



# Through the Looking Glass(es):

## An Actuarial and Economic Look at the Workers Compensation System

CAS RPM Seminar - March 15, 2022

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# Learning Objectives

1. Discuss a variety of workers compensation topics.
2. Provide an overview of financial results, recent trends, and the impacts of the COVID-19 pandemic.
3. Discuss results from both actuarial and economic perspectives.

# What is Workers Compensation Insurance?

Workers compensation (WC) insurance provides payment of state-mandated benefits to injured employees in place of the common-law right to sue the employer in tort for a work-related injury (including death), illness, or disease.

A WC insurance policy covers the insured employer's benefit payment obligations to the injured employee (or employee's family), as required by state WC law.



# What Benefits Are Provided?



## Indemnity

*Limited* Wage Replacement, Vocational Rehabilitation, Disfigurement Awards, and Survivor Benefits



## Medical

*Unlimited\**, first-dollar coverage for all necessary medical treatments

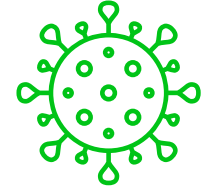
\* A few states have enacted laws in recent years to limit the duration of medical benefits in certain circumstances.

# Workers Compensation – An Evolving Landscape



Rate  
Adequacy

COVID-19  
Impacts



Rising  
Medical Costs

Shifting  
Workforce/  
Workplace



# Video

# 2020 Financial Results Recap

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# 2020 Workers Compensation Highlights



Net written premium  
decreased by

10%

Reported combined ratios:



87%



100%



\$14B

reserve redundancy

Excluding COVID-19 claims:



Claim  
frequency  
declined by

7%

Indemnity severity  
increased 3%



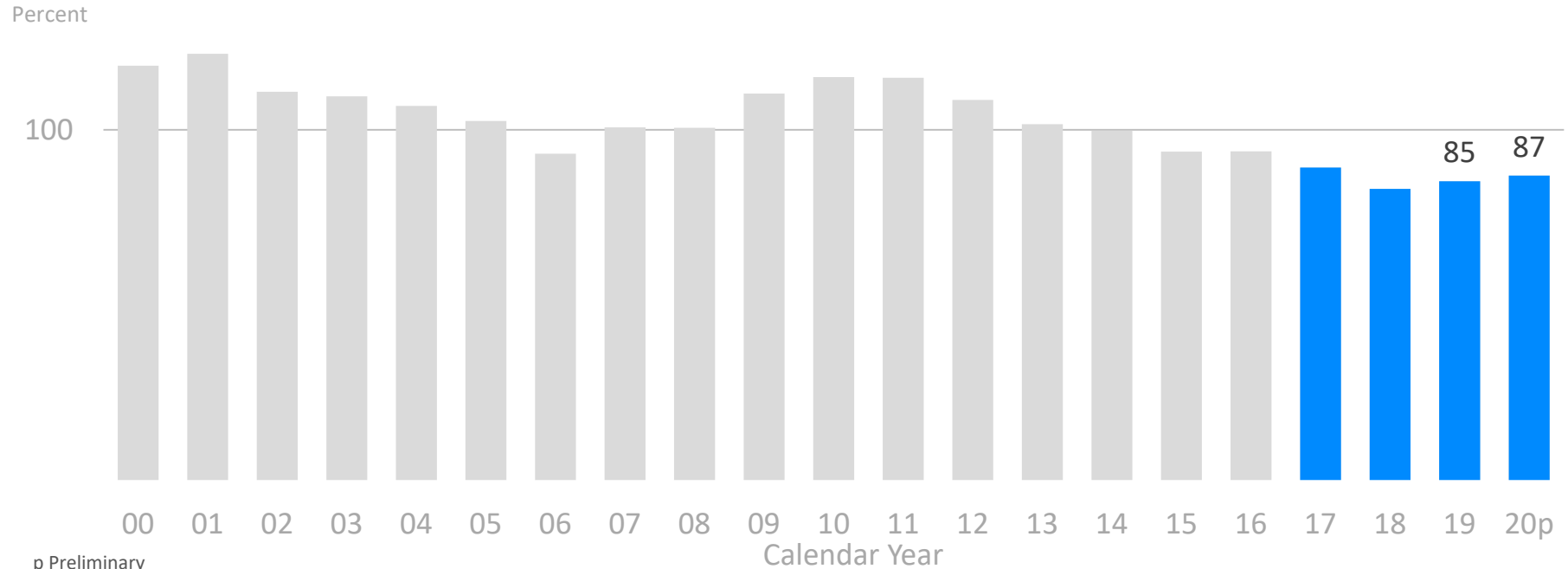
Medical severity  
expected to change  
within -2% to +2%





# WC Net Combined Ratio

Private Carriers

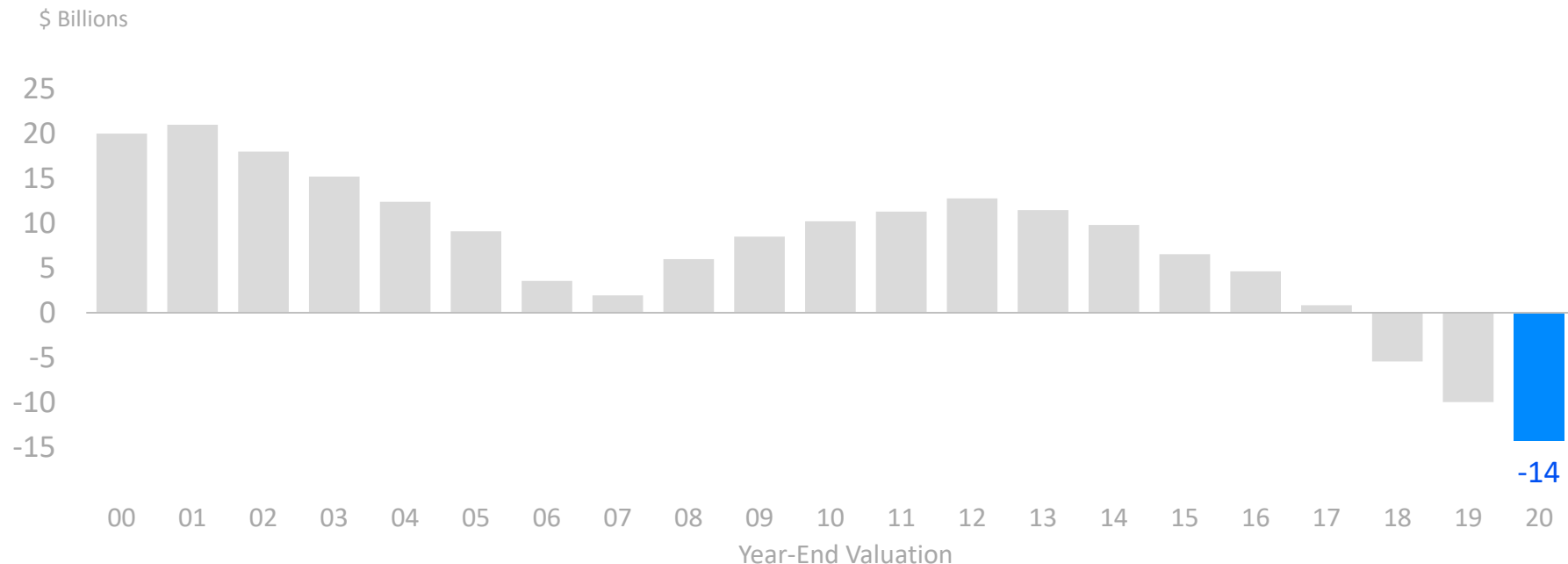


p Preliminary

Source: NAIC's Annual Statement data

# WC Net Loss and LAE Reserve Adequacy

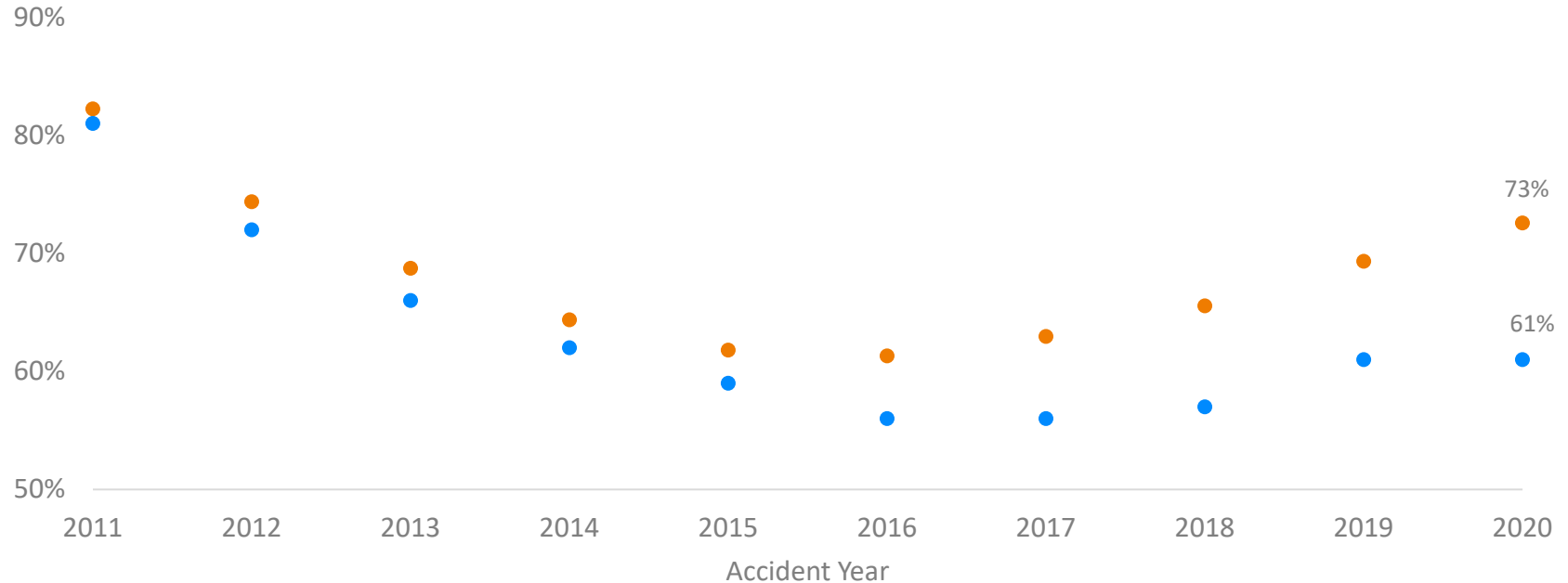
Private Carriers



Source: NCCI's analysis based on NAIC's Annual Statement data  
Considers all reserve discounts as deficiencies

