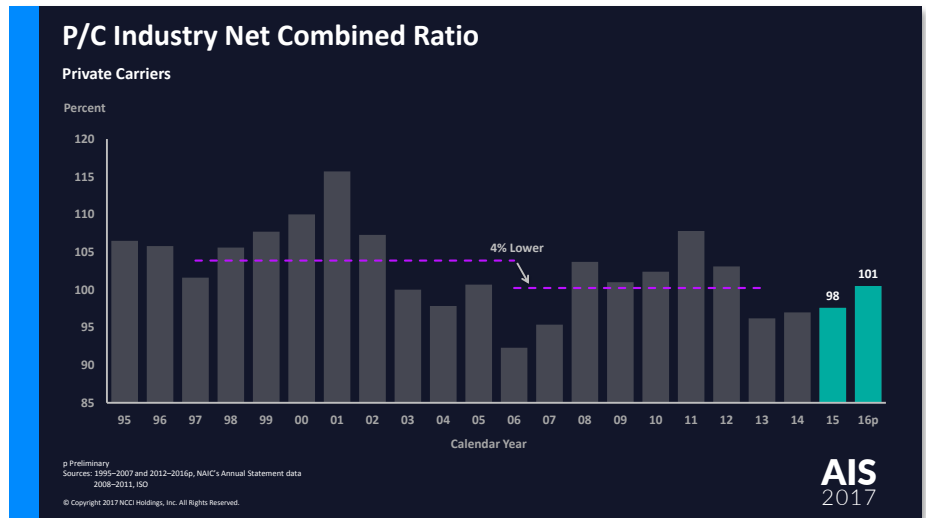
P/C INDUSTRY NET COMBINED RATIO—SLIDE 5

Background

This slide displays a longer history of the combined ratios for the total P/C industry. See [Slide 4](#) for more background.

Key Takeaways

- The most recent underwriting cycle was two years shorter and four points milder, on average, than the prior cycle
- The 2016 combined ratio is in line with the average combined ratio from the most recent underwriting cycle



Data Sources

- NAIC’s Annual Statement data: 1995–2007 and 2012–2016p
- ISO: 2008–2011

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

Data

Combined ratios in the following table are shown in percentages.

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
107	106	102	106	108	110	116	107	100	98	101	92	95	104	101

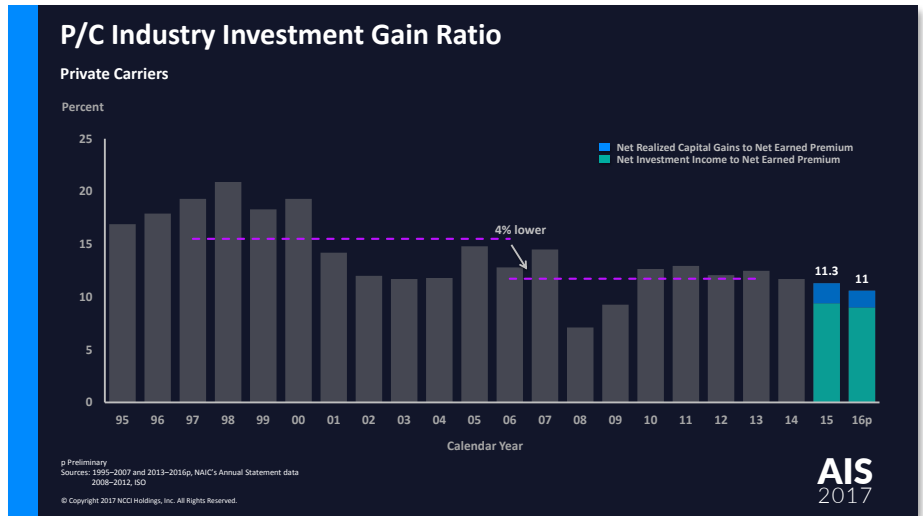
2010	2011	2012	2013	2014	2015	2016p
102	108	103	96	97	98	101

P/C INDUSTRY INVESTMENT GAIN RATIO—SLIDE 6

Background

The [investment gain ratio](#) includes both realized capital gains and net investment income.

The investment gain ratio measures the investment performance of the P/C industry by comparing investment income to earned premium, the primary source of investment funds for insurance carriers.



Key Takeaways

- The total P/C industry’s investment gain ratio has declined each year since 2013
- The average investment gain ratio declined about 4% between the most recent two full underwriting cycles

Data Sources

- NAIC’s Annual Statement data, Statement of Income: 1995–2007 and 2013–2016p
- ISO: 2008–2012

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

Data

Values in the following table are shown in percentages.

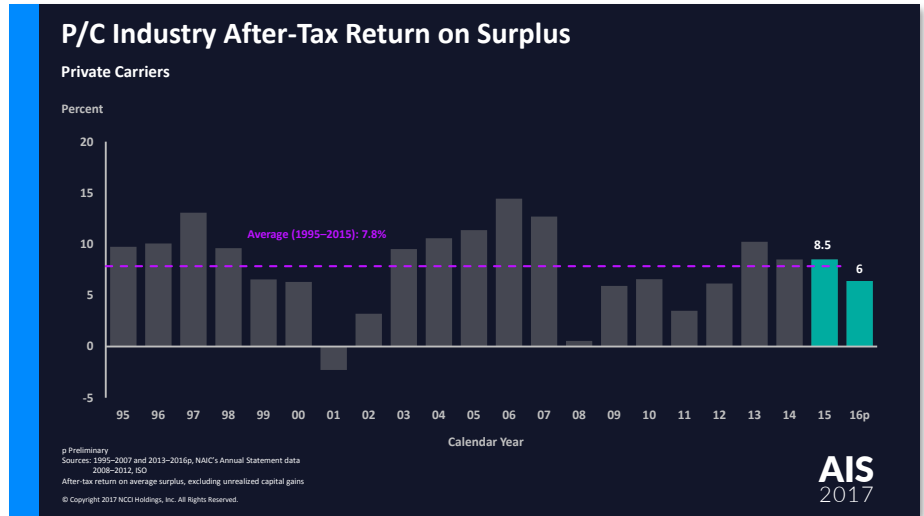
Year	1995	1996	1997	1998	1999	2000	2001	2002
Net Realized Capital Gains to Net Earned Premium	2.4	3.5	4.0	6.5	4.6	5.5	2.1	0.8
Net Investment Income to Net Earned Premium	14.5	14.4	15.3	14.4	13.7	13.8	12.1	11.2
Investment Gain Ratio	16.9	17.9	19.3	20.9	18.3	19.3	14.2	12.0

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
1.5	2.2	2.9	0.8	2.0	-4.6	-1.9	1.4	1.6	1.4	2.3	2.3	1.9	2
10.2	9.6	11.9	12.0	12.5	11.7	11.1	11.3	11.3	10.7	10.1	9.4	9.4	9
11.7	11.8	14.8	12.8	14.5	7.1	9.3	12.7	12.9	12.1	12.5	11.7	11.3	11

P/C INDUSTRY AFTER-TAX RETURN ON SURPLUS—SLIDE 7

Background

The [after-tax return on surplus](#) compares net income generated from all sources to [policyholder surplus](#). Since surplus varies throughout the year as income is earned, the return is calculated as the ratio of net income to the average of the surplus at the beginning of the year and end of the year. The return on surplus tends to follow the ebb and flow of the underwriting cycle.



Key Takeaways

- The after-tax return on surplus dropped to 6% in 2016, down from the previous year’s 8.5%
- To a large extent, this decline was driven by the industry’s shift from an underwriting gain in 2015 to an underwriting loss in 2016

Data Sources

- NAIC’s Annual Statement data, Statement of Income: 1995–2007 and 2013–2016p
- ISO: 2008–2012

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

Data

After-tax return on surplus values in the following table are shown in percentages.

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
9.7	10.1	13.1	9.6	6.6	6.3	-2.3	3.2	9.5	10.6	11.4	14.4	12.7	0.6	5.9

2010	2011	2012	2013	2014	2015	2016p
6.6	3.5	6.1	10.2	8.5	8.5	6

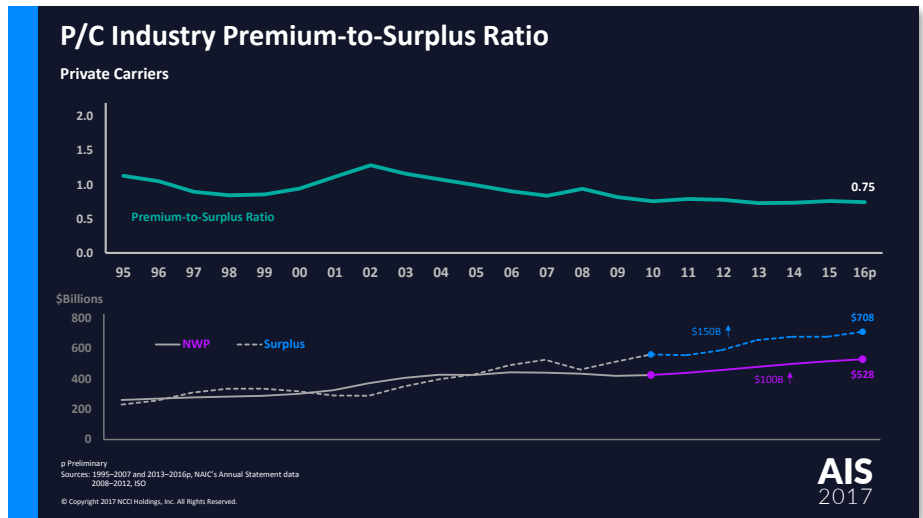
P/C INDUSTRY PREMIUM-TO-SURPLUS RATIO—SLIDE 8

Background

The [premium-to-surplus ratio](#) is one measure that can be used to help determine whether there is sufficient policyholder surplus to support the P/C insurance industry’s writings.

Key Takeaways

- The premium-to-surplus ratio decreased slightly between 2015 and 2016
- While net written premium (NWP) and surplus both increased in 2016, the growth in surplus exceeded the growth in premium



Data Sources

- NAIC’s Annual Statement data: 1995–2007 and 2013–2016p
- ISO: 2008–2012

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

Data

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003
Surplus (\$ Billions)	230	256	309	333	334	318	290	288	349
Net Written Premium (\$ Billions)	260	269	277	282	287	300	324	370	405
Premium-to-Surplus Ratio	1.13	1.05	0.90	0.84	0.86	0.94	1.12	1.29	1.16

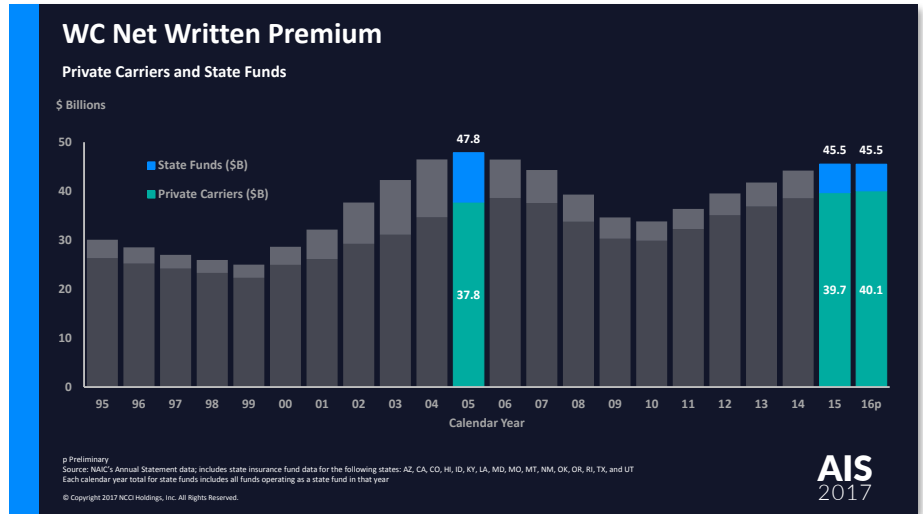
2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
396	428	489	524	460	511	559	554	587	653	675	675	708
426	425	442	439	432	418	424	438	457	477	497	514	528
1.08	0.99	0.90	0.84	0.94	0.82	0.76	0.79	0.78	0.73	0.74	0.76	0.75

WC NET WRITTEN PREMIUM—SLIDE 10

Background

This slide exhibits workers compensation (WC) net written premium by year, separately for private carriers and state funds.

In the context of the **State of the Line** presentation, NCCI’s definition of state funds includes only those carriers that are both exempt from paying federal income taxes and members of the American Association of State Compensation Insurance Funds. All other carriers are included in the private carrier values.



Key Takeaways

- The net written premium for private carriers increased to \$40.1 billion in 2016
- After including state funds in the premium figures, the 2016 total WC net written premium volume is unchanged from the 2015 level of \$45.5 billion

Data Sources

- NAIC’s Annual Statement data, including all data available as of 4/7/2017
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

SLIDE 10 (CONT'D)

Data

Premium values in the following table are shown in \$ Billions.

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
State Funds	3.8	3.3	2.8	2.6	2.7	3.7	6.0	8.4	11.2	11.8
Private Carriers	26.3	25.2	24.2	23.3	22.3	25.0	26.1	29.2	31.1	34.7
Total	30.1	28.5	27.0	25.9	25.0	28.6	32.1	37.7	42.3	46.5

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
10.1	7.8	6.7	5.5	4.3	3.9	4.1	4.4	4.9	5.7	5.8	5.4
37.8	38.6	37.6	33.8	30.3	29.9	32.3	35.1	36.9	38.5	39.7	40.1
47.8	46.5	44.3	39.3	34.6	33.8	36.4	39.5	41.8	44.2	45.5	45.5

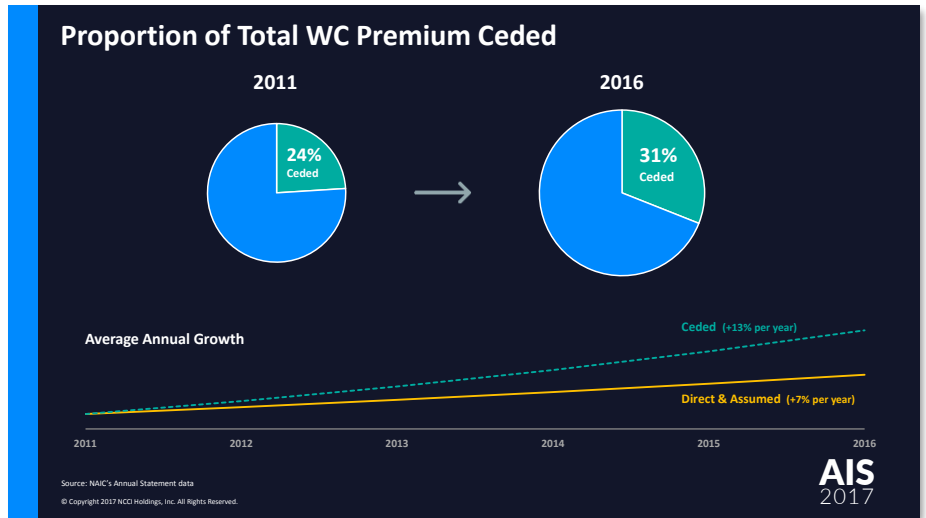
PROPORTION OF TOTAL WC PREMIUM CEDED—SLIDE 11

Background

This slide highlights the relative rates of growth between Direct & Assumed (D&A) and ceded earned premium.

Key Takeaways

- Both total D&A and ceded premium volume increased between 2011 and 2016, with the growth rate in ceded earned premium exceeding that for D&A over this time period
- D&A earned premium increased at an average annual rate of 7% between 2011 and 2016, while earned premium ceded to reinsurers increased at an average annual rate of 13%



Data Source

NAIC's Annual Statement data, Schedule P, Part 1D—Workers Compensation, including all data available as of 4/7/2017

Data

Values in the following table are shown in percentages.

Year	2011	2016p
Ceded Premium	24	31
Net Premium	76	69

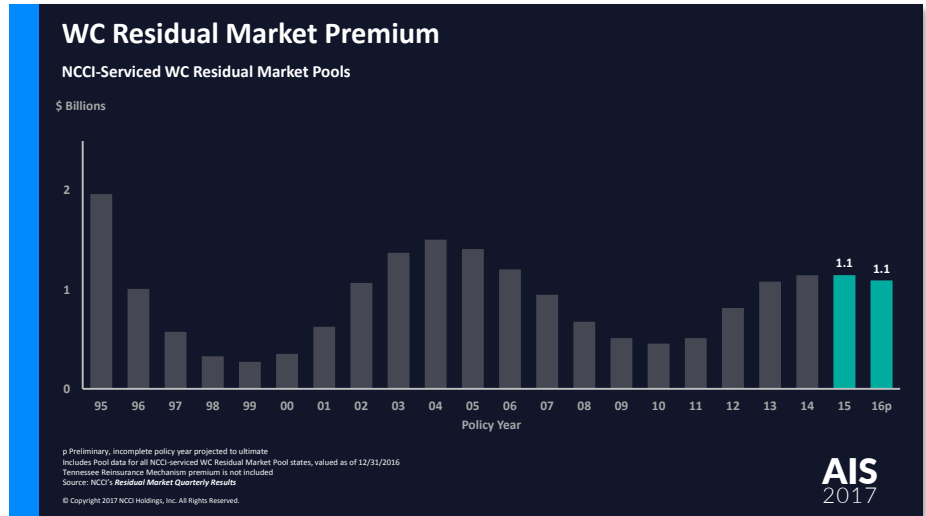
WC RESIDUAL MARKET PREMIUM—SLIDE 12

Background

Insureds unable to obtain coverage in the voluntary market can secure coverage through the [Residual Market Pool](#) in participating states. The estimated ultimate premium for all Residual Market Pools serviced by NCCI is displayed by [policy year](#).

Key Takeaway

Premium for the NCCI-serviced Residual Market Pools has remained stable over the last four policy years, at approximately \$1.1 billion.



Data Sources

- Pool data for all NCCI-serviced WC Residual Market Pool states valued as of 12/31/2016
- Tennessee Reinsurance Mechanism premium is not included
- NCCI's *Residual Market Quarterly Results*

Data

Residual market premium values in the following table are shown in \$ Billions.

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
2.0	1.0	0.6	0.3	0.3	0.4	0.6	1.1	1.4	1.5	1.4	1.2	0.9	0.7	0.5

2010	2011	2012	2013	2014	2015	2016p
0.5	0.5	0.8	1.1	1.1	1.1	1.1

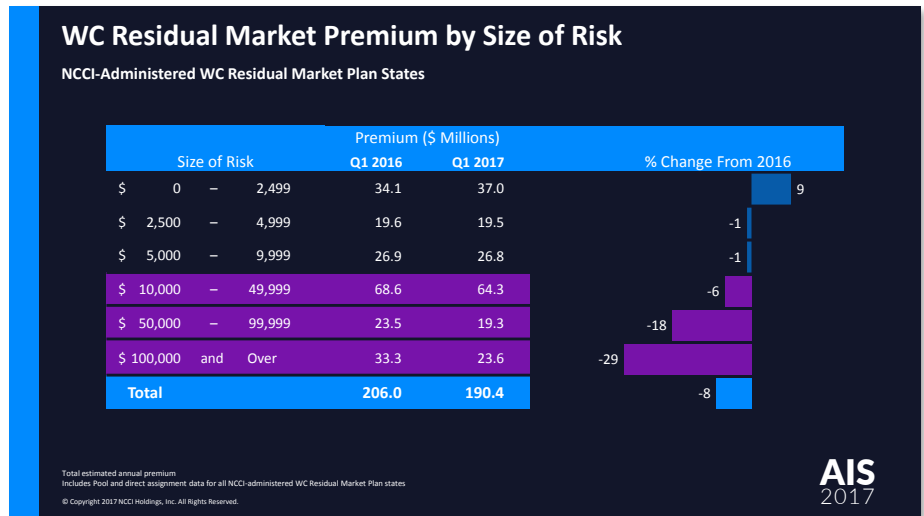
WC RESIDUAL MARKET PREMIUM BY SIZE OF RISK—SLIDE 13

Background

This slide compares estimated residual market premium volumes by size of risk between the first quarters of 2016 and 2017.

Key Takeaway

Written premium volume has declined for all risk sizes greater than \$10,000, with relatively larger decreases observed for risk sizes greater than \$50,000.



Data Source

[Pool](#) and [direct assignment](#) premium for all NCCI-administered WC Residual Market [Plan](#) states, including the prorated premium of cancelled policies

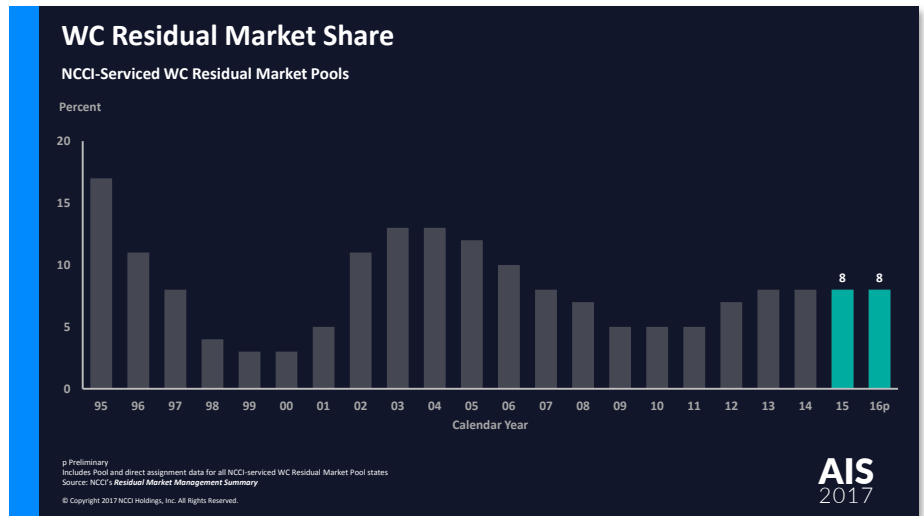
WC RESIDUAL MARKET SHARE—SLIDE 14

Background

Pool and direct assignment premium for all NCCI-serviced Residual Market Pool states as a percentage of the total WC market is displayed by calendar year.

Key Takeaway

The residual market share remained steady at 8% for the most recent year.



Data Sources

- Pool and direct assignment data for all NCCI-serviced WC Residual Market Pool states valued as of 12/31/2016
- NAIC’s Annual Statement data for individual carriers prior to consolidation of affiliated carriers, including all data available as of 4/7/2017
- NCCI’s **Residual Market Management Summary**

Data

Residual market shares in the following table are shown in percentages.

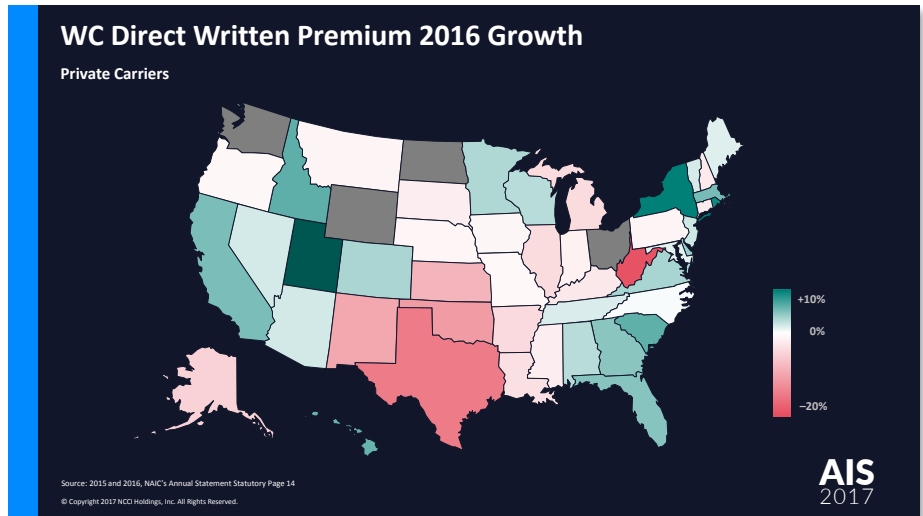
1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
17	11	8	4	3	3	5	11	13	13	12	10	8	7	5

2010	2011	2012	2013	2014	2015	2016p
5	5	7	8	8	8	8

WC DIRECT WRITTEN PREMIUM 2016 GROWTH—SLIDE 15

Background

Underlying the change in countrywide direct written premium volume are the changes in premium volume by individual jurisdiction. These percentage changes are based on private carrier data only and exclude monopolistic fund states. Teal represents premium volume increases, while red represents premium volume decreases. The deeper colors represent larger magnitudes of change.



Key Takeaways

- Between 2015 and 2016, countrywide private carrier direct written premium grew 2.4%
- There is considerable variation in premium growth across states

Note: The Utah State Fund became a private carrier in 2016, making that state appear to have higher-than-normal direct written premium growth on this chart.

Data Source

NAIC's Annual Statement Statutory Page 14 for calendar year written premium by state

Data

Direct written premium changes in the following table are shown in percentages.

AK	AL	AR	AZ	CA	CO	CT	DC	DE	FL	GA	HI	IA
-4.9	+3.3	-4.0	+2.1	+6.1	+3.9	-2.1	-20.2	+4.6	+5.5	+5.4	+7.0	-0.9
ID	IL	IN	KS	KY	LA	MA	MD	ME	MI	MN	MO	MS
+7.4	-3.8	-1.5	-8.2	-2.5	-3.4	+6.3	+1.3	+1.5	-3.9	+3.7	-0.7	-1.8
MT	NC	NE	NH	NJ	NM	NV	NY	OK	OR	PA	RI	SC
-1.1	+0.4	-1.0	-2.2	+2.3	-9.5	+2.0	+11.7	-10.9	-0.8	-1.2	+10.9	+7.3
SD	TN	TX	UT	VA	VT	WI	WV					
-1.8	+1.7	-14.4	+116.7	+4.0	+1.9	+3.3	-18.8					

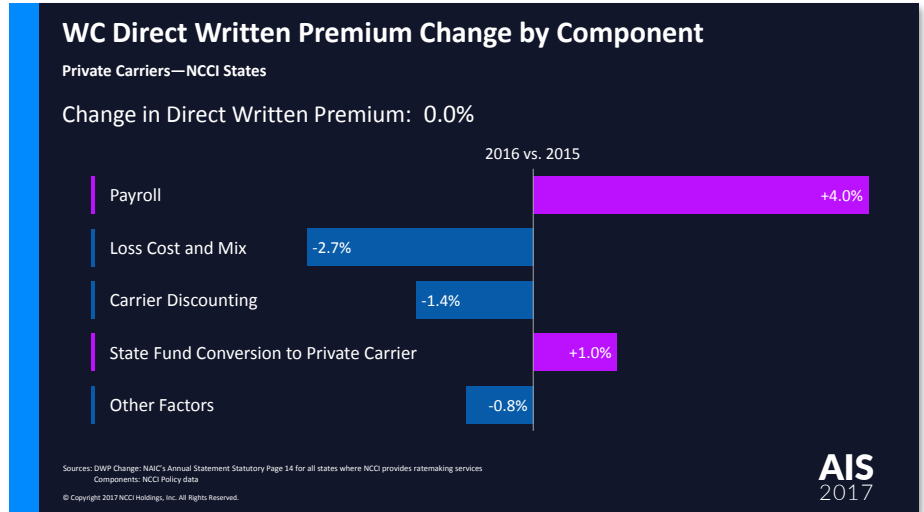
WC DIRECT WRITTEN PREMIUM CHANGE BY COMPONENT— SLIDE 16

Background

This slide provides the major components impacting the overall change in private carrier direct written premium (DWP) in NCCI states.

Key Takeaways

- For NCCI states, private carrier DWP volume remained flat between 2015 and 2016
- Changes in bureau loss cost level, mix of business, carrier discounting, and other factors served to offset the premium level increases due to changes in payroll and the Utah State Fund’s conversion to a private carrier
- Some items in the “Other Factors” category may include:
 - Change in audit impacts
 - Change in the average [experience mod](#)
 - Change in mix of policy types
 - Change in deductible credit amounts
 - Change in mix between private carrier and state fund markets



Data Sources

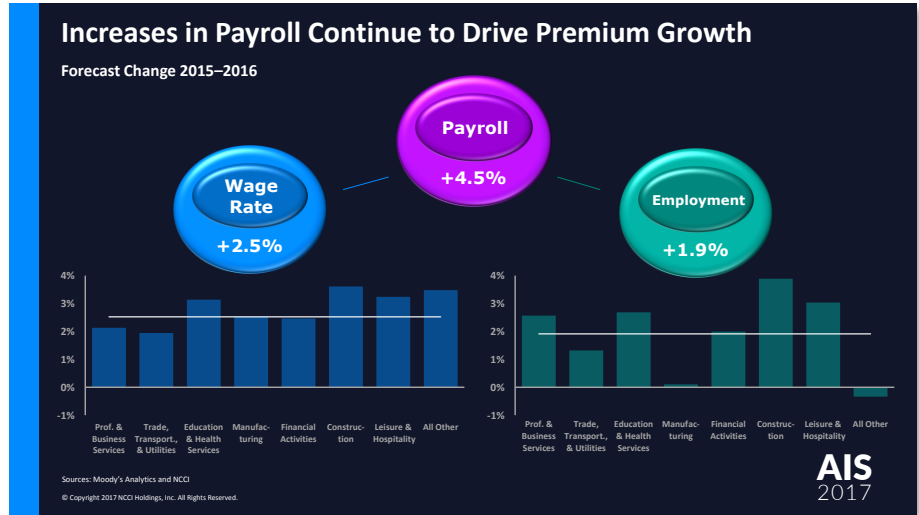
- DWP Change: NAIC’s Annual Statement Statutory Page 14 for all states where NCCI provides ratemaking services
- Components: NCCI’s Policy data

INCREASES IN PAYROLL CONTINUE TO DRIVE PREMIUM GROWTH—SLIDE 17

Background

Since payroll is the major driver of premium growth, we can use Moody’s forecasts to analyze it further. Although the 4.5% growth in payroll shown on this slide does not match the +4.0% change shown on the prior slide due to differing underlying data sources, the detail from Moody’s helps explain the underlying components of the payroll growth.

The bottom of the slide contains the changes in average wages and employment by economic sector. The sectors are listed by size of total payroll with the largest sector shown at the left. The respective white lines represent the average growth rates for wages and employment.



Key Takeaways

- The percentage change in payroll (+4.5%) is approximately equal to the percentage change in the average wage (+2.5%) plus the percentage change in employment (+1.9%)
- Average wages for the Education and Health Services; Construction; Leisure and Hospitality; and All Other sectors grew at an above-average rate
- Employment grew at an above-average rate for the Professional and Business Services; Education and Health Services; Construction; and Leisure and Hospitality sectors
- Employment in the Manufacturing sector was flat, while the All Other sector posted a decrease primarily due to declines in Natural Resources and Mining employment

Data Sources

- Moody’s Analytics
- All Other includes the three smallest sectors: Natural Resources and Mining; Information; and Other Services

SLIDE 17 (CONT'D)

Data

Values in the following table are shown in percentages.