# Accident Year Loss and LAE Ratios

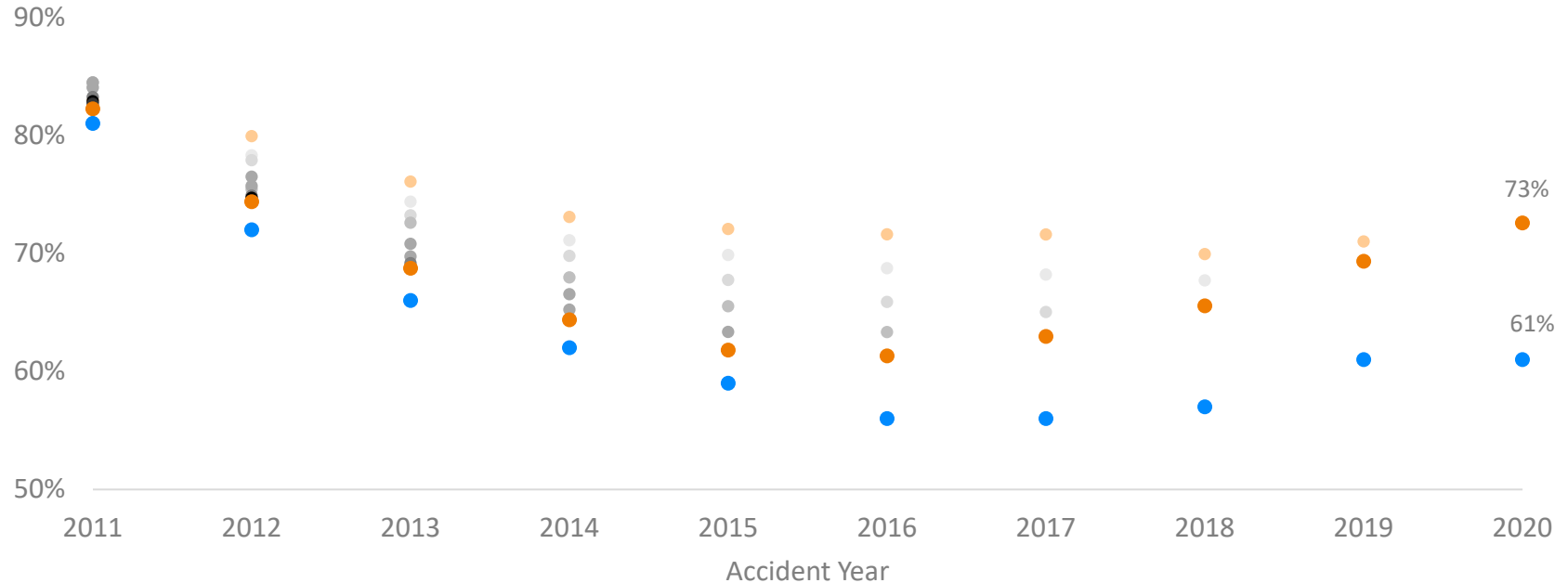
NCCI-Selected, Carrier-Reported



Source: NCCI's analysis based on NAIC's Annual Statement data  
Considers all reserve discounts as deficiencies

# Accident Year Loss and LAE Ratios

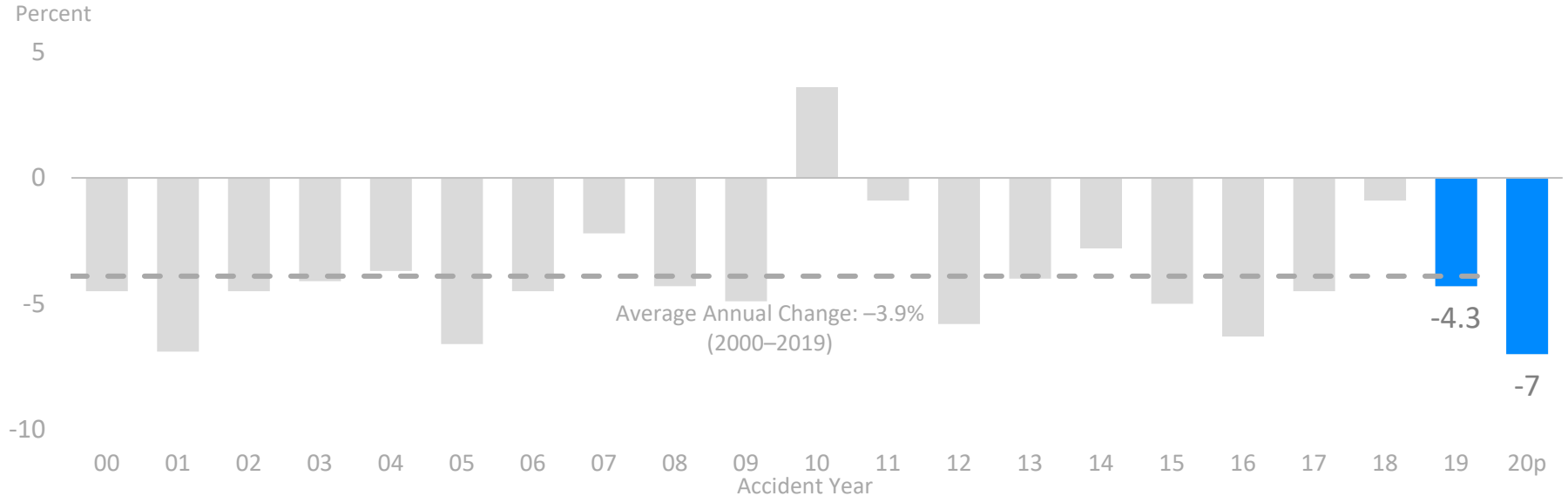
NCCI-Selected, Carrier-Reported at First and Latest Valuations



Source: NCCI's analysis based on NAIC's Annual Statement data  
Considers all reserve discounts as deficiencies

# WC Lost-Time Claim Frequency

Change in Claims per \$1M Pure Premium, Private Carriers and State Funds—NCCI States



2010 and 2011 adjusted primarily for significant changes in audit activity

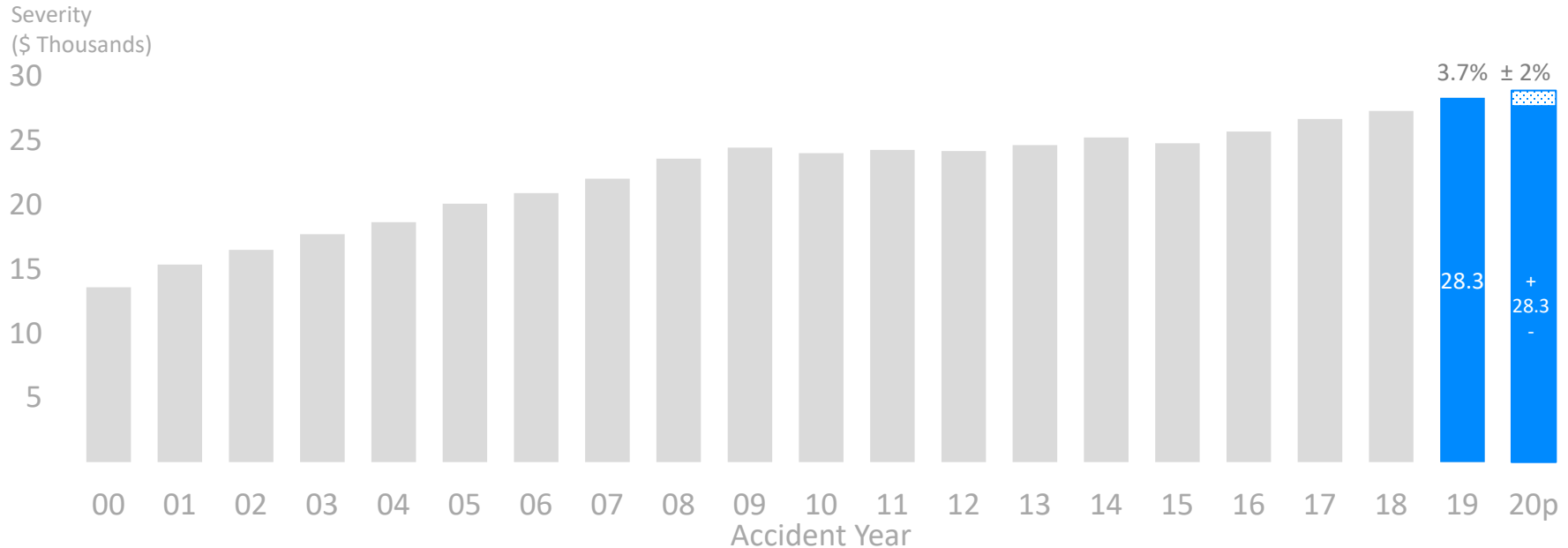
p Preliminary, based on data valued as of 12/31/2020; excludes COVID-19 claims

Source: NCCI's Financial Call data, developed to ultimate, premium adjusted to current wage and voluntary pure premium level, excludes high-deductible policies; based on data through 12/31/2019

Includes all states where NCCI provides ratemaking services; NV is excluded through 2001, TX is excluded through 2006, and WV is excluded through 2011