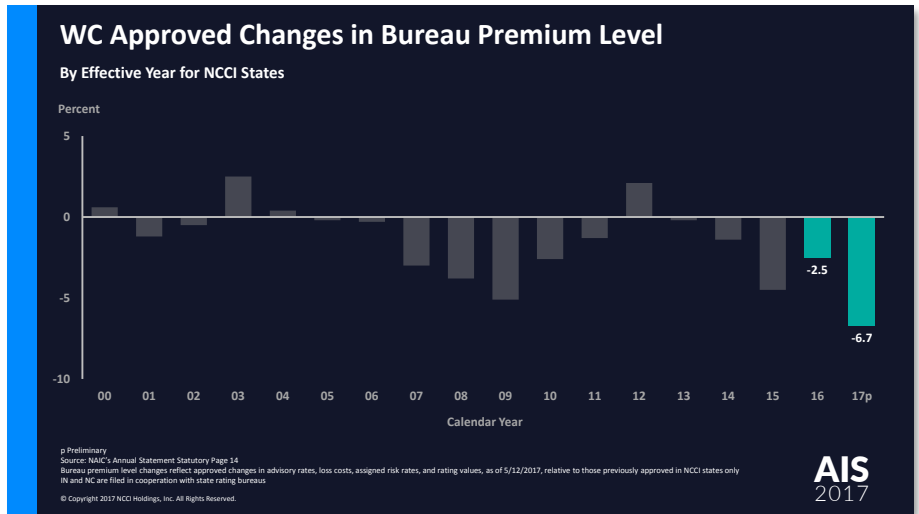
Forecast Change 2015–2016		
Sector	Change in Average Wage	Change in Employment
Professional and Business Services	2.1	2.6
Trade, Transportation, and Utilities	1.9	1.3
Education and Health Services	3.1	2.7
Manufacturing	2.5	0.1
Financial Activities	2.5	2.0
Construction	3.6	3.9
Leisure and Hospitality	3.2	3.0
All Other	3.5	-0.3

WC APPROVED CHANGES IN BUREAU PREMIUM LEVEL—SLIDE 18

Background

The bureau premium level changes shown here reflect the approved changes in advisory rates, loss costs, and assigned risk rates as filed in jurisdictions where NCCI provides ratemaking services as of May 12, 2017.

The percentage changes by state are weighted using calendar year direct written premium as reported to the NAIC. Texas is included beginning with Calendar Year 2011 and West Virginia beginning with Calendar Year 2008.



Key Takeaways

- The changes shown reflect several factors that impact system costs, such as changes in the economy, cost containment initiatives, and reforms
- NCCI filings with effective dates in 2017 averaged -6.7%

Data Source

NAIC's Annual Statement Statutory Page 14

The value for the most recent year is preliminary because there may be additional filing approvals with effective dates in 2017.

Data

Approved changes in bureau premium level in the following table are shown in percentages.

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
+0.6	-1.2	-0.5	+2.5	+0.4	-0.2	-0.3	-3.0	-3.8	-5.1	-2.6	-1.3

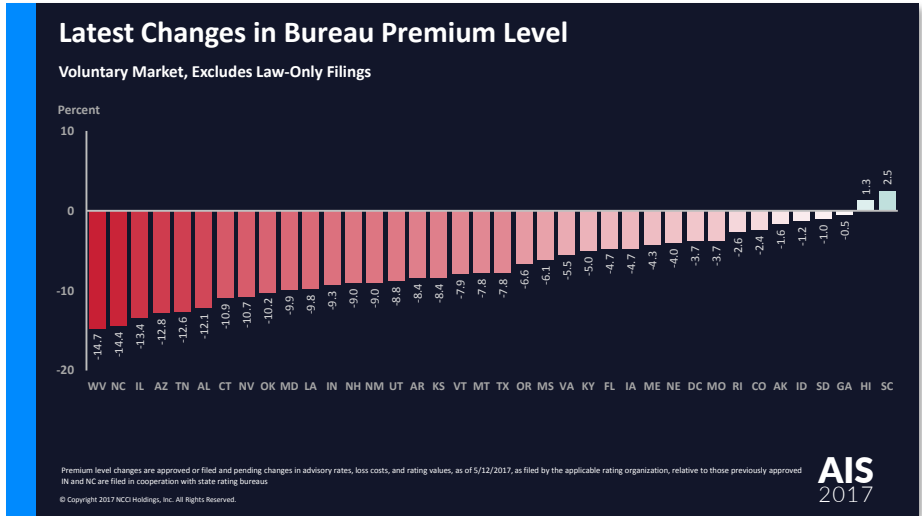
2012	2013	2014	2015	2016	2017p
+2.1	-0.2	-1.4	-4.5	-2.5	-6.7

LATEST CHANGES IN BUREAU PREMIUM LEVEL—SLIDE 19

Background

Each state’s value reflects the most recent voluntary market approved or filed and pending bureau premium level change in advisory rates or loss costs as filed in jurisdictions where NCCI provides ratemaking services as of May 12, 2017. Law-only filings are not included in this analysis.

In the slide, teal represents premium level increases, while red represents premium level decreases. The deeper colors represent larger magnitudes of change.



Key Takeaway

The most recent filings resulted in decreases for all but two NCCI states.

Data

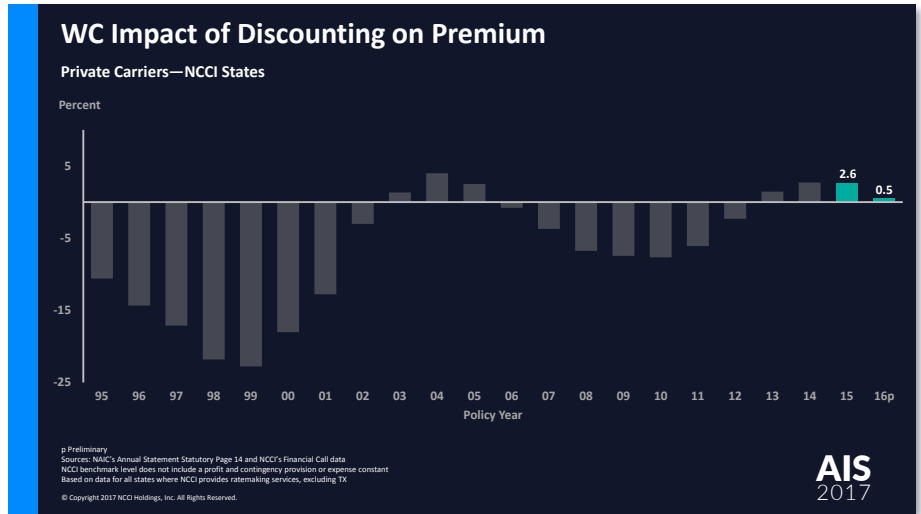
Changes in bureau premium level in the following table are shown in percentages.

AK	AL	AR	AZ	CO	CT	DC	FL	GA	HI	IA	ID	IL
-1.6	-12.1	-8.4	-12.8	-2.4	-10.9	-3.7	-4.7	-0.5	+1.3	-4.7	-1.2	-13.4
IN	KS	KY	LA	MD	ME	MO	MS	MT	NC	NE	NH	NM
-9.3	-8.4	-5.0	-9.8	-9.9	-4.3	-3.7	-6.1	-7.8	-14.4	-4.0	-9.0	-9.0
NV	OK	OR	RI	SC	SD	TN	TX	UT	VA	VT	WV	
-10.7	-10.2	-6.6	-2.6	+2.5	-1.0	-12.6	-7.8	-8.8	-5.5	-7.9	-14.7	

WC IMPACT OF DISCOUNTING ON PREMIUM—SLIDE 20

Background

This slide shows the impact of rate/loss cost departures, schedule rating, and dividends on [policy year](#) premium based on private carrier data for all jurisdictions where NCCI provides ratemaking services, excluding Texas. Dividend ratios are based on calendar year statistics. The calculation to determine the NCCI benchmark was recently refined to exclude expense constant premium and the profit and contingency provisions from all jurisdictions.



Key Takeaway

The overall impact of carrier discounting moved from +2.6% in 2015 to +0.5% in 2016.

Data Sources

- NAIC’s Annual Statement Statutory Page 14
- NCCI’s Financial Call data

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

Data

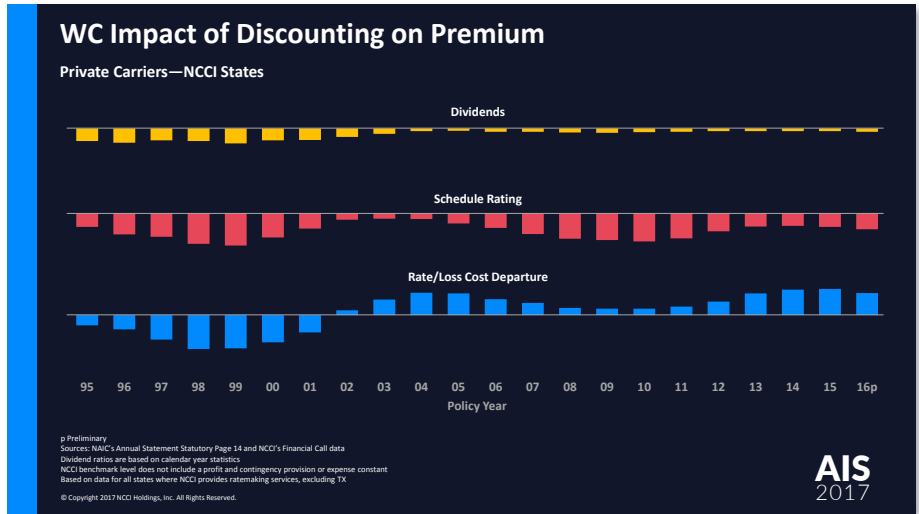
Values in the following table are shown in percentages.

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
-10.6	-14.3	-17.1	-21.8	-22.8	-18.0	-12.8	-3.0	+1.3	+4.0	+2.5	-0.8	-3.7	-6.8	-7.5
2010	2011	2012	2013	2014	2015	2016p								
-7.7	-6.1	-2.3	+1.5	+2.7	+2.6	+0.5								

WC IMPACT OF DISCOUNTING ON PREMIUM—SLIDE 21

Background

This slide shows the component impacts of rate/loss cost departures, schedule rating, and dividends on policy year premium based on private carrier data for all jurisdictions where NCCI provides ratemaking services, excluding Texas. Dividend ratios are based on calendar year statistics. The calculation to determine the NCCI benchmark was recently refined to exclude expense constant premium and the profit and contingency provisions from all jurisdictions.



Key Takeaways

- Recent years are a mix of relatively smaller dividend payouts, moderate schedule rating credits, and upward rate and loss cost departures
- Since 2002, the individual elements have been offsetting, which has led to an overall modest impact from discounting

Data Sources

- NAIC's Annual Statement Statutory Page 14
- NCCI's Financial Call data

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

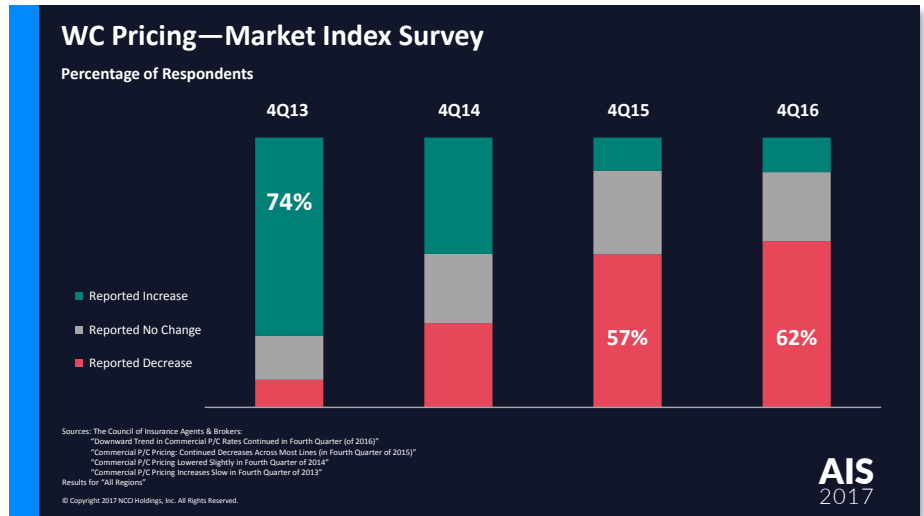
WC PRICING—MARKET INDEX SURVEY—SLIDE 22

Background

Survey respondents were asked to review recent renewals and determine how premium rates have changed over a specific period of time.

Teal represents the percentage of agents that observed an increase in premium rates at renewal, while red represents the percentage of agents that observed a decrease.

These observations may be used to determine trends in pricing from one year to the next.



Key Takeaway

In 2013, more than 70% of respondents saw an increase in premium at renewal, but by the fourth quarter of 2016, 62% reported seeing a decrease in premium at renewal.

Data Source

The pricing survey was provided by The Council of Insurance Agents & Brokers.

Data

Values in the following table are shown in percentages.

	Reported Increase	Reported No Change	Reported Decrease
4Q 2013	74	16	10
4Q 2014	43	26	31
4Q 2015	12	31	57
4Q 2016	13	25	62

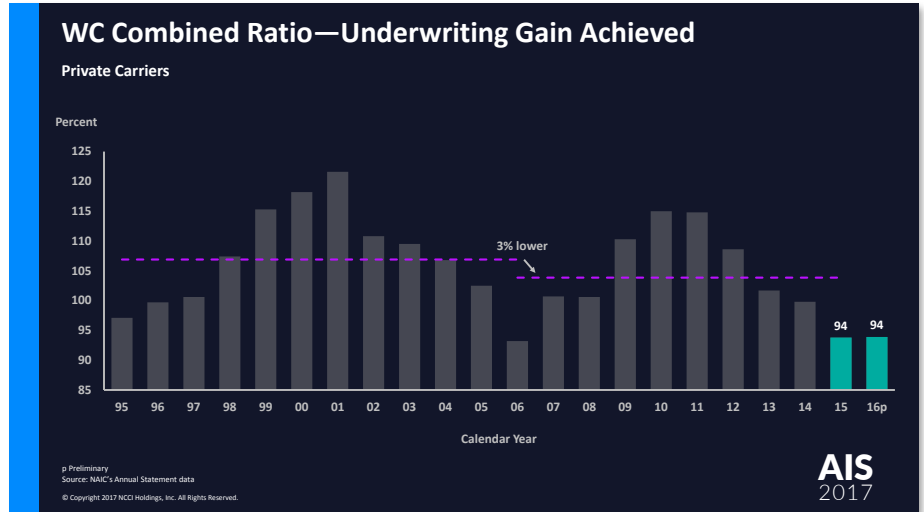
WC COMBINED RATIO—UNDERWRITING GAIN ACHIEVED— SLIDE 24

Background

This slide shows workers compensation combined ratios. See [Slide 4](#) for more background.

Key Takeaways

- The workers compensation 2016 calendar year combined ratio for private carriers was 94%. This is the second consecutive year that the industry has posted a six-point underwriting gain.
- Consecutive combined ratios at this level have not been seen in at least the last 30 years.



Data Sources

- NAIC’s Annual Statement data for individual carriers prior to consolidation of affiliated carriers, including all data available as of 4/7/2017
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

Data

Combined ratios in the following table are shown in percentages. Information for state funds is included for informational purposes.