# WC Average Medical Lost-Time Claim Severity

Private Carriers and State Funds—NCCI States



p Preliminary, based on data valued as of 12/31/2020; excludes COVID-19 claims

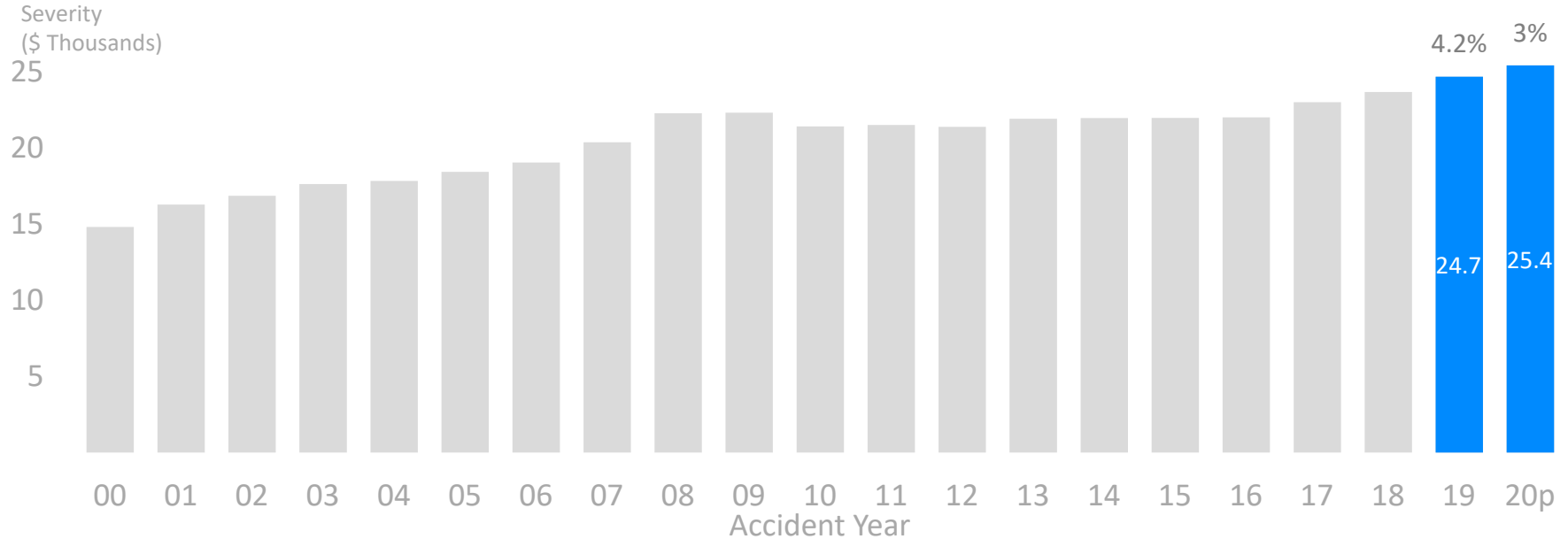
Source: NCCI's Financial Call data, developed to ultimate, excludes high-deductible policies; based on data through 12/31/2019

Values displayed reflect the methodology underlying the most recent rate/loss cost filing

Includes all states where NCCI provides ratemaking services, WV is excluded prior to 2010, TX is excluded prior to 2006, and NV is excluded prior to 2004

# WC Average Indemnity Claim Severity

Private Carriers and State Funds—NCCI States



p Preliminary, based on data valued as of 12/31/2020; excludes COVID-19 claims

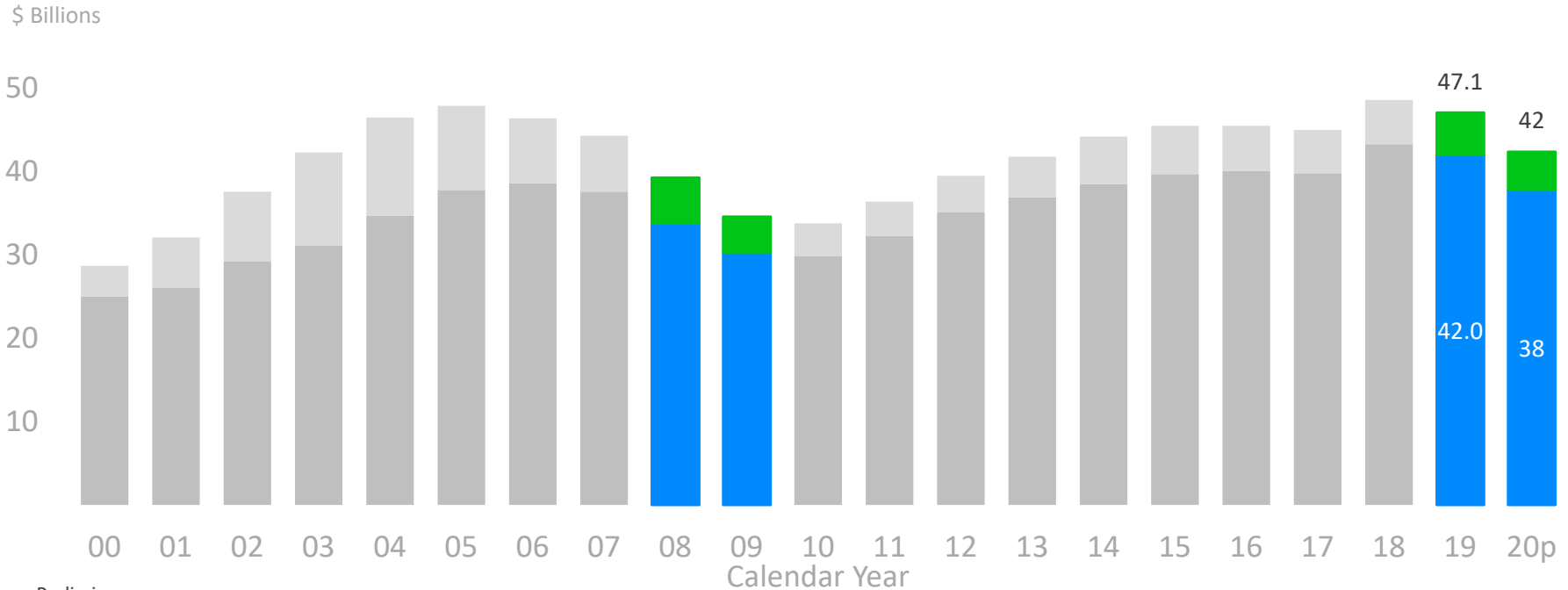
Source: NCCI's Financial Call data, developed to ultimate, excludes high-deductible policies; based on data through 12/31/2019

Values displayed reflect the methodology underlying the most recent rate/loss cost filing

Includes all states where NCCI provides ratemaking services, WV is excluded prior to 2010, TX is excluded prior to 2006, and NV is excluded prior to 2004

# WC Net Written Premium

Private Carriers and State Funds



p Preliminary

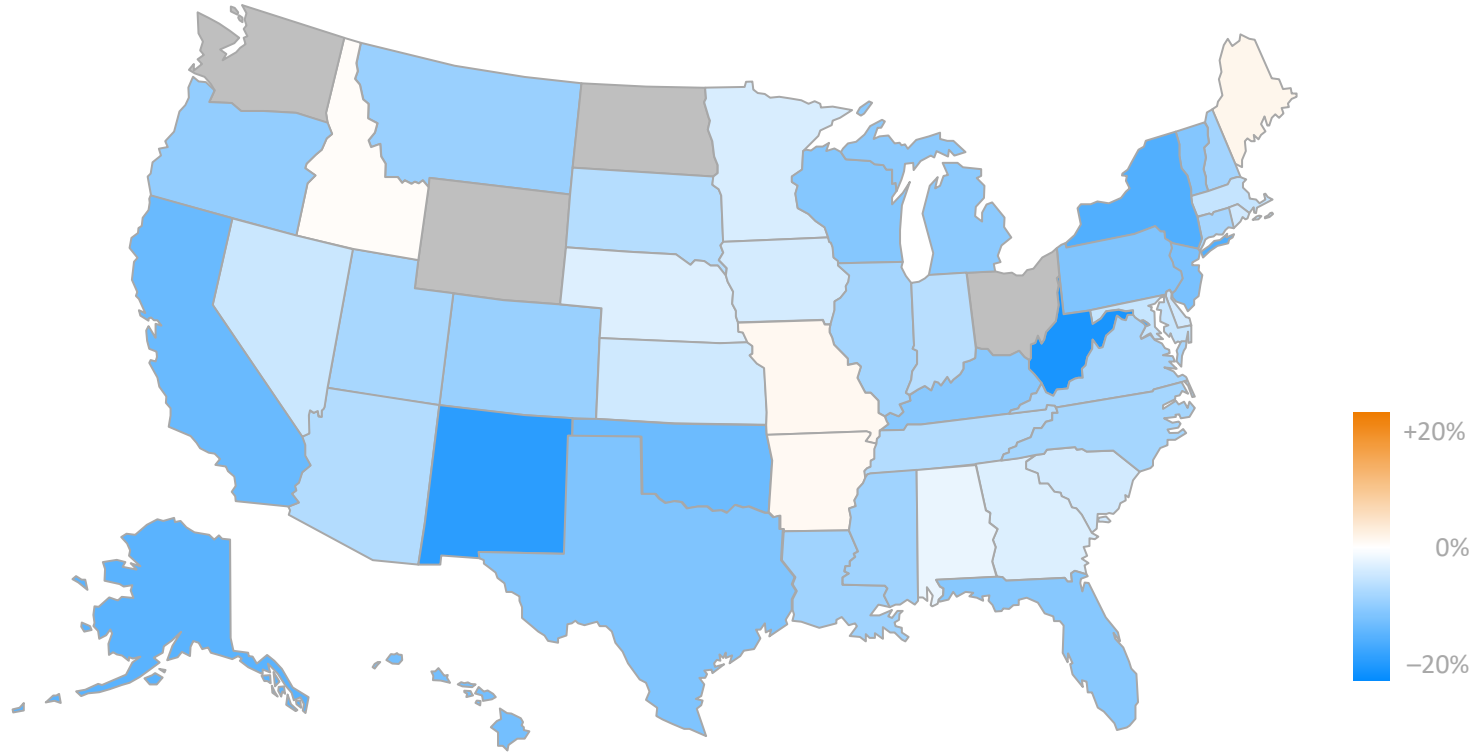
Source: NAIC's Annual Statement data; includes state insurance fund data for the following states: AZ, CA, CO, HI, ID, KY, LA, MD, MO, MT, NM, OK, OR, RI, TX, and UT

Each calendar year total for state funds includes all funds operating as a state fund in that year