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Private Carriers	118	122	111	110	107	103	93	101	101	110	115
State Funds	137	117	116	103	102	102	106	115	121	129	138

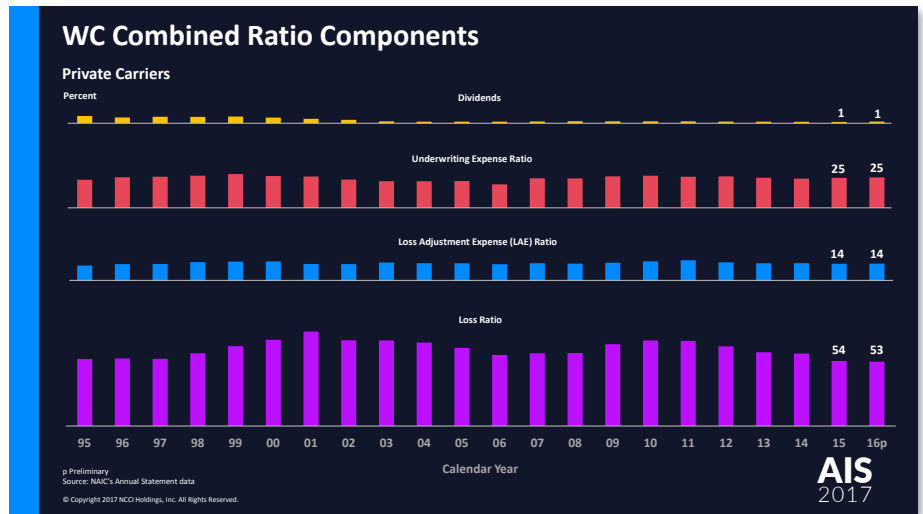
2011	2012	2013	2014	2015	2016p
115	109	102	100	94	94
133	124	115	116	107	108

WC COMBINED RATIO COMPONENTS—SLIDE 25

Background

This slide shows the components of the workers compensation combined ratios. The loss ratios in this slide compare net incurred losses to [net earned premium](#). The loss ratio is the largest component of the combined ratio.

The [loss adjustment expense \(LAE\) ratio](#) compares net incurred LAE to [net earned premium](#). LAE includes both [defense and cost containment expenses \(DCCE\)](#) and [adjusting and other expenses](#).



The [underwriting expense ratio](#) compares the costs associated with writing insurance to [net written premium](#). The underwriting expenses included in the ratio are:

- Commission and brokerage expenses
- Taxes, licenses, and fees
- Other acquisition expenses
- General expenses

[Policyholder dividends](#) are the smallest component of the [combined ratio](#) and are compared to net earned premium.

Key Takeaways

- The loss ratio underlying the 2016 combined ratio is the lowest observed since at least 1995
- LAE, underwriting expense, and dividends as ratios to premium have recently been relatively stable

Data Sources

- NAIC's Annual Statement data for individual carriers prior to consolidation of affiliated carriers, including all data available as of 4/7/2017
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

SLIDE 25 (CONT'D)

Data

Values in the following table are shown in percentages.

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Dividend Ratio	6.0	4.8	5.4	5.3	5.6	4.7	3.7	2.8	1.6	1.3
Underwriting Expense Ratio	23.3	25.4	25.9	26.7	28.0	26.4	26.1	23.5	22.2	22.1
LAE Ratio	12.5	13.7	13.8	15.3	15.8	15.9	13.8	13.7	15.0	14.5
Loss Ratio	55.3	55.8	55.5	60.1	65.9	71.2	78.0	70.8	70.7	68.9
Combined Ratio	97	100	101	107	115	118	122	111	110	107

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
1.3	1.3	1.5	1.7	1.6	1.6	1.6	1.4	1.3	1.2	1.2	1
22.3	19.6	24.6	24.5	26.2	26.7	25.9	26.2	25.0	24.3	24.9	25
14.4	13.6	14.5	14.1	14.9	16.0	17.0	15.2	14.4	14.5	14.0	14
64.5	58.7	60.1	60.3	67.6	70.7	70.3	65.8	60.9	59.8	53.7	53
103	93	101	101	110	115	115	109	102	100	94	94

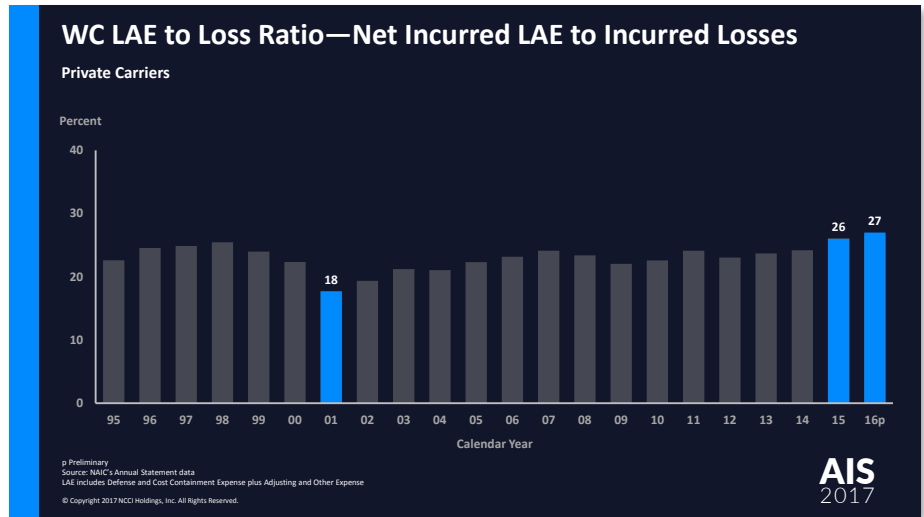
WC LAE TO LOSS RATIO—NET INCURRED LAE TO INCURRED LOSSES—SLIDE 26

Background

While taking the ratio of net incurred LAE to net earned premium provides the contribution of LAE to the overall combined ratio, LAE as a ratio to losses may be a more meaningful measure of the effort it takes to manage and settle claims.

Key Takeaways

- The LAE to incurred loss ratio has generally been increasing since its low point in 2001
- The industry has put a lot of energy into cost containment over the last decade, which is supported by the observed increase in DCCE



Data Sources

- NAIC's Annual Statement data for individual carriers prior to consolidation of affiliated carriers, including all data available as of 4/7/2017
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

Data

LAE to loss ratios in the following table are shown in percentages.

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
22.6	24.6	24.9	25.5	24.0	22.3	17.7	19.4	21.2	21.0	22.3	23.2	24.1	23.4

2009	2010	2011	2012	2013	2014	2015	2016p
22.0	22.6	24.1	23.0	23.7	24.2	26.1	27

WC RESIDUAL MARKET COMBINED RATIO—SLIDE 27

Background

Historical residual market combined ratios are displayed on this slide for all NCCI-serviced Residual Market Pool states. These ratios reflect projected ultimate losses, [servicing carrier allowance](#), producer fees, and other [pool](#) and [plan](#) administration expenses as a ratio to ultimate premium plus pool interest income on cash flow.

The results are calculated by [policy year](#) (PY), which allows a direct match between premium earned and claims incurred for a given block of policies. PY combined ratios can change over time as new claims are reported and the reserves on existing claims are reevaluated.



Key Takeaway

The estimated Residual Market Pool combined ratio for PY 2016 is 106%.

Data Sources

- Pool data and Plan expenses for pool members for all NCCI-serviced WC Residual Market Pool states; data valued as of 12/31/2016
- Tennessee Reinsurance Mechanism experience is not included in the combined ratios
- NCCI’s *Residual Market Quarterly Results*

Data

Combined ratios in the following table are shown in percentages.

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
96	99	103	116	116	116	111	114	108	105	104	104	110	113	108

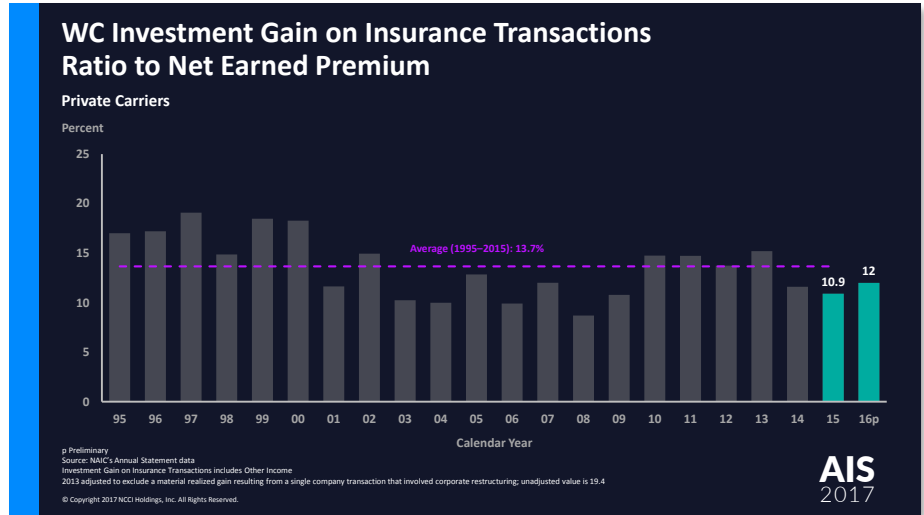
2010	2011	2012	2013	2014	2015	2016p
112	113	106	101	102	103	106

WC INVESTMENT GAIN ON INSURANCE TRANSACTIONS—RATIO TO NET EARNED PREMIUM—SLIDE 28

Background

The overall investment gain is allocated by line of business according to the NAIC-prescribed allocation procedure.

The WC [Investment Gain on Insurance Transactions \(IGIT\) ratio](#) measures investment performance by comparing investment income allocated to the WC line of business to WC earned premium.



Key Takeaway

The 2016 investment gain on insurance transactions (12%) has increased from its 2015 value (10.9%).

Data Sources

- NAIC’s Annual Statement data for individual carriers prior to consolidation of affiliated carriers, including all data available as of 4/7/2017
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

Data

Investment gain ratios in the following table are shown in percentages.

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
17.0	17.2	19.1	14.9	18.5	18.3	11.6	14.9	10.2	10.0	12.8	9.9	12.0	8.7	10.8

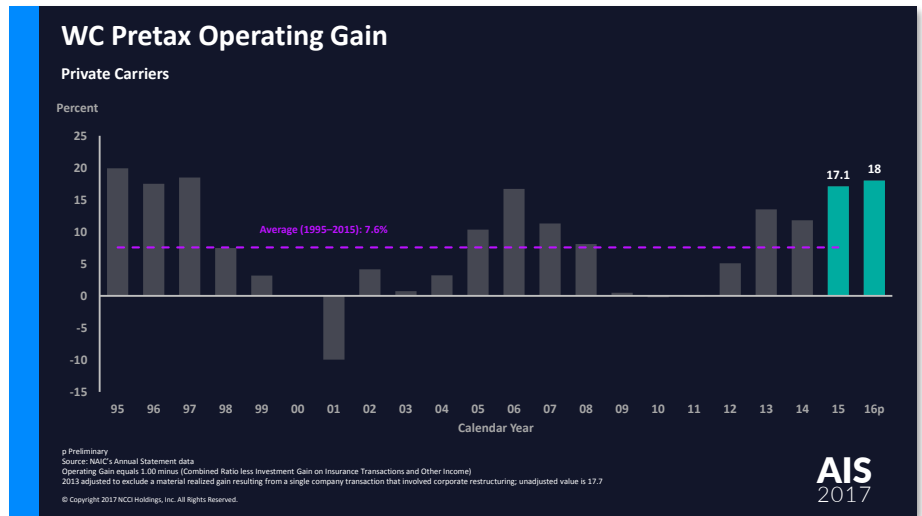
2010	2011	2012	2013	2014	2015	2016p
14.8	14.7	13.7	15.2	11.6	10.9	12

WC PRETAX OPERATING GAIN—SLIDE 29

Background

The [pretax operating gain](#) in this slide measures the overall financial performance of the workers compensation business, taking into account both underwriting income and investment income. Pretax operating gain excludes direct changes to surplus, including, but not limited to, changes in:

- Unrealized capital gains
- Unrealized foreign exchange gain
- Net deferred income tax
- Nonadmitted assets
- The provision for reinsurance
- Surplus notes



Key Takeaway

The 6-point underwriting gain and 12-point investment gain on insurance transactions resulted in an 18-point pretax operating gain in 2016.

Data Sources

- NAIC's Annual Statement data for individual carriers prior to consolidation of affiliated carriers, including all data available as of 4/7/2017
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

Data

Pretax operating gains in the following table are shown in percentages. Data for state funds is included for informational purposes.

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Private Carriers	19.9	17.5	18.5	7.5	3.2	0.1	-10.0	4.1	0.7	3.2	10.3
State Funds	N/A	N/A	N/A	N/A	N/A	-7.9	-1.0	-1.4	6.4	7.6	13.2

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
16.7	11.3	8.1	0.5	-0.2	-0.1	5.1	13.5	11.8	17.1	18
10.9	7.5	-1.7	3.5	2.4	-3.3	8.1	6.5	5.3	9.4	9

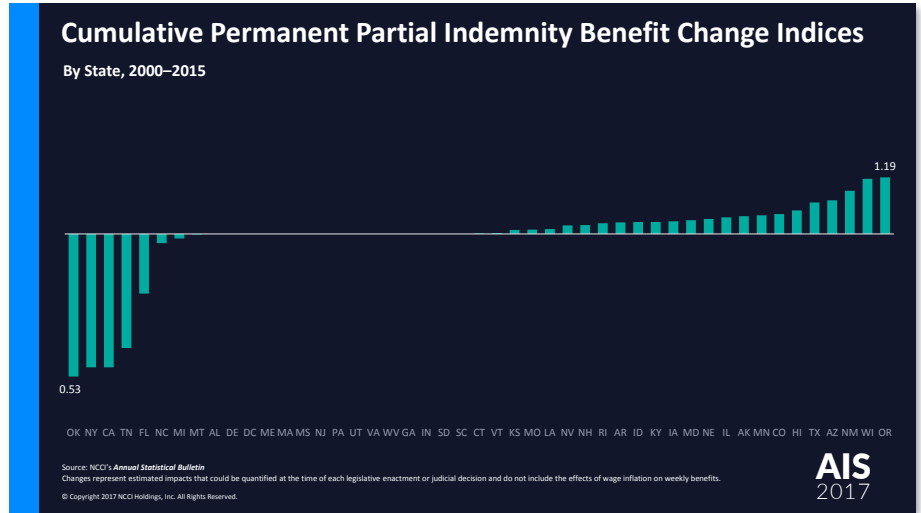
CUMULATIVE PERMANENT PARTIAL INDEMNITY BENEFIT CHANGES—SLIDE 30

Background

This slide displays cumulative changes in WC Permanent Partial Disability (PPD) benefits by state from 2000 to 2015. Changes represent estimated impacts that could be quantified at the time of each legislative enactment or judicial decision and do not include the effects of wage inflation on weekly benefits.

Key Takeaway

Based upon this analysis, the majority of states did not decrease PPD benefits over the last 15 years.



Data Source

NCCI's *Annual Statistical Bulletin*

Data

Values in the following table are shown as factors.