# WC Direct Written Premium Change—2020

Private Carriers

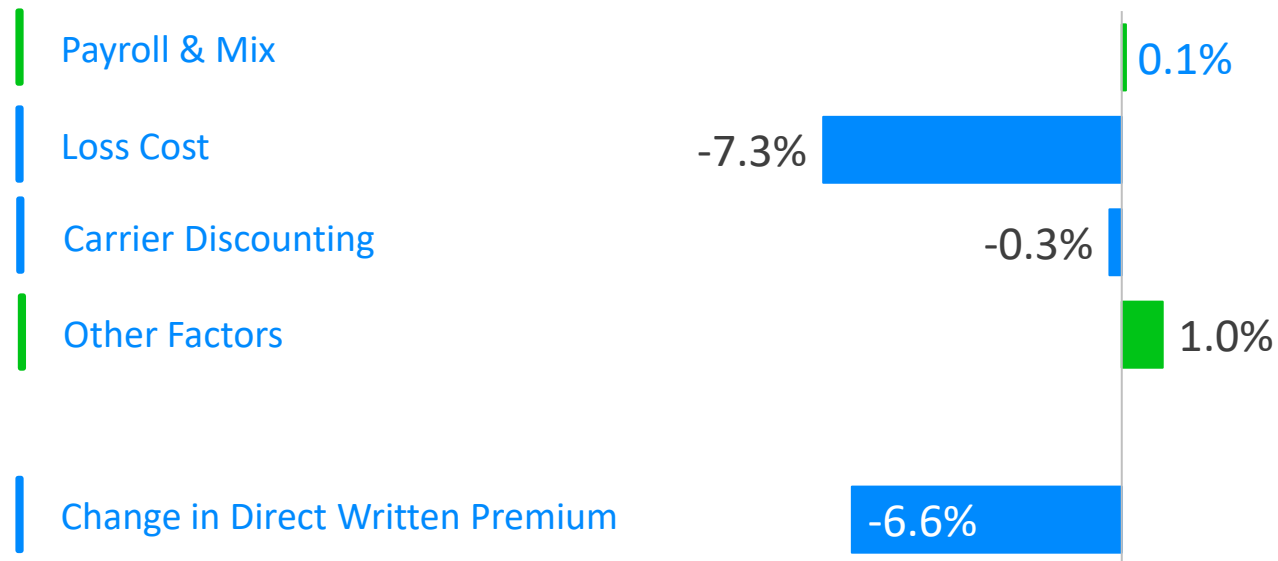


Source: 2019 and 2020 NAIC's Annual Statement Statutory Page 14

# WC Direct Written Premium Change by Component

Private Carriers—NCCI States

2019 vs. 2020



Sources: Direct Written Premium Change: NAIC's Annual Statement Statutory Page 14 for all states where NCCI provides ratemaking services  
Components: NCCI's Policy data

# Payroll Change Includes Offsetting Employment and Wage Effects

Forecast Change 2019–2020

Payroll 0.7%



Employment –6.2%



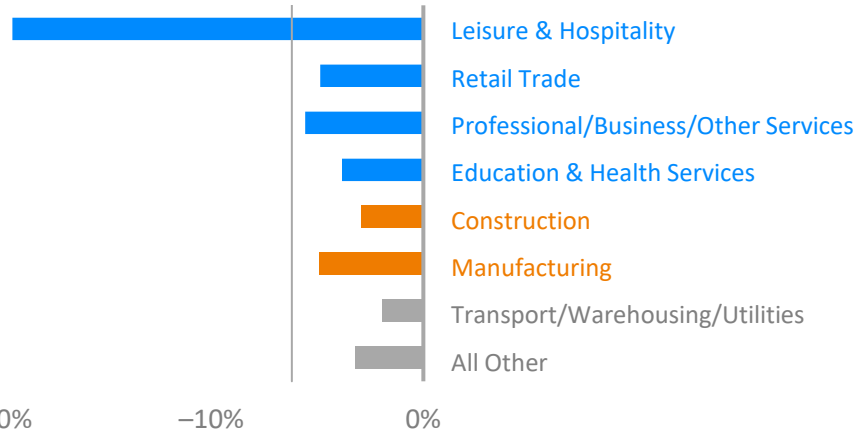
Wage Rate 7.4%



Wages and Hours  
3.0%



Employment Mix  
4.3%



Sources: Moody's Analytics and NCCI

# Takeaways

The WC industry reported strong results in Calendar Year 2020.

Frequency declines are being offset by premium declines.

NCCI expects the strong financial position of the WC line in 2020 to continue into 2021, providing for a healthy system.



# Shifting Workforce/Workplace

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Wage Growth

Employment Mix

Telework

Looking Ahead



# Payroll Change Includes Offsetting Employment and Wage Effects

Forecast Change 2019–2020

Payroll 0.7%



Employment –6.2%



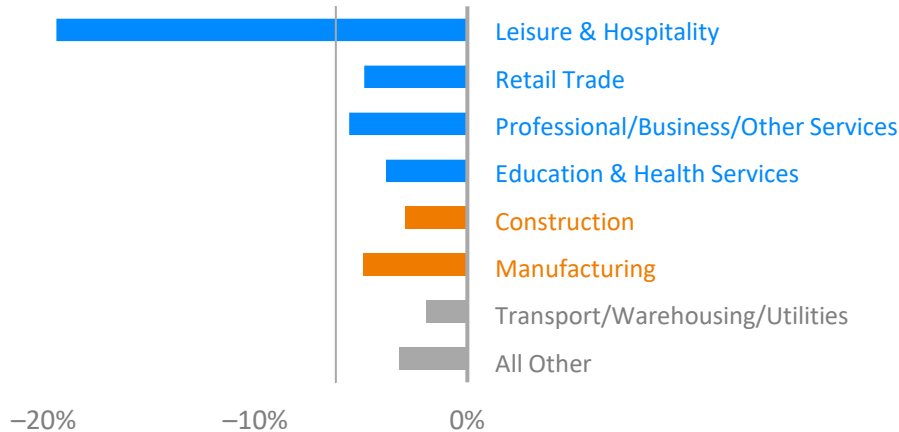
Wage Rate 7.4%



Wages and Hours  
3.0%



Employment Mix  
4.3%



Sources: Moody's Analytics and NCCI

# Drivers of AWW Growth

Changes in:

Wages for individual workers

Average weekly hours

Mix of employment **across economic sectors**

Mix of employment **within an economic sector**

# Drivers of AWW Growth

Changes in AWW due to mix of employment **across economic sectors**:

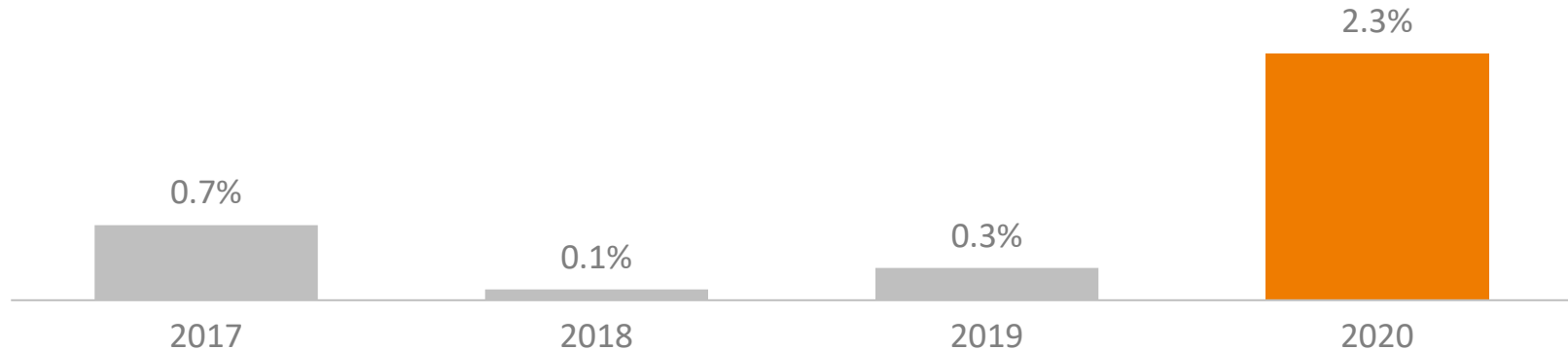


*Calculated using the same payroll and employment data by sector underlying the AWW calculation.*



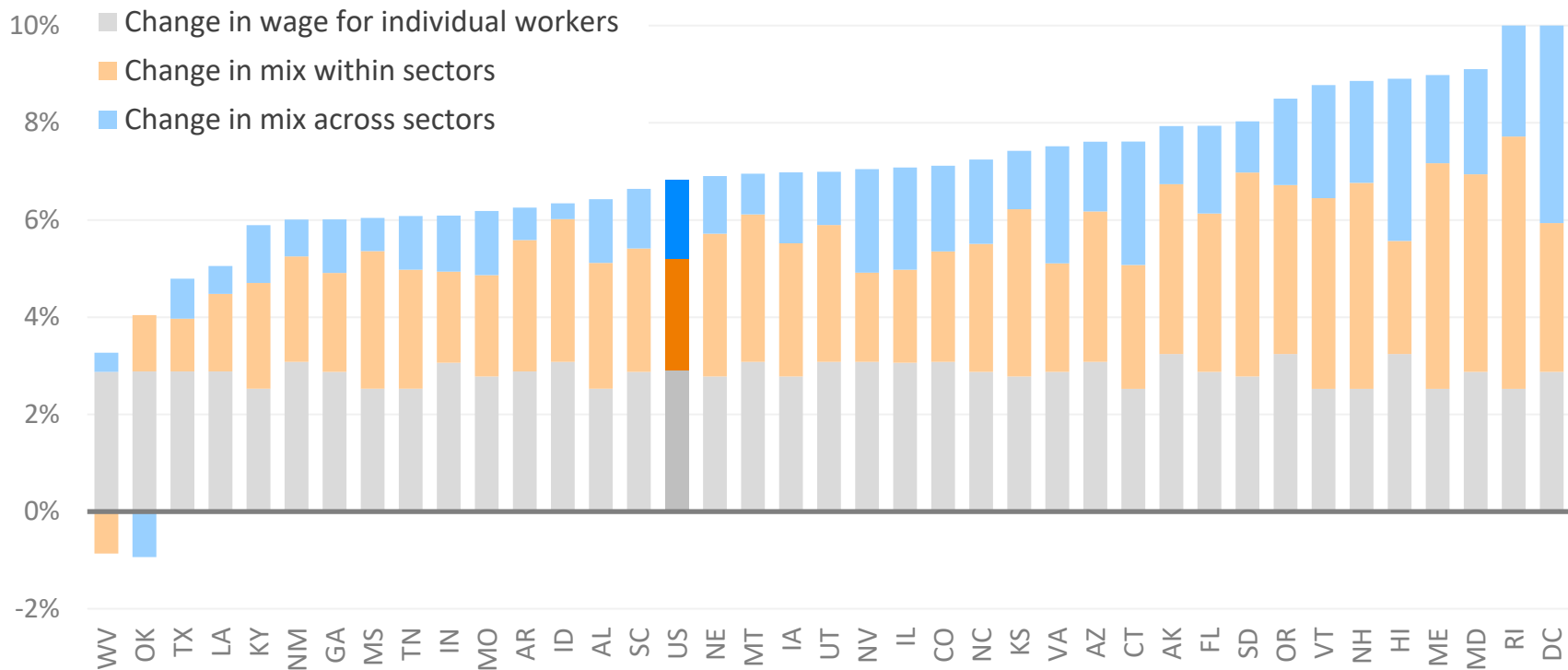
# Drivers of AWW Growth

Changes in AWW due to mix of employment **within an economic sector:**



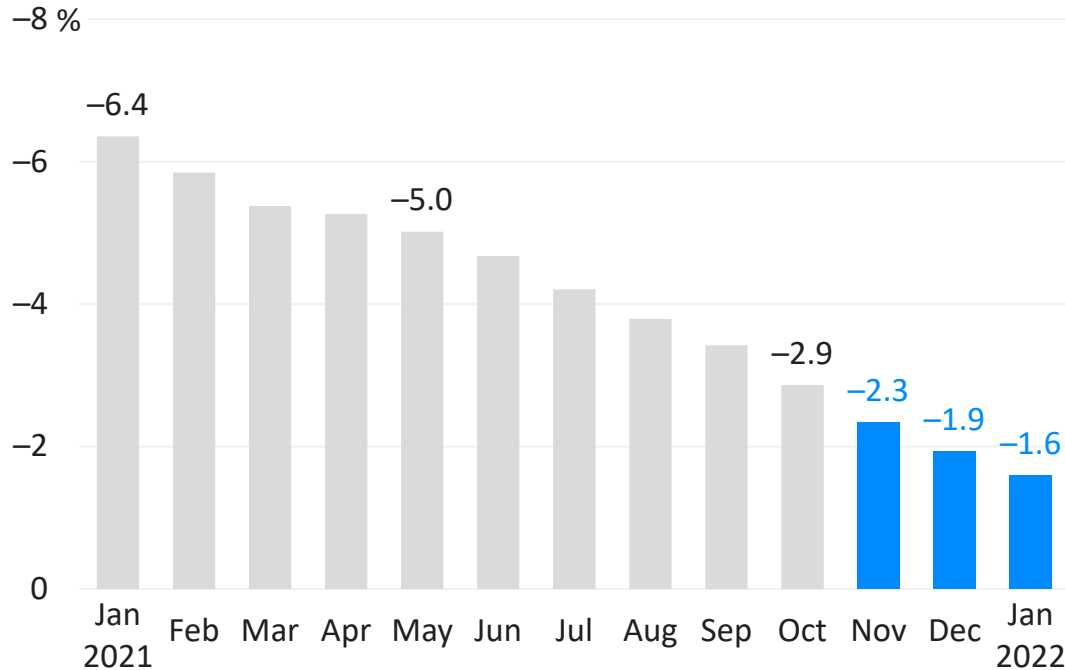
*This cannot be calculated directly from the available data and is therefore determined by the residual change not explained by the other drivers.*

# CY 2020 AWW Change Breakdown by State



# US Employment Recovered Steadily in 2021

## Private Nonfarm Employment Gap by Month



Source: US Bureau of Labor Statistics (BLS), Current Employment Statistics (CES); NCCI

- The employment gap is the shortfall of current employment compared to pre-pandemic employment
- The January employment gap of -1.6% means 2 million fewer jobs than pre-pandemic...
- ...but the January unemployment rate is 4.0%. Are we back at full employment?
- What is going on? In fact, 2.4 million fewer people are participating in the labor force
- This looks like a new normal, but starting with less employment than the old, pre-pandemic normal

# Most Sectors Are Near Pre-Pandemic Employment; A Few Are Not

## US Employment Levels and Gaps, January 2021

	Actual	Expected	Gap, %
Leisure and Hospitality	14,443	16,102	-10.3
Retail Trade	15,638	15,578	+0.4
Prof/Busn/Other Services	27,116	26,938	+0.7
Education & Health Services	23,730	24,369	-2.6
<b>Big Four service sectors</b>	<b>80,927</b>	<b>82,987</b>	<b>-2.5</b>
Construction	7,182	7,278	-1.3
Manufacturing	12,489	12,714	-1.8
Transport/Warehousing/Utils	6,913	6,377	+8.4
Mining and Logging	573	675	-15.2
All Other	17,450	17,538	-0.5
<b>Total Private</b>	<b>125,534</b>	<b>127,569</b>	<b>-1.6</b>

Employment levels in thousands, not adjusted for seasonality

Prof/Busn/Other Services combines Professional and Business Services, Other Services

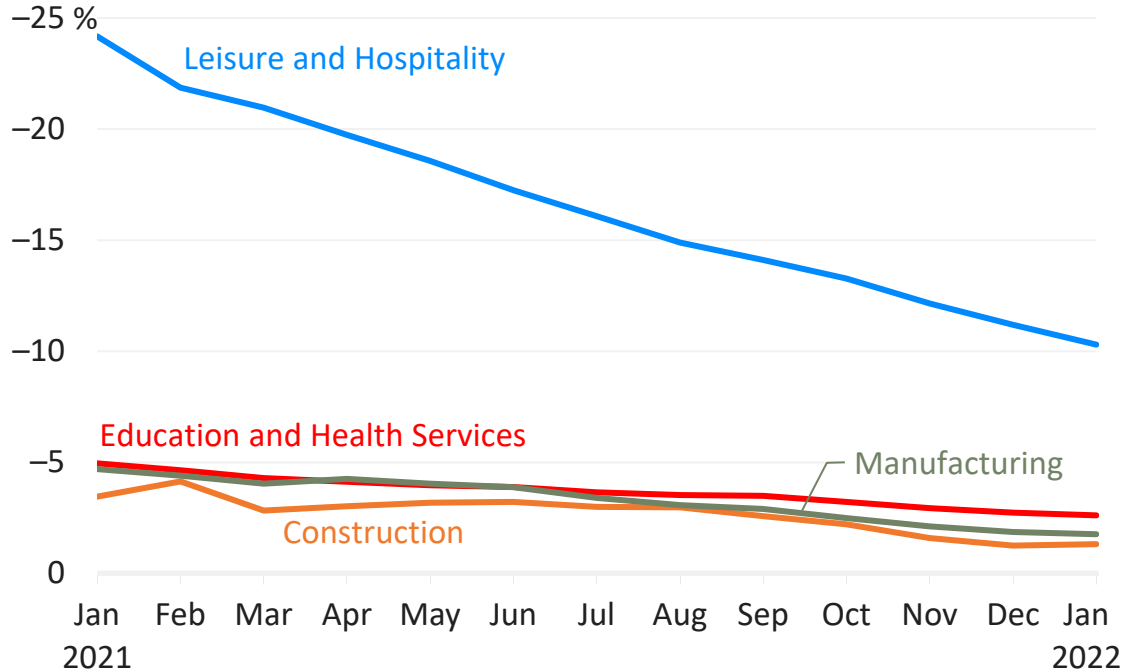
All Other combines Wholesale Trade, Financial Activities, Information

Source: US Bureau of Labor Statistics (BLS), Current Employment Statistics (CES); NCCI

- Most COVID-related job losses have been in the Big Four service sectors
- Now, the employment gap comes mainly from two: Leisure and Hospitality, and Education and Health Services (esp. Health)
- Most other sectors are approaching or above pre-pandemic employment levels
- Jobs in Transportation and Warehousing are up: a shift to goods consumption and direct delivery
- The national numbers conceal a lot of variation across states

# Employment Gaps in Selected Sectors

Employment Gaps by Month

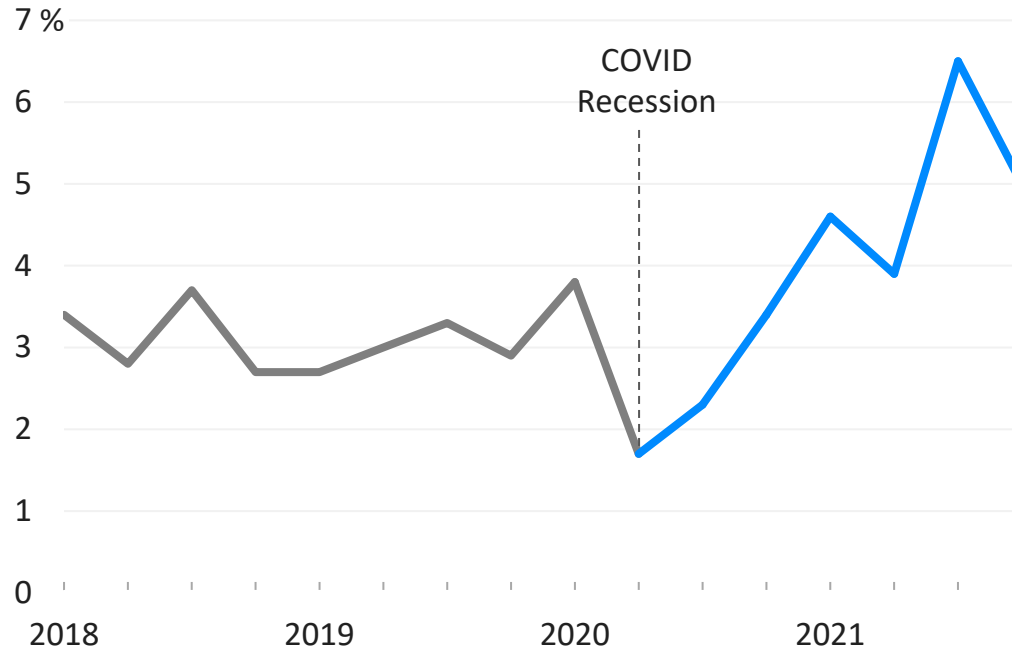


- There was a straight-line recovery in Leisure and Hospitality throughout 2021 despite surges in infections due to Delta and Omicron
- Construction and Manufacturing employment growth picked up in 2021 Q4
- Education and Health Services had slower job recovery, especially Health Care