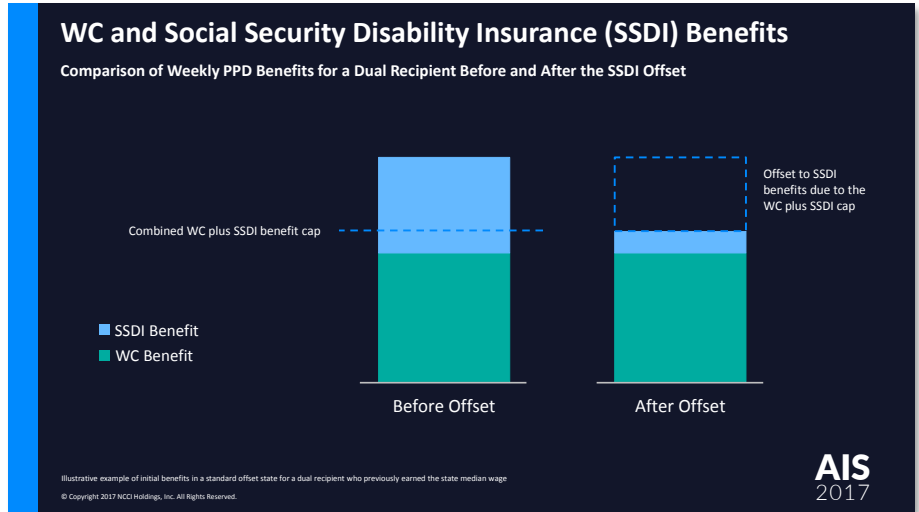
AK	AL	AR	AZ	CA	CO	CT	DC	DE	FL	GA	HI	IA
1.06	1.00	1.04	1.11	0.56	1.07	1.000	1.00	1.00	0.81	1.00	1.08	1.04
ID	IL	IN	KS	KY	LA	MA	MD	ME	MI	MN	MO	MS
1.04	1.05	1.00	1.01	1.04	1.02	1.00	1.05	1.00	0.99	1.06	1.01	1.00
MT	NC	NE	NH	NJ	NM	NV	NY	OK	OR	PA	RI	SC
1.00	0.97	1.05	1.03	1.00	1.14	1.03	0.56	0.53	1.19	1.00	1.04	1.00
SD	TN	TX	UT	VA	VT	WI	WV					
1.00	0.63	1.10	1.00	1.00	1.00	1.18	1.00					

WC AND SOCIAL SECURITY DISABILITY INSURANCE (SSDI) BENEFITS—SLIDE 31

Background

Workers compensation (WC) is intended to compensate employees for work-related injuries. Social Security Disability Insurance (SSDI) provides benefits for workers who become totally disabled from injuries or conditions, whether work-related or not.

A disabled person may qualify as a “dual-recipient,” eligible to receive both WC and SSDI benefits, subject to a cap. For example, a preexisting cardiovascular condition coupled with a work-related injury may result in total disability.



This slide displays the initial interaction of WC and SSDI benefits in year one for a sample situation. It illustrates an example of initial benefits in a standard offset state for a dual recipient who previously earned the state median wage. In most states, the full WC benefit is paid and the SSDI benefit is lowered or offset so that the combined benefit does not exceed the cap.

Key Takeaways

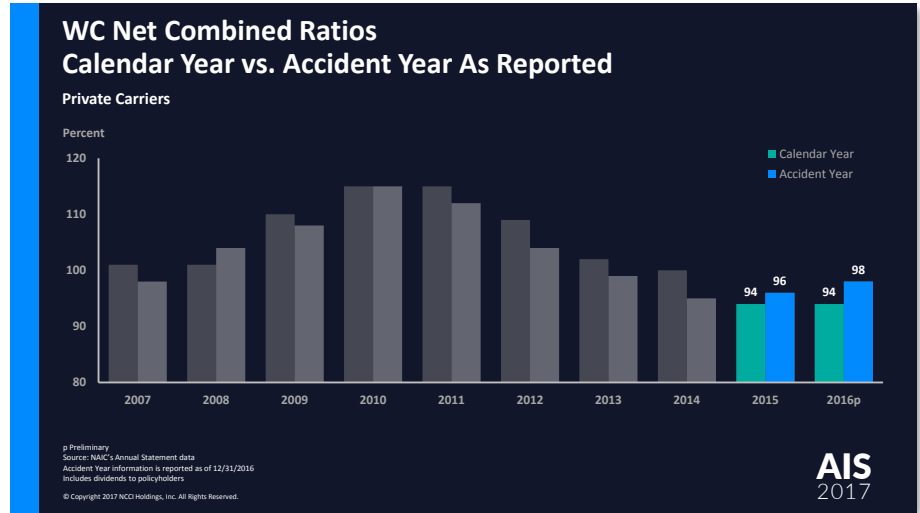
- The mere existence of WC often serves to reduce the benefits provided by SSDI.
- Changes in WC benefits may impact the interaction of dual recipient benefits provided by WC and SSDI. When the combined benefit cap applies, an increase in WC benefits could decrease the SSDI portion while a decrease in WC benefits could increase the SSDI portion.

WC NET COMBINED RATIOS—CALENDAR YEAR VS. ACCIDENT YEAR AS REPORTED—SLIDE 33

Background

The [net combined ratios](#) are the sum of the [net incurred loss and LAE ratio](#), [underwriting expense ratio](#), and [dividend ratio](#). In this slide, the overall private carrier workers compensation combined ratios are shown for the most recent 10 years on both calendar year (CY) and [accident year](#) (AY) bases.

The AY combined ratio reflects the experience on accidents as of the latest data evaluation date. See [Slide 4](#) for more background.



Key Takeaways

- The CY net combined ratios equal 94% for each of the most recent two years
- The reported AY 2016 net combined ratio is 98%—a two-point increase relative to that for 2015

Data Sources

- NAIC’s Annual Statement, Schedule P, Part 1D of the 2016 Annual Statement for individual private carriers prior to consolidation of affiliated carriers, including all data available as of 4/7/2017
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

Data

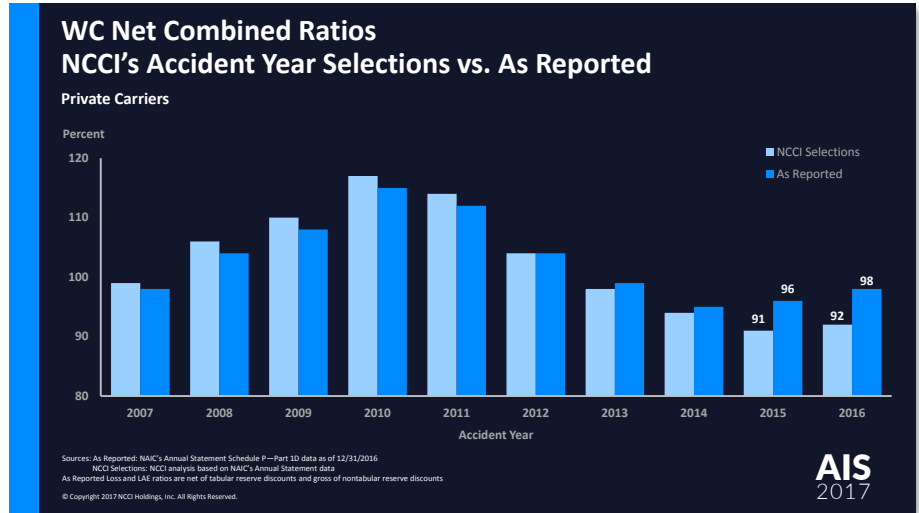
Combined ratios in the following table are shown in percentages.

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
Calendar Year	101	101	110	115	115	109	102	100	94	94
Accident Year	98	104	108	115	112	104	99	95	96	98

WC NET COMBINED RATIOS—NCCI’S ACCIDENT YEAR SELECTIONS VS. AS REPORTED—SLIDE 34

Background

The [net combined ratios](#) are the sum of the [net incurred loss and LAE ratio](#), [underwriting expense ratio](#), and [dividend ratio](#). In this slide, NCCI’s selected combined ratios are compared to reported private carrier workers compensation combined ratios. The values are shown for the most recent 10 years on an [accident year](#) (AY) basis. The AY combined ratio reflects the experience on accidents as of the latest data evaluation date.



Key Takeaways

- NCCI’s selected AY 2016 net combined ratio is 92%, which is six points lower than the industry’s reported combined ratio for that same year.
- NCCI’s selected AY combined ratios are lower than those reported by the industry for years 2013 and subsequent. NCCI’s selections are higher than those reported by the industry for years 2007 through 2011.

Data Sources

- NAIC’s Annual Statement, Schedule P, Part 1D of the 2016 Annual Statement for individual private carriers prior to consolidation of affiliated carriers, including all data available as of 4/7/2017
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

Data

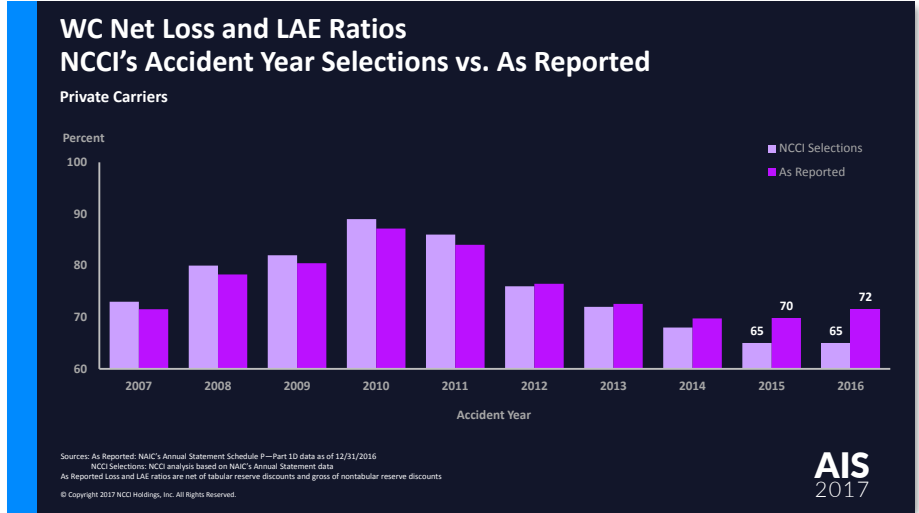
Combined ratios in the following table are shown in percentages.

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
NCCI Selected	99	106	110	117	114	104	98	94	91	92
As Reported	98	104	108	115	112	104	99	95	96	98

WC NET LOSS AND LAE RATIOS—NCCI’S ACCIDENT YEAR SELECTIONS VS. AS REPORTED—SLIDE 35

Background

The accident year (AY) [net incurred loss and LAE ratio](#) is calculated as a ratio of AY net losses and LAE to CY earned premium. The values in this slide reflect net ultimate loss and LAE ratios selected by NCCI compared with the net incurred loss and LAE ratios reported at the latest evaluation by private carriers.



Key Takeaways

- The NCCI selections for AYs 2007 through 2011 are higher than those reported by the industry, indicating that those years may likely develop upward
- For years 2013 and subsequent, the reported net incurred loss and LAE ratios are higher than those selected by NCCI

Data Source

NAIC’s Annual Statement, Schedule P, Part 1D of the 2016 Annual Statement for individual private carriers prior to consolidation of affiliated carriers, including all data available as of 4/7/2017

Data

Net loss and LAE ratios in the following table are shown in percentages.

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
NCCI Selected	73	80	82	89	86	76	72	68	65	65
As Reported	72	78	80	87	84	76	73	70	70	72

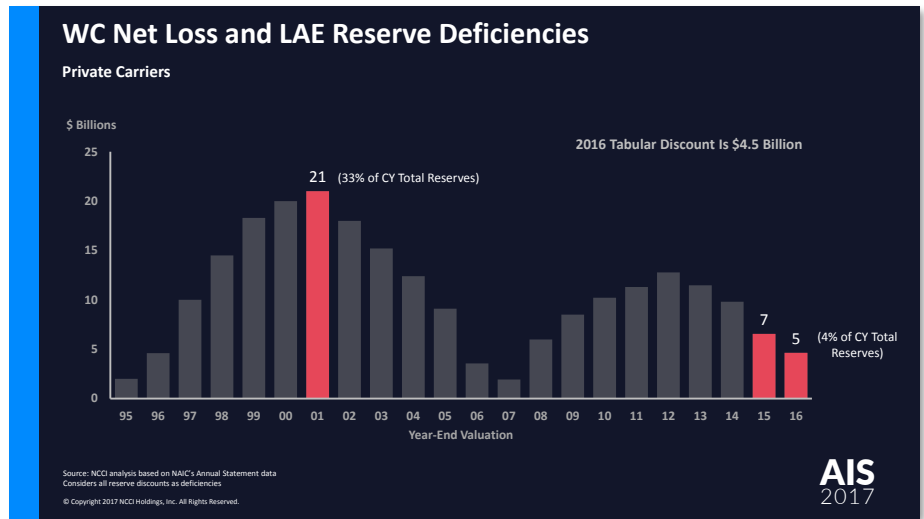
WC NET LOSS AND LAE RESERVE DEFICIENCIES—SLIDE 36

Background

The net reserve deficiency is the dollar difference (in billions) between NCCI’s estimate of net loss and LAE reserves and the reported private carrier net loss and LAE reserves in the NAIC Annual Statement, Schedule P, Part 1D.

The overall workers compensation net reserve deficiency is calculated for all accident years combined at each year-end valuation.

A positive value on this slide indicates a deficiency.



Key Takeaways

- NCCI’s estimate of the 2016 reserve deficiency is \$5 billion, which is \$2 billion less than that at year-end 2015.
- NCCI’s estimate of the reserve deficiency includes tabular discounts—i.e., the statutorily allowed reductions in carried reserves for lifetime pension cases. As of year-end 2016, tabular discounts represent \$4.5 billion of the estimated \$5 billion reserve deficiency.
- The year-end 2016 reserve deficiency represents approximately 4% of total calendar year carried reserves.

Data Source

NAIC’s Annual Statement, Schedule P, Part 1D of the 2016 Annual Statement for individual private carriers prior to consolidation of affiliated carriers, including all data available as of 4/7/2017

Data

Deficiencies in the following table are shown in \$ Billions.

Year-End Valuation	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Deficiency	2	5	10	15	18	20	21	18	15	12

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
9	4	2	6	9	10	11	13	11	10	7	5

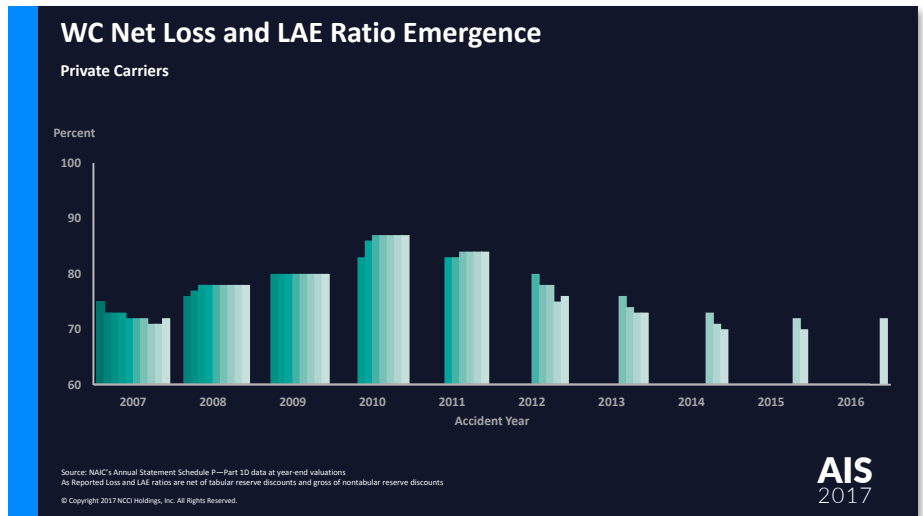
WC NET LOSS AND LAE RATIO EMERGENCE—SLIDE 37

Background

The net incurred loss and LAE ratio is calculated as the ratio of incurred losses and LAE to earned premium. The accident year (AY) net incurred loss and LAE ratios change over time as losses are paid, and the reserves on claims are reevaluated (i.e., AY emergence).

Key Takeaways

- A 75% net incurred loss and LAE ratio was initially reported for AY 2007. Subsequent reserve reductions have contributed to its year-end 2016 value of 72%.
- AYs 2012–2015 have developed favorably over time, as carriers have released redundancies in the initially reported net loss and LAE reserves.



Data Source

NAIC’s Annual Statement, Schedule P, Part 1D of the 2016 Annual Statement for individual private carriers prior to consolidation of affiliated carriers, including all data available as of 4/7/2017

Data

Net loss and LAE ratios in the following table are shown in percentages.

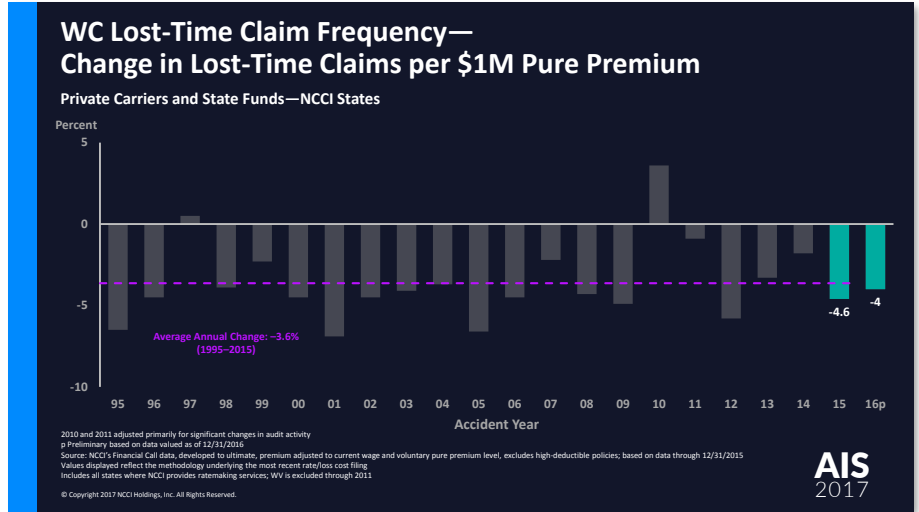
Accident Year	Data Valued as of Year-End									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2007	75	73	73	73	72	72	72	71	71	72
2008		76	77	78	78	78	78	78	78	78
2009			80	80	80	80	80	80	80	80
2010				83	86	87	87	87	87	87
2011					83	83	84	84	84	84
2012						80	78	78	75	76
2013							76	74	73	73
2014								73	71	70
2015									72	70
2016										72

WC LOST-TIME CLAIM FREQUENCY—CHANGE IN LOST-TIME CLAIMS PER \$1M PURE PREMIUM—SLIDE 39

Background

The change in lost-time claims per million dollars of [pure premium](#) includes data for all jurisdictions where NCCI provides ratemaking services. Accident Years 1995–2011 exclude West Virginia. High-deductible policies are excluded from all years.

Premium and claims are developed to an ultimate basis. Premium is also adjusted to current wage and voluntary pure premium level. Data is valued as of 12/31/2015. However, Accident Year 2016 is based on preliminary data valued as of 12/31/2016. Accident Years 2010 and 2011 show adjusted values, primarily due to significant changes in audit activity.



Key Takeaways

- NCCI estimates a -4% claim frequency change between Accident Years 2015 and 2016
- The long-term average annual change in lost-time claim frequency is -3.6%

Data Source

NCCI’s Financial Call data

Data

Values in the following table are shown in percentages.

Accident Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Frequency Change	-6.5	-4.5	+0.5	-3.9	-2.3	-4.5	-6.9	-4.5	-4.1	-3.7	-6.6
Adjusted Frequency Change											

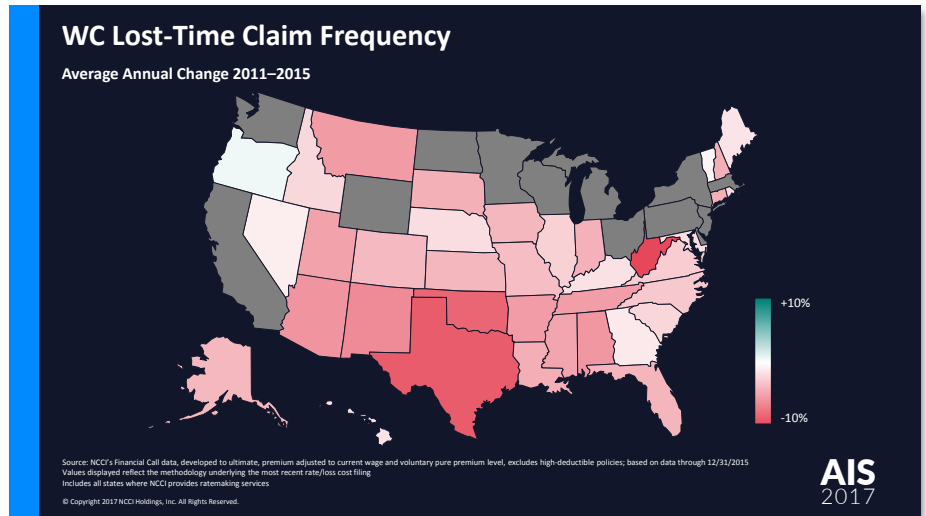
2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
-4.5	-2.2	-4.3	-4.9	+10.6	-3.9	-5.8	-3.3	-1.8	-4.6	-4
				+3.6	-0.9					

WC LOST-TIME CLAIM FREQUENCY—SLIDE 40

Background

The average annual change in lost-time claim frequency between AYS 2011 and 2015 is displayed in this US map. Teal represents increases in average frequency, while red represents decreases. The deeper colors represent larger magnitudes of change.

Data is included for all jurisdictions where NCCI provides ratemaking services. High-deductible policies are excluded from all years. Premium and claims are developed to an ultimate basis. Premium is also adjusted to current wage and voluntary pure premium level. Data is valued as of 12/31/2015.



Key Takeaways

- Most of the observed changes are decreases. Texas, Oklahoma, and West Virginia have decreases below the countrywide average due to reforms and system changes.
- Oregon is the only state that shows an average increase in lost-time claim frequency over this time period, which may be attributable to robust employment growth.

Data Source

NCCI's Financial Call data

DISTRIBUTION OF MEDICAL COSTS—SLIDE 41

Background

To support regulatory and legislative initiatives, NCCI provides State Medical Data Reports using data from NCCI's Medical Data Call.

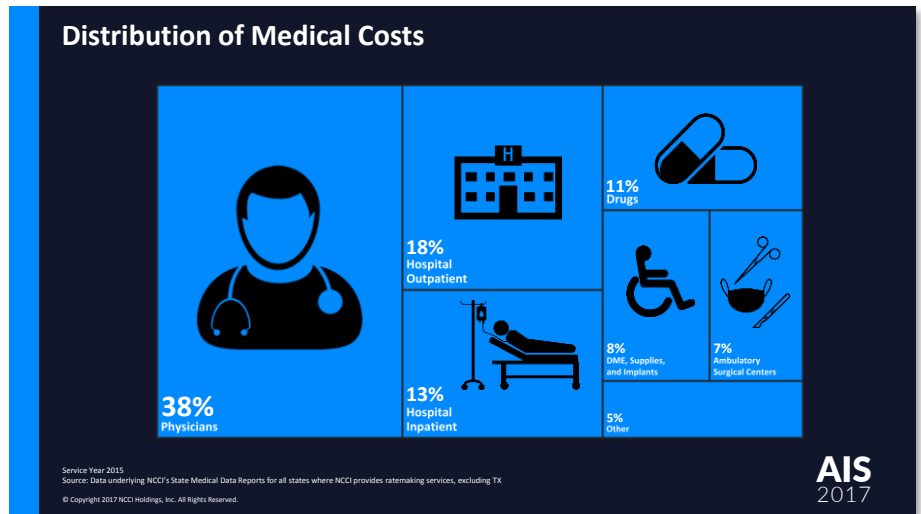
This slide shows the distribution of Service Year 2015 payments across the various medical cost categories, based on data for all jurisdictions where NCCI provides ratemaking services, excluding Texas.

Key Takeaway

For Service Year 2015, physician costs were almost 40% of total medical costs, combined inpatient and outpatient hospital costs were approximately 30%, and prescription drug costs were about 11%.

Data Source

NCCI's State Medical Data Reports



DISTRIBUTION OF PHYSICIAN COSTS—SLIDE 42

Background

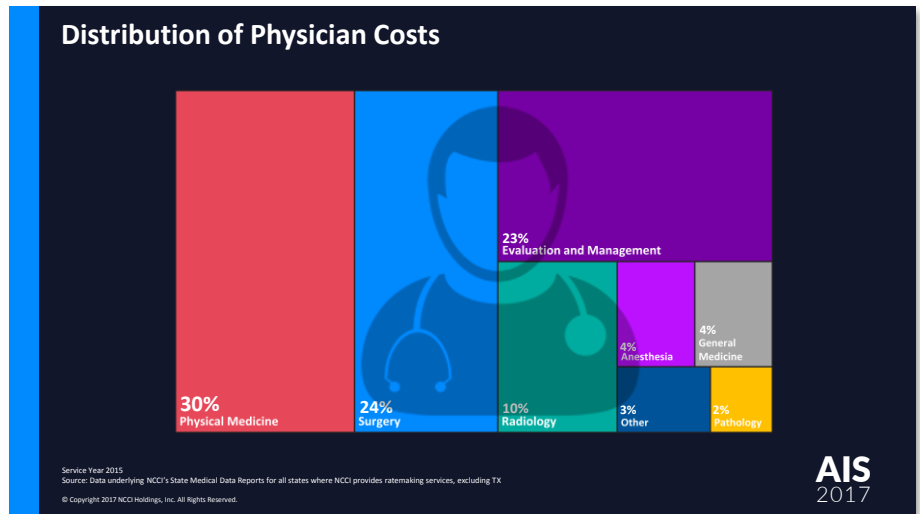
Drilling down further, this slide shows the distribution of physician costs in Service Year 2015. This is also based on data for all jurisdictions where NCCI provides ratemaking services, excluding Texas.

Key Takeaway

For Service Year 2015, 24% of physician costs were associated with surgery services, and 10% were associated with radiology.

Data Source

NCCI's State Medical Data Reports



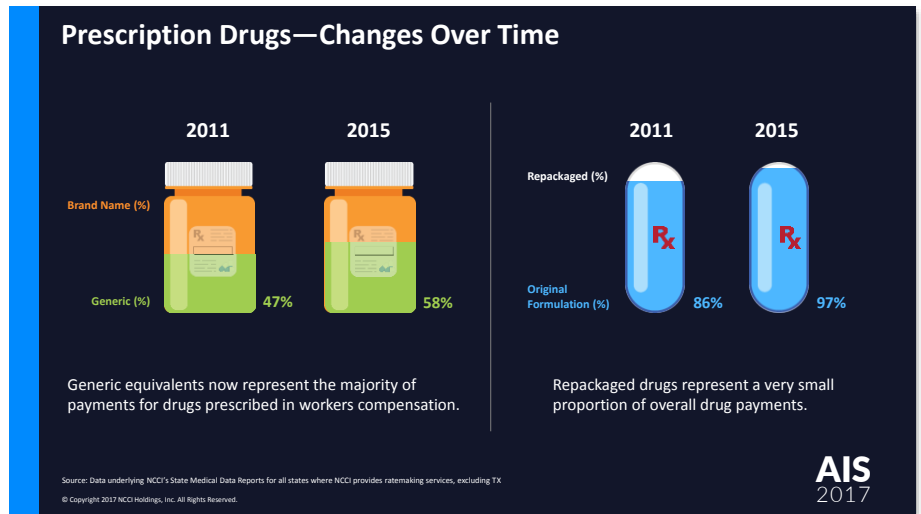
PRESCRIPTION DRUGS—CHANGES OVER TIME—SLIDE 43

Background

In recent years, the prevalence of brand-name versus generic drugs has been discussed along with the topic of repackaged drugs. The Medical Call data allows NCCI to track changes to each of these over time.

Key Takeaways

- In 2011, generic equivalents represented 47% of payments for drugs prescribed. This increased to 58% by 2015. The shift was largely driven by brand-name drug patents expiring during this time period.
- Repackaged drugs now represent a small portion of overall drug payments because several states have implemented regulation on their reimbursement.



Data Source

NCCI's State Medical Data Reports

PRESCRIPTION DRUG FEE SCHEDULE STUDY—SLIDE 44

Background

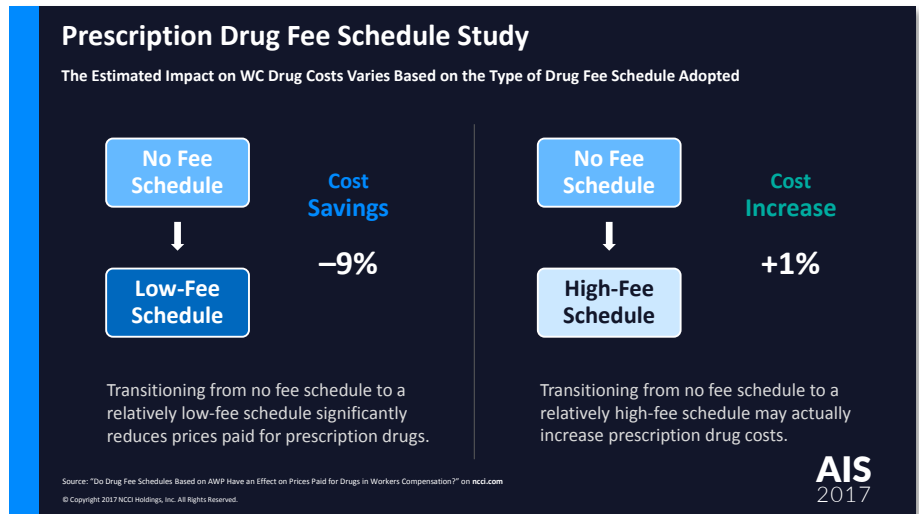
To analyze the impact of prescription drug fee schedules on drug costs, NCCI classified states into one of four categories. Those jurisdictions with prescription drug fee schedules were classified as Low, Medium, or High based on the size of the Average Wholesale Price (AWP) multiplier. The fourth category included those jurisdictions without a fee schedule.