Source: US Bureau of Labor Statistics (BLS), Current Employment Statistics (CES); NCCI

# Wage Inflation Picked Up During 2021

Annualized Percent Change, Employment Cost Index

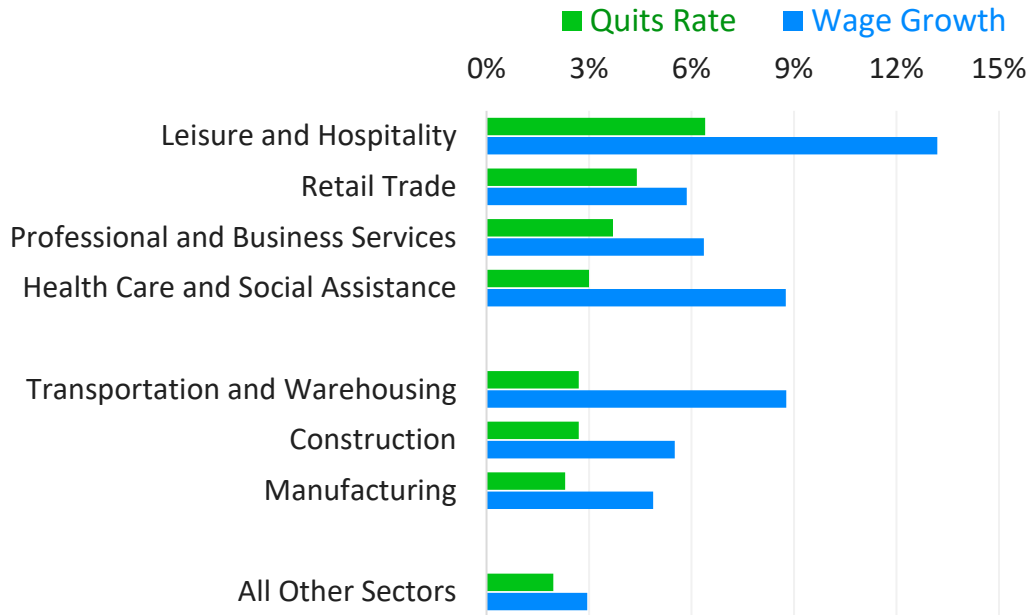


- Employment cost index (ECI) showed 5.0% wage increase for 2021, with faster growth in the second half of the year
- ECI is designed to net out industry and occupation mix, measuring only average pay changes
- But (as we'll see), wage increases have not been uniform across economic sectors

Wages and salaries for private industry workers  
Source: US Bureau of Labor Statistics

# What Is Driving Recent Wage Growth?

## Quits Rates and Wage Growth by Sector



Quit rates are for November 2021; quits for Transportation and Warehousing also include Utilities  
Wage growth is the change in average hourly earnings for production and nonsupervisory workers for September through November 2021 compared to the same period in 2020.

Source: US Bureau of Labor Statistics; NCCI

- Wage growth is concentrated in sectors that are experiencing the most severe labor shortages, and among low-wage workers
- Generally, these are sectors with big layoffs during the pandemic and/or with strong demand recovery in 2021
- Quits and wage increases are related: Workers are leaving their jobs more frequently in sectors where wages are rising fastest
- How does this translate to the AWW used in NCCI ratemaking?

# Telecommuting Overview

Office-based business and professional occupations were the most likely to implement remote work, with **3/4 of such employees working from home** early in the pandemic\*

The **Office & Clerical** industry group accounts for nearly **60% of workers compensation payroll**

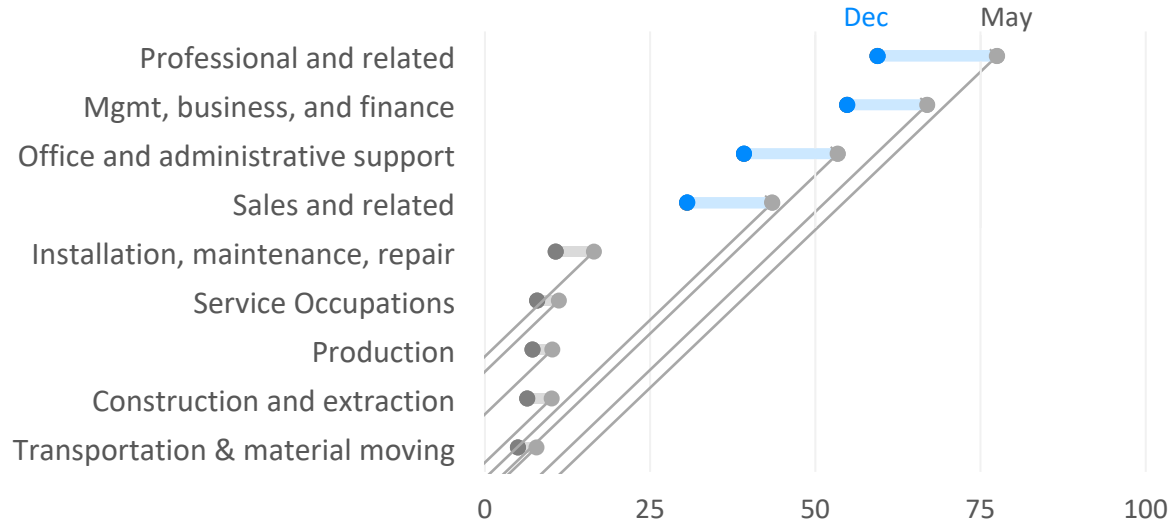
There is potential for **shifts in loss experience** driven by increased telecommuting

\*Source: US Bureau of Labor Statistics, Current Population Survey



# Working From Home Due to COVID-19

By Occupation, May-December 2020

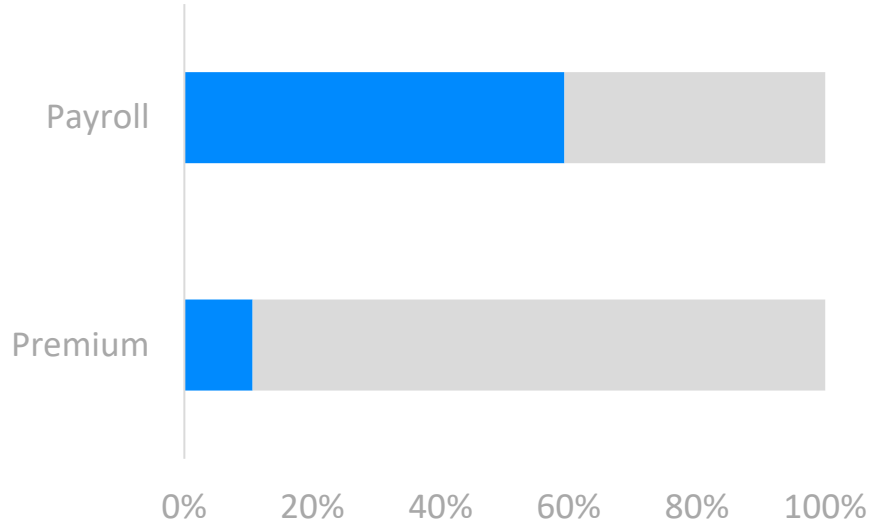


Those who worked from home specifically because of the coronavirus pandemic

Source: US Bureau of Labor Statistics, Current Population Survey

# Overview of Current Experience

Office and Clerical Industry Group Payroll and Premium Share  
Policy Year 2018

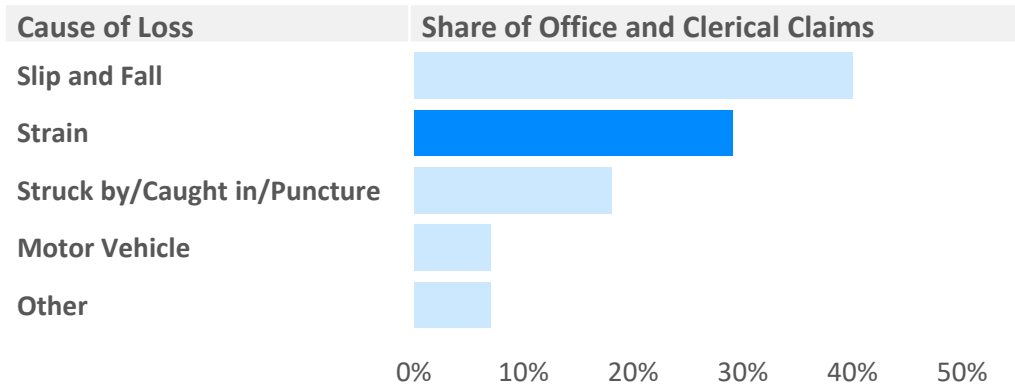


OC accounts for **59% of payroll** and **11% of premium**.

OC has significantly **lower frequency per payroll** relative to other industry groups.

Based on NCCI's **Statistical Plan** data, for Policy Year 2018. The data is at latest report, undeveloped, and limited to lost-time claims.  
States includes AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MO, MS, NC, NE, NH, NM, NV, OK, RI, SC, SD, TN, UT, VT, VA, and WV.

# Shifts in Loss Experience May Result From Increased Telecommuting



Repetitive motion strains (carpal tunnel) are currently more prevalent amongst the Office & Clerical industry group.

Source: Based on countrywide data from NCCI's **Statistical Plan**, Policy Year 2018 at latest report and undeveloped. Countrywide includes AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MO, MS, NC, NE, NH, NM, NV, OK, RI, SC, SD, TN, UT, VT, VA, WV. Excludes states where NCCI provides ratemaking services in which the clerical telecommuting employees class code (Code 8871) is not available.

# Takeaways

AWW growth in 2020 was large because of the changing mix of workers, both **across** and **within** economic sectors.

Mix-adjusted wage growth picked up in 2021 amid a tightening labor market, with especially high gains for low-wage workers

Office equipment, home office space, and ergonomic challenges have become broader telecommuting concerns.



# Inflation

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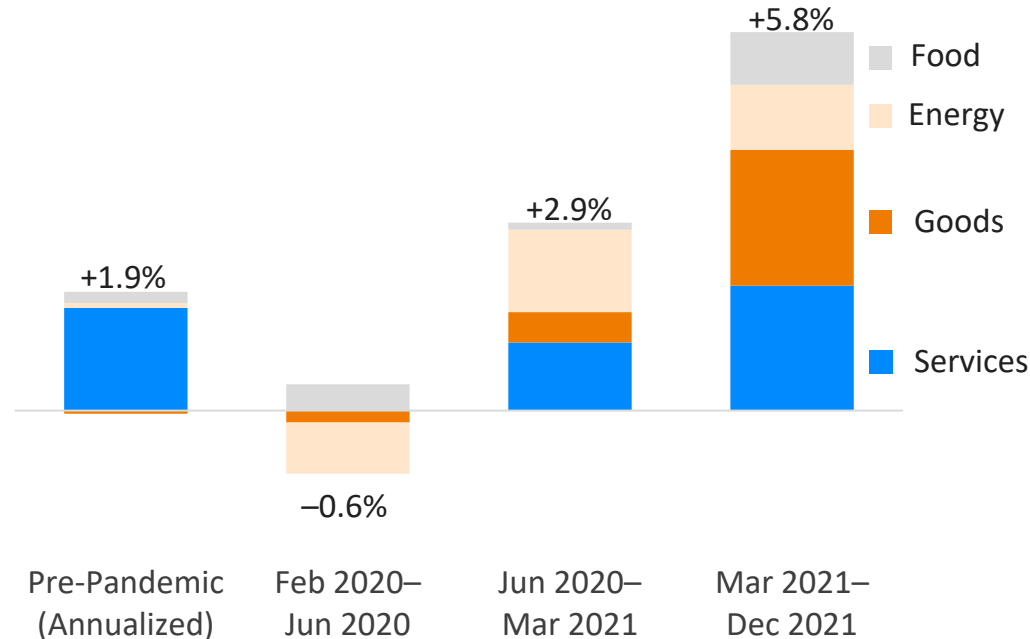
Consumer Prices

Medical Costs



# What Is Driving the Consumer Price Index (CPI)?

CPI Growth by Component



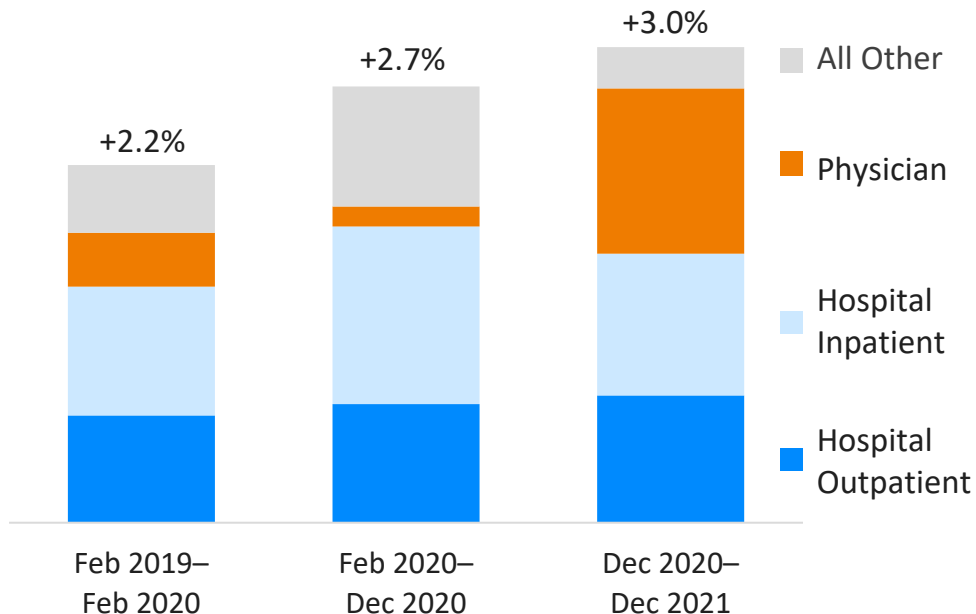
- Pre-pandemic price growth was mostly in services
- Prices for energy and goods fell in the early days of the pandemic
- Energy prices played a big role in price inflation during the early recovery period
- Price inflation for goods, services, and food accelerated in the latest period since March 2021

Pre-pandemic CPI Growth is the average annual increase for pre-pandemic years, Feb 2015–Feb 2020

Source: US Bureau of Labor Statistics

# What Is Driving Medical Price Inflation?

## Health Care PPI: Annualized Growth by Component



Source: US Bureau of Labor Statistics

- Medical price inflation is trending up, but much less than CPI inflation
- The primary drivers of medical price inflation are legislative or regulatory changes directly affecting Medicare
- The 2020 CARES Act increased Medicare inpatient payment rates
- In 2021, CMS increased Medicare physician reimbursement rates

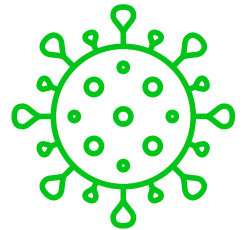
# COVID-19 Impacts

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Characteristics of COVID-19 in Workers Compensation

Industry Impacts

Looking Ahead





# What Our Data Tells Us About COVID-19 Losses

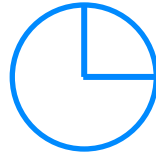
**\$260M** in losses



**45,000** claims



**75%** of claims are lost-time



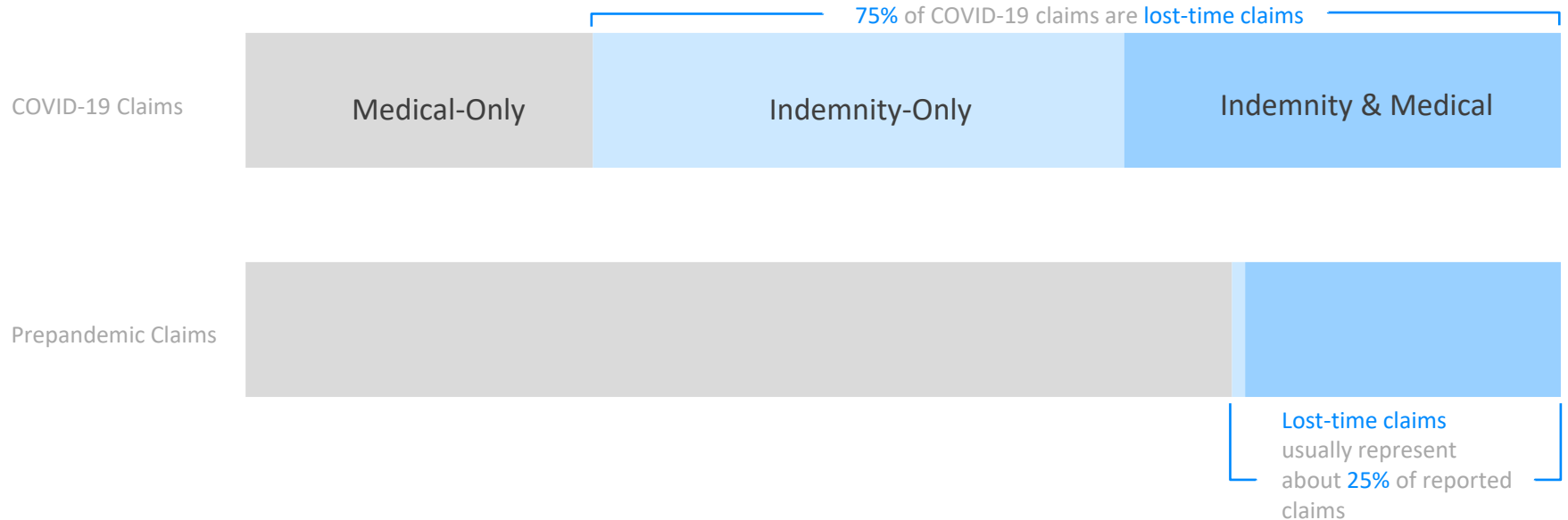
**\$6,000** average severity



Source: NCCI's Financial Call data through 12/31/2020

# Majority of COVID-19 Claims Are Lost-Time Claims

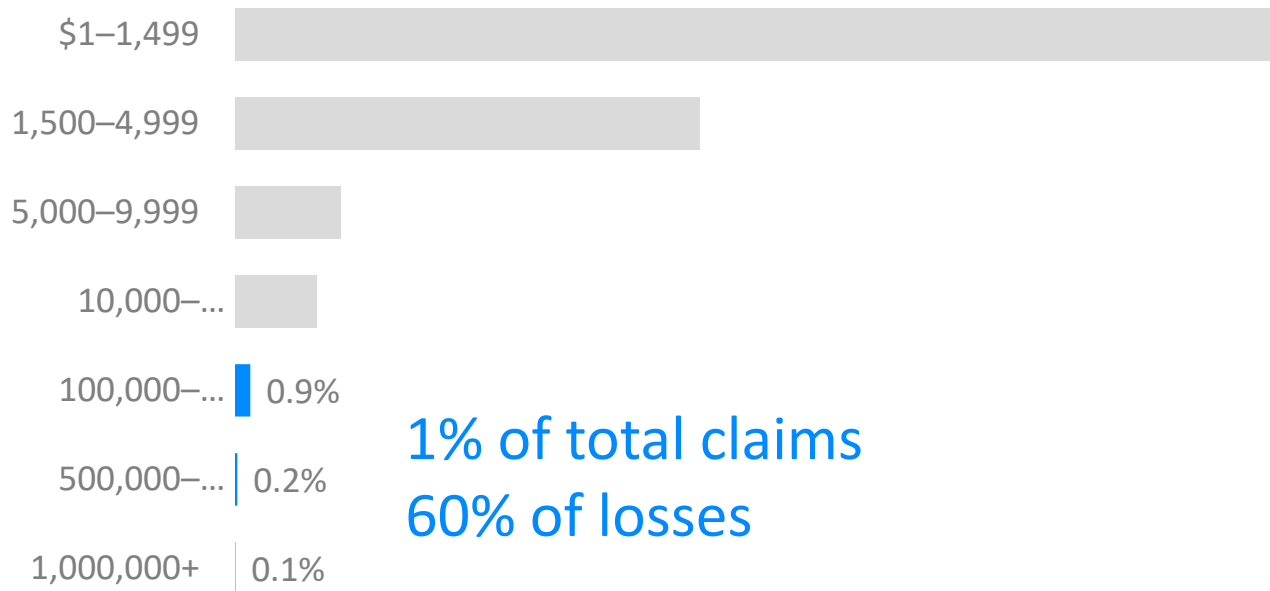
Private Carriers and State Funds



Sources: COVID-19 Claims: NCCI's Financial Call data through 12/31/2020  
Prepandemic Claims: NCCI's *Statistical Plan* for Policy Year 2018