Key Takeaways

- Transitioning from not having a prescription drug fee schedule to a low-fee schedule significantly reduces prices paid for WC prescription drugs
- Moving from no fee schedule to a high-fee schedule may increase prescription drug costs

Data Source

“Do Drug Fee Schedules Based on AWP Have an Effect on Prices Paid for Drugs in Workers Compensation?” on ncci.com



PHYSICIAN PAYMENTS AS A PERCENTAGE OF THE MEDICARE REIMBURSEMENT RATE—SLIDE 45

Background

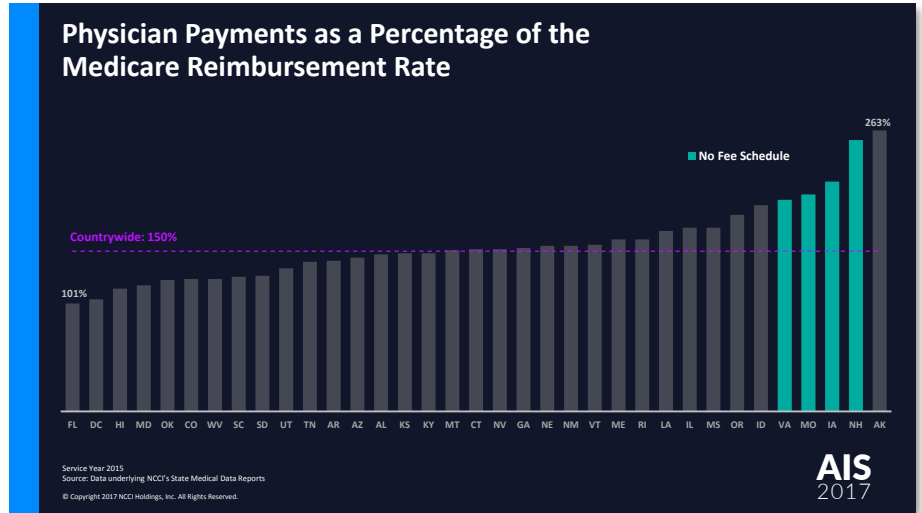
In most states, WC physician services are subject to fee schedules, much like those that are in place under group health or Medicare. In fact, WC physician fee schedules are often based on Medicare values. One way to measure physician costs across states is to compare WC payments in a state to a benchmark such as the Medicare reimbursement rate.

Key Takeaways

- Prices paid relative to Medicare vary widely—from about 100% to over 250%—with the all-state average at 150%
- Of the five jurisdictions shown on this slide with the largest percentages, all but Alaska are currently operating without a physician fee schedule

Data Source

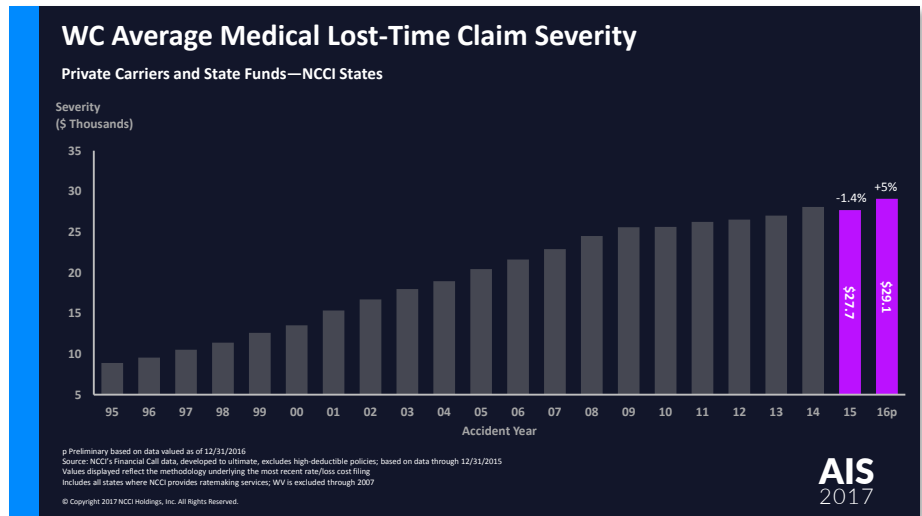
NCCI’s State Medical Data Reports



WC AVERAGE MEDICAL LOST-TIME CLAIM SEVERITY—SLIDE 46

Background

Average medical lost-time claim severity includes data for all jurisdictions where NCCI provides ratemaking services. Accident Years 1995–2007 exclude West Virginia. High-deductible policies are excluded from all years. Losses are developed to an ultimate basis. Data is valued as of 12/31/2015. However, Accident Year 2016 is based on preliminary data valued as of 12/31/2016.



Key Takeaway

NCCI estimates that the AY 2016 average medical lost-time claim severity is 5% higher than the corresponding AY 2015 value.

Data Source

NCCI’s Financial Call data

Data

Year	1995	1996	1997	1998	1999	2000	2001
Medical Severity (\$ Thousands)	8.9	9.6	10.5	11.4	12.6	13.5	15.4
Change (%)	+5.1	+7.4	+10.1	+8.3	+10.6	+7.3	+13.5

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
16.7	18.0	19.0	20.4	21.6	22.9	24.5	25.6	25.6	26.2	26.5
+8.8	+7.7	+5.4	+7.8	+5.8	+5.9	+7.0	+4.4	+0.2	+2.4	+1.1

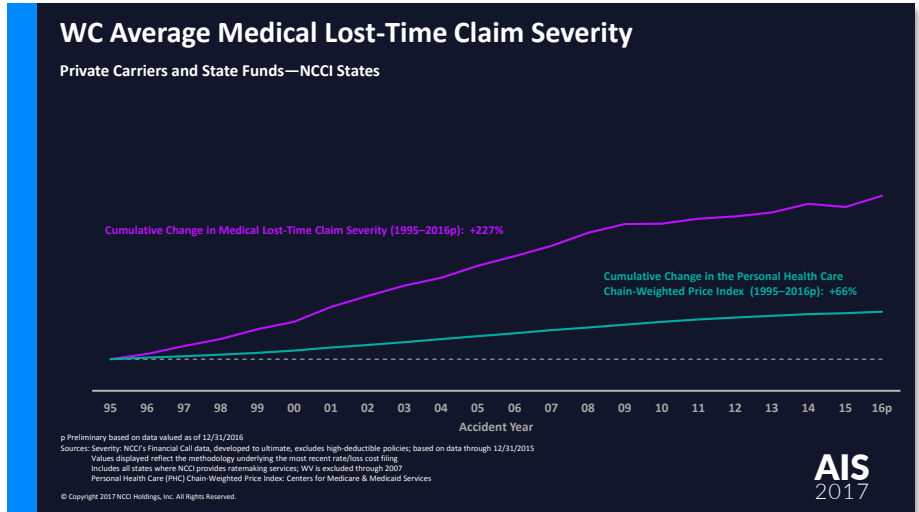
2013	2014	2015	2016p
27.0	28.1	27.7	29.1
+1.8	+4.0	-1.4	+5

WC AVERAGE MEDICAL LOST-TIME CLAIM SEVERITY—SLIDE 47

Background

Here we build on the bars from the prior slide, connecting them with a purple trend line—indicating the growth in actual WC average medical lost-time claim severity.

The teal line represents the corresponding growth in the Personal Health Care Chain-Weighted Price Index (PHC)—a proxy for medical care price inflation that responds to changes in the blend of different medical services over time.



Both the WC average medical lost-time claim severity and PHC trend lines have been indexed to 1995.

See [Slide 46](#) for more details.

Key Takeaways

- In the latest year, medical lost-time claim severity increased by 5% compared with a 1.3% growth in the PHC
- In 2015, medical lost-time claim severity decreased by 1.4% and the PHC presented its lowest increase in years (+0.8%)

Data Sources

- Medical severity is from NCCI’s Financial Call data
- PHC Chain-Weighted Price Index is from the Centers for Medicare & Medicaid Services

Data

Values in the following table are shown in percentages.

Year	1995	1996	1997	1998	1999	2000	2001
Medical Severity Change	+5.1	+7.4	+10.1	+8.3	+10.6	+7.3	+13.5
PHC Chain-Weighted Price Index Percentage Change	+2.6	+2.2	+1.8	+2.1	+2.5	+2.9	+3.7

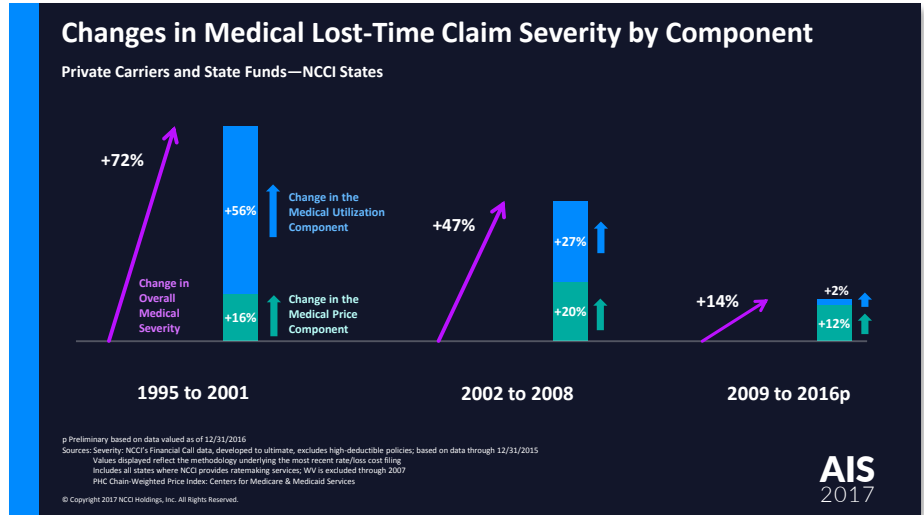
2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
+8.8	+7.7	+5.4	+7.8	+5.8	+5.9	+7.0	+4.4	+0.2	+2.4	+1.1	+1.8	+4.0	-1.4	+5
+3.0	+3.3	+3.5	+3.1	+3.0	+3.3	+2.6	+2.7	+2.7	+2.1	+1.8	+1.5	+1.4	+0.8	+1.3

CHANGES IN MEDICAL LOST-TIME CLAIM SEVERITY BY COMPONENT—SLIDE 48

Background

This slide compares the growth in medical lost-time claim severity to the growth in PHC Chain-Weighted Price Index in three time periods. Any change over and above the change in PHC is considered a change in the utilization of medical services.

See [Slide 46](#) and [Slide 47](#) for more details.



Key Takeaways

- From 1995 to 2001, PHC increased by about 16% and utilization of medical services increased 56% for an overall combined increase in medical lost-time claim severity of 72%
- Compared with the prior period, 2002 to 2008 saw a similar rate of increase in the PHC, but the utilization of medical services slowed
- In the most recent period, the change in utilization is almost nonexistent

Data Sources

- Medical severity is from NCCI's Financial Call data
- PHC Chain-Weighted Price Index is from the Centers for Medicare & Medicaid Services

Data

See [Slide 47](#) for the underlying annual percentage changes.

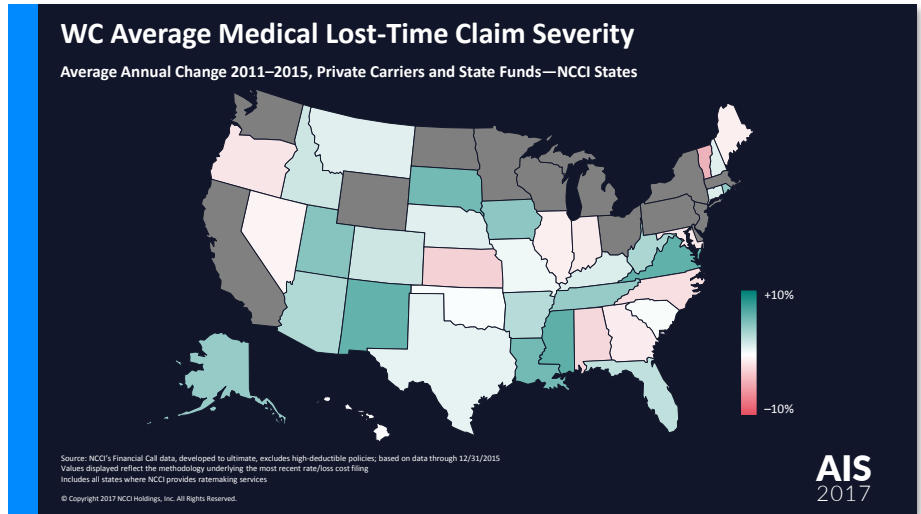
WC AVERAGE MEDICAL LOST-TIME CLAIM SEVERITY—SLIDE 49

Background

The average annual change in medical lost-time claim severity between 2011 and 2015 is displayed here. Teal represents increases in average medical severity, while red represents decreases. The deeper colors represent larger magnitudes of change.

Average medical lost-time claim severity includes data for all jurisdictions where NCCI provides ratemaking services. High-deductible policies are excluded from all years.

Losses are developed to an ultimate basis. Data is valued as of 12/31/2015. The displayed changes in severity are different from those used in ratemaking, with the most significant differences being that these values are not on-leveled or wage-adjusted.



Key Takeaways

- The majority of the observed changes are increases, indicating that the average medical benefit level across most states was higher in 2015 than it was in 2011
- Mississippi's relatively higher average medical severity change is primarily the result of large losses
- Virginia is in the process of developing a medical fee schedule which may put downward pressure on that jurisdiction's average medical lost-time claim severity

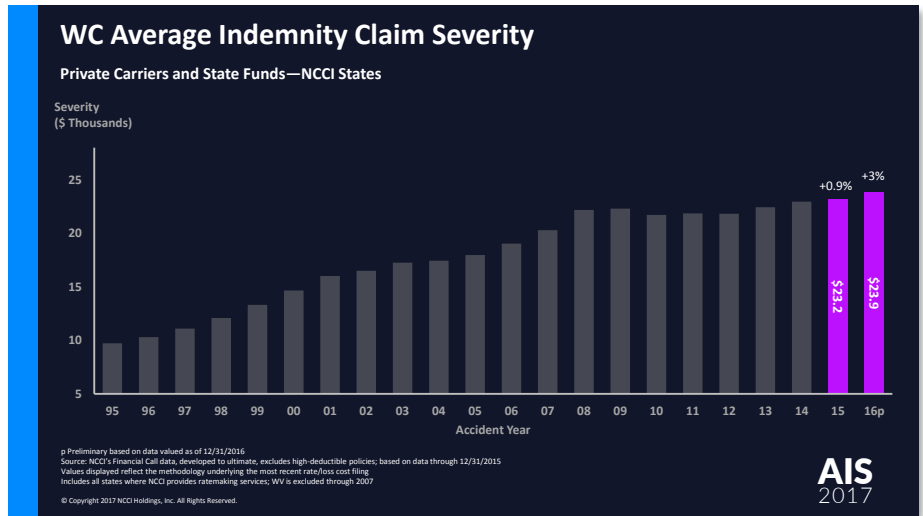
Data Source

NCCI's Financial Call data

WC AVERAGE INDEMNITY CLAIM SEVERITY—SLIDE 50

Background

Average indemnity claim severity includes data for all jurisdictions where NCCI provides ratemaking services. Accident Years 1995–2007 exclude West Virginia. High-deductible policies are excluded from all years. Losses are developed to an ultimate basis. Data is valued as of 12/31/2015. However, Accident Year 2016 is based on preliminary data valued as of 12/31/2016.



Key Takeaway

NCCI estimates that the average indemnity cost per claim increased in AY 2016 by about 3% compared to the corresponding AY 2015 value.

Data Source

NCCI's Financial Call data

Data

Year	1995	1996	1997	1998	1999	2000	2001
Indemnity Severity (\$ Thousands)	9.7	10.3	11.1	12.1	13.3	14.7	16.0
Change (%)	+1.7	+5.9	+7.7	+9.0	+10.1	+10.1	+9.2

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
16.5	17.3	17.4	18.0	19.0	20.3	22.2	22.3	21.7	21.9	21.8
+3.1	+4.6	+1.0	+3.1	+5.9	+6.6	+9.3	+0.6	-2.6	+0.6	-0.2

2013	2014	2015	2016p
22.4	23.0	23.2	23.9
+2.8	+2.3	+0.9	+3

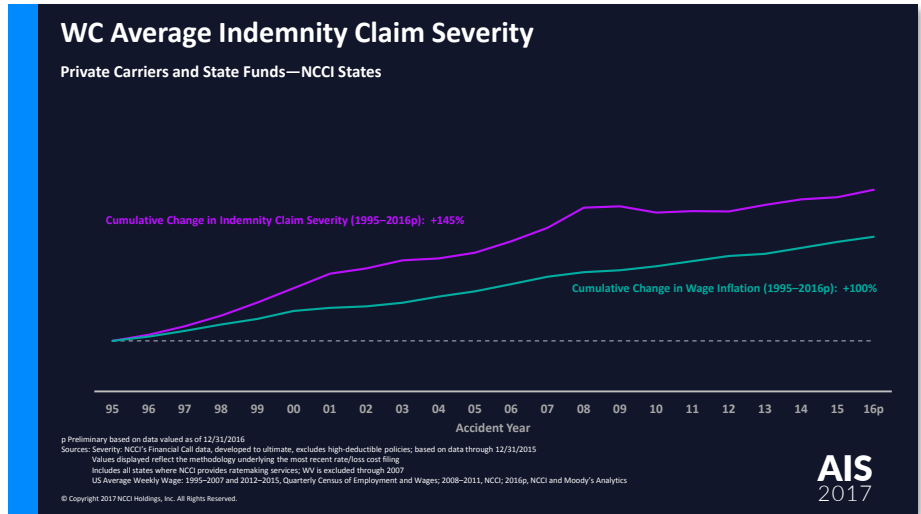
WC AVERAGE INDEMNITY CLAIM SEVERITY—SLIDE 51

Background

This slide shows how average indemnity claim severity has risen relative to the change in the average weekly wage. The purple line follows the top of the bars from the previous page.

Average weekly wages between 2008 and 2011 were adjusted to compensate for exceptional volatility in bonuses for the financial sector during these years.

Both the WC average indemnity claim severity and average weekly wage trend lines have been indexed to 1995.



Key Takeaway

Indemnity costs (+145%) have risen faster than the change in the average weekly wage (+100%) over this time period.

Data Sources

- Indemnity severity is from NCCI's Financial Call data
- US Average Weekly Wage is based on (a) Quarterly Census of Employment and Wages (QCEW) data from the US Bureau of Labor Statistics (BLS) for 1995–2007 and 2012–2015 and (b) QCEW and average weekly earnings data from the BLS for 2008–2011; 2016p is estimated by NCCI using forecasts from Moody's Analytics

Data

Values in the following table are shown in percentages.

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003
Indemnity Severity Change	+1.7	+5.9	+7.7	+9.0	+10.1	+10.1	+9.2	+3.1	+4.6
US Average Weekly Wage Change	+3.6	+4.2	+5.2	+5.6	+4.7	+6.3	+2.3	+1.1	+2.7

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
+1.0	+3.1	+5.9	+6.6	+9.3	+0.6	-2.6	+0.6	-0.2	+2.8	+2.3	+0.9	+3
+4.3	+3.5	+4.7	+4.6	+2.7	+1.1	+2.3	+2.9	+2.8	+1.1	+3.1	+3.1	+2.5

RELATIVE GROWTH RATES—INDEMNITY SEVERITY VS. WAGE INFLATION—SLIDE 52

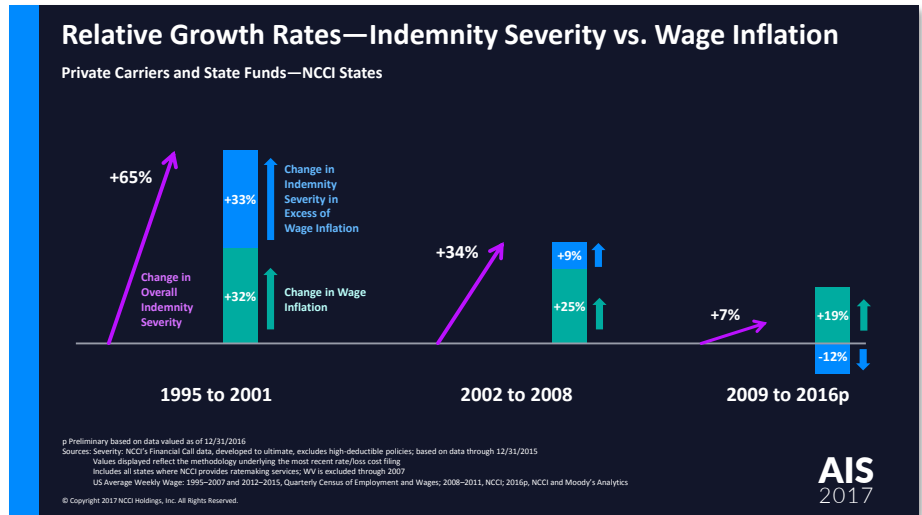
Background

This slide compares the growth in indemnity claim severity to the growth in workers' wages in three time periods.

See [Slide 50](#) and [Slide 51](#) for more details.

Key Takeaways

- The three time periods show different relationships between the growth in indemnity severity and the growth in wages.
- From 1995 to 2001, wages increased by about 32% and indemnity severity increased 33% over and above wage inflation. On a combined basis, indemnity claim severity increased 65% during this time period.
- The period from 2002 to 2008 was less dramatic, but indemnity severity continued to outpace wage inflation by 9%.
- In the most recent period, the opposite is occurring. Wages rose by 19%, while indemnity severity rose by only 7%.



Data Sources

- Indemnity severity is from NCCI's Financial Call data
- US Average Weekly Wage is based on (a) Quarterly Census of Employment and Wages (QCEW) data from the US Bureau of Labor Statistics (BLS) for 1995–2007 and 2012–2015 and (b) QCEW and average weekly earnings data from the BLS for 2008–2011; 2016p is estimated by NCCI using forecasts from Moody's Analytics

Data

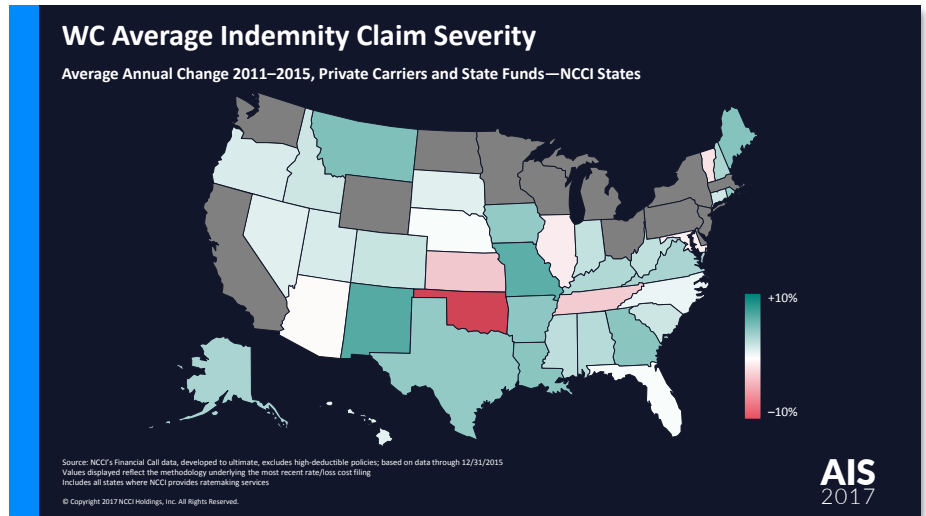
See [Slide 51](#) for the underlying annual percentage changes.

WC AVERAGE INDEMNITY CLAIM SEVERITY—SLIDE 53

Background

The average annual change in indemnity claim severity between AYs 2011 and 2015 is displayed in this US map. Teal represents increases in average indemnity severity, while red represents decreases. The deeper colors represent larger magnitudes of change.

Average indemnity claim severity includes data for all jurisdictions where NCCI provides ratemaking services. High-deductible policies are excluded from all years. Losses are developed to an ultimate basis. Data is valued as of 12/31/2015. The displayed changes in severity are different from those used in ratemaking, with the most significant differences being that these values are not on-leveled or wage-adjusted.



Key Takeaways

- Observed changes in Oklahoma, Kansas, and Tennessee may be attributable to reforms in these states that lowered indemnity benefits.
- Missouri and New Mexico show the largest increases in indemnity claim severity over this time period. Missouri's increase is largely due to a combination of Senate Bill 1 and wage growth of 10% over the period. New Mexico's increase is related to large losses.

Data Source

NCCI's Financial Call data

APPENDIX A—DEFINITIONS

Accident Year (AY)—A loss accounting definition in which experience is summarized by the calendar year in which an accident occurred.

Adjusting and Other Expenses (AOE) Incurred—Loss adjustment expenses, other than those categorized as Defense and Cost Containment Expense. Examples:

- Fees of adjusters and settling agents (but not if engaged in a contentious defense)
- Attorney fees incurred in the determination of coverage, including litigation between the insurer and the policyholder

Assigned Carrier—The insurer assigned to provide coverage to an eligible employer that has applied for workers compensation insurance under NCCI's Workers Compensation Insurance Plan. An assigned carrier can be either a servicing carrier or direct assignment carrier.

Calendar Year (CY)—A method of accounting that includes all financial transactions occurring during a 12-month period, beginning January 1.

Carrier Discounting—Combined impact on premium due to rate/loss cost departures, schedule rating, and dividends.

Commissions and Brokerage Expenses Incurred—Fees paid to producers.

Defense and Cost Containment Expense (DCCE) Incurred—Expenses for defense by the insurer in contentious situations (whether a first-party or third-party claim) for litigation involving a claim and for cost containment expense. Examples:

- Surveillance expenses
- Fixed amounts for cost containment expenses
- Case management expenses for the purpose of managing the overall cost of a claim
- Litigation management expenses
- Fees or salaries for appraisers, private investigators, hearing representatives, reinspectors, and fraud investigators, if working in defense of a claim
- Attorney fees incurred owing to a duty to defend
- Cost of engaging experts

Direct Assignment—Assigned risk business written and serviced directly by an insurance company that has been authorized by the Insurance Department to write such business. These insureds are written without reinsurance through the National Workers Compensation Reinsurance Pooling Mechanism or other reinsurance pool.

Dividends to Policyholders—When actual costs and expenses are less than anticipated costs and expenses, carriers may opt to return the difference to policyholders in the form of a dividend.

Earned Premium—Proportional share of each policy's written premium applicable to the expired part of the policy. Derived by subtracting the change in the unearned premium reserve from the written premium.

Estimated Annual Premium—Premium charged by an insurance company, at the time the policy is issued, for coverage provided by an insurance contract for a period of time. Estimated premium is reported before endorsements or audits.

Experience Mod—A factor calculated from actual case loss experience used to adjust an insured’s manual premiums (up or down) based on the insured’s loss experience relative to the average underlying the manual premiums. It compares the insured’s experience to the average class experience.

Exposure Accident Year (EAY):

- **Claims/Losses**—Are on an accident year basis
- **Earned Premium**—Final audited premium for each policy is allocated to the appropriate calendar year based on the period of exposure

General Expenses Incurred—Overhead expenses incurred in the insurer’s operations, other than those included in the other expense categories. Examples:

- Salaries
- Rent and rent items
- Equipment

Net Written Premium—The gross premium income adjusted for additional or return premiums, including any additions for reinsurance assumed and deductions for reinsurance ceded.

Other Acquisitions, Field Supervision, and Collection Expenses Incurred—Expenses incurred in obtaining insurance business. Examples:

- Salaries
- Equipment
- Advertising
- Employee relations and welfare
- Allowance to managers and agents
- Postage, telephone, and express
- Rent and rent items

Policy Year (PY)—The year of the effective date of the policy. Policy year financial results summarize experience for all policies with effective dates in a given calendar year period.

Pure Premium—Portion of bureau level premium that provides for indemnity and medical loss payments.

Residual Market Pool—A financial agreement among participating insurers to share in the experience of certain assigned risks. This reduces both administrative costs and annual fluctuations in the liability of participating insurers resulting from the operation of state insurance plans.

Servicing Carrier—An insurer, other than a direct assignment carrier, authorized to receive Plan assignments and provide coverage to eligible employers on behalf of insurance company members of the National Workers Compensation Reinsurance Association NFP (NWCRA)—or participants in other reinsurance pooling mechanisms—incorporated as a part of the Plan in a state.

Servicing Carrier Allowance—The ceding commission retained by a servicing carrier as compensation for the expenses of servicing an employer under a Workers Compensation Insurance Plan or similar program.



Taxes, Licenses, and Fees Incurred—State taxes, assessments, and miscellaneous fees. Examples:

- Premium taxes
- Second Injury Fund assessments
- General administration funds
- Guaranty funds

Unearned Premium Reserve—Proportional share of each policy’s written premium applicable to the unexpired part of the policy.

Workers Compensation Insurance Plan (WCIP or Plan)—A program established and maintained by NCCI and approved by state insurance regulatory authorities whereby workers compensation insurance may be secured by eligible employers unable to secure such coverage in the voluntary market.

APPENDIX B—FORMULAS

$$\text{After-Tax Return on Surplus} = \frac{\text{Net Income}}{\text{Average Surplus}}$$

Average Surplus =

$$0.5 \times (\text{Surplus as regards policyholders, December 31 current year} \\ + \text{Surplus as regards policyholders, December 31 prior year})$$

Combined Ratio = Loss Ratio + LAE Ratio + Dividend Ratio + Underwriting Expense Ratio

$$\text{Combined Ratio (Residual Market Slides)} = \frac{\text{Losses}}{\text{Earned Premium}} + \frac{\text{Expenses and Allowances}}{\text{Written Premium}}$$

$$\text{Dividend Ratio} = \frac{\text{Dividends to Policyholders}}{\text{Premiums Earned}}$$

Indicated Net Loss & LAE Reserves = Ultimate Net Loss & LAE – Net Loss & LAE Payments

Investment Gain on Insurance Transactions Ratio =

$$\frac{\text{Investment Gain on Funds Attributable to Insurance Transactions} + \text{Other Income Less Other Expenses}}{\text{Premiums Earned}}$$

$$\text{Investment Gain Ratio} = \frac{\text{Net Investment Gain (Loss)}}{\text{Premiums Earned}}$$

$$\text{Loss Adjustment Expense (LAE) Ratio} = \frac{\text{DCCE Incurred} + \text{AOE Incurred}}{\text{Premiums Earned}}$$

$$\text{Loss \& LAE Ratio} = \frac{\text{Incurred Loss} + \text{DCCE Incurred} + \text{AOE Incurred}}{\text{Premiums Earned}}$$

$$\text{Loss Ratio} = \frac{\text{Incurred Loss}}{\text{Premiums Earned}}$$

Net Premium Earned = Net Premiums Written + Change in Unearned Premium Reserve

Net Reserve Deficiency = NCCI Indicated Net Loss & LAE Reserves – Private Carrier Net Loss & LAE Reserves As Reported

$$\text{Premium-to-Surplus Ratio} = \frac{\text{Net Premiums Written}}{\text{Surplus as regards policyholders}}$$

Pretax Operating Gain = 1 – (Combined Ratio – Investment Gain on Insurance Transactions Ratio)



Underwriting Expense Ratio =

$$\left[\begin{array}{l} \text{Commissions and Brokerage Expenses Incurred} \\ + \text{Taxes, Licenses, and Fees Incurred} \\ + \text{Other Acquisitions, Field Supervision and Collection Expenses Incurred} \\ + \text{General Expenses Incurred} \end{array} \right]$$

Premiums Written