# COVID-19 Claims by Size of Loss

Private Carriers and State Funds

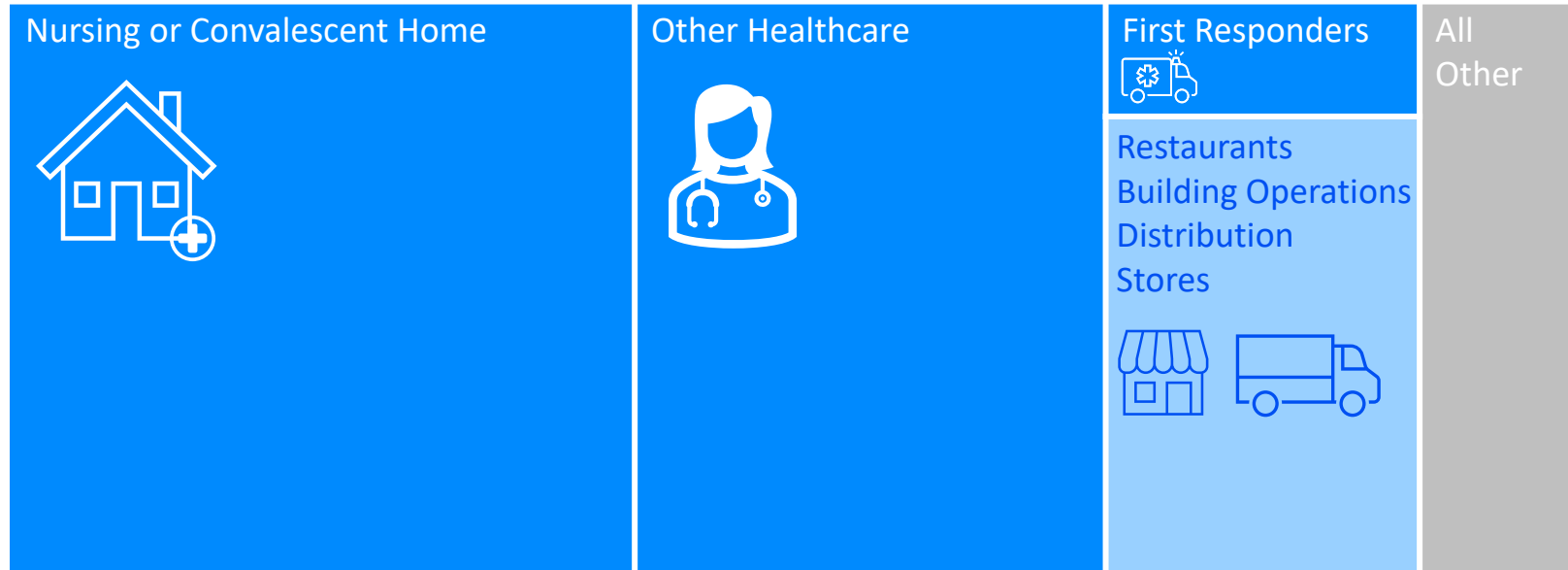


Source: NCCI's Financial Call data through 12/31/2020  
Indemnity and Medical Paid+Case Losses

# Distribution of COVID-19 Claims by Industry

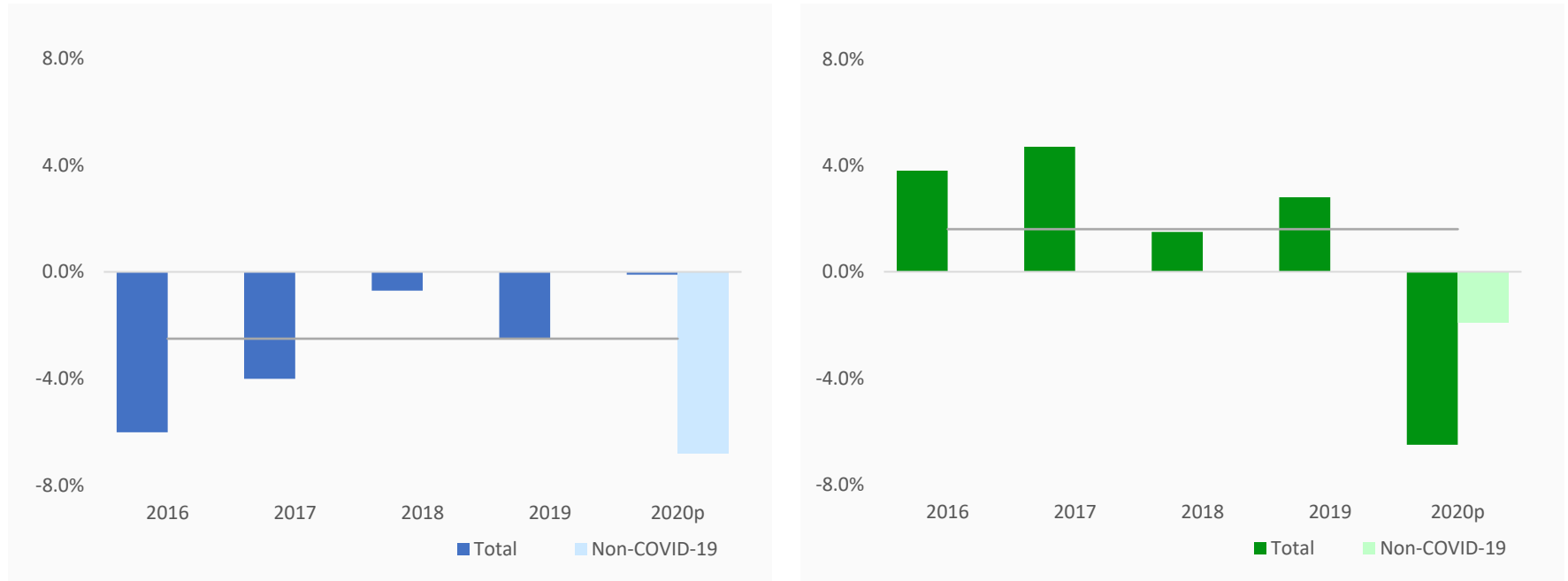
Private Carriers and State Funds

Healthcare and First Responders accounted for almost 75% of all COVID-19 claims



Sources: NCCI's Financial Call data through 12/31/2020 and NCCI's Policy data

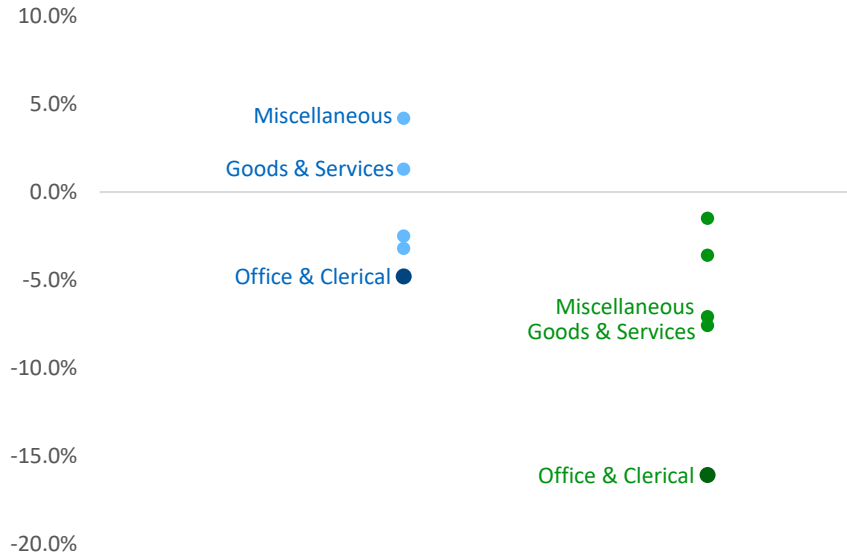
# Average Annual Change in WC Lost-Time Claim Frequency and Severity



Based on countrywide data from NCCI's **Statistical Plan**. Analysis includes jurisdictions where NCCI provides ratemaking services. Data from private carriers and state funds are included in this analysis. Coal mine, federal-class, and large deductible policies are excluded. Data underlying frequency and lost-time severity is as reported and undeveloped.

# Industry Group Changes in Lost-Time Frequency and Severity

## AY 2019 to AY 2020



The **Office & Clerical** industry group experienced the largest declines in frequency and severity.

Claim frequency increased for the **Goods & Services** (e.g., hospital employees) and **Miscellaneous** (e.g., police officers) industry groups.

Based on countrywide data from NCCI's **Statistical Plan**. Analysis includes jurisdictions where NCCI provides ratemaking services. Data from private carriers and state funds are included in this analysis. Coal mine, federal-class, and large deductible policies are excluded. Data underlying frequency and lost-time severity is as reported and undeveloped.

# Looking Ahead



Future COVID-19 **Variants/Surges**



**Premium Recovery** for  
WC



Impact of **Vaccines**



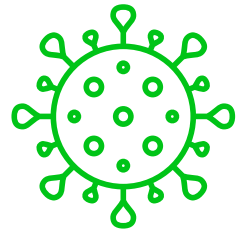
**Permanent Disability**



Retroactive **Presumptions**



**Loss Development**



Is 2020 purely an **anomaly** or will there be **lasting effects**?

# Links to related content on NCCI.com

*An Evolving Landscape for Workers Compensation*

*2021 State of the Line*

*COVID-19 and Workers Compensation: Data and Insights*

*Is Inflation Back?*

*NCCI's Annual Workers Compensation Industry Loss Reserve Analysis*

*Quarterly Economic Briefings*

*Telecommuting and Workers Compensation: What We Know*

*Workers Compensation Frequency and Severity – What's COVID Got to Do With It?*