

WCIRB Actuarial Committee Meeting

May 19, 2020

Agenda

AC20-04-04: COVID-19 Crisis

- Evaluation of Impact of Governor's Executive Order
- Potential Impact of Economic Downturn on Frequency

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Evaluation of Impact of Governor's Executive Order



Cost Evaluation of COVID-19 Presumptions

Background

- **Many states adopting or considering some type of legal presumption as to the compensability of COVID-19 illnesses of specified workers**
- **WCIRB requested by Assembly Insurance Committee to evaluate conclusive presumption applied to all Essential Critical infrastructure (ECI) workers**
- **WCIRB Evaluation Provided 4/17/2020**
 - Wide range of estimates depending on percentage of workers contracting COVID-19
 - Estimates range from \$2 billion to \$33 billion with mid-range estimate of \$11 billion
 - Reflects estimated statewide claim costs over an annual period
 - Reflects cost of all COVID-19 claims for ECI workers (not offset for claims that would arise without a presumption)
 - Assumptions largely based on data and studies from other systems
- **Governor Issues Executive Order with Rebuttable Presumption on May 6**

Cost Evaluation of COVID-19 Presumptions

Governor's May 6 Executive Order

■ Key Provisions of Executive Order

- Rebuttable presumption of compensability applied to workers contracting COVID-19 who worked outside of home at employer's direction within 14 days of diagnosis
- Presumption limited to dates of injury from March 19 to July 5
- Requires a positive test or diagnosis of COVID-19
- TD must be certified by physician and can be offset by specific COVID-19 sick leave
- Death benefits for workers with no dependents (paid to the state) is waived

■ Key Differences in Valuation of Executive Order from WCIRB April Valuation

- Fixed time frame for application of presumption vs. annual period in April valuation
- Application to all workers working outside the home is more broad
- Presumption is rebuttable vs. conclusive in WCIRB April valuation
- More information available on death and hospital COVID-19 rates in California that reflects the impact of stay-at-home orders

Cost Evaluation of Governor's Executive Order

Key Questions

- **What California Workers are Affected by the Presumption?**
- **What Proportion of Identified Workers will Contract COVID-19?**
- **What Proportion of the COVID-19 Claims Involve Hospitalization and/or Death?**
- **What Proportion of Workers with COVID-19 will File a Compensable Claim?**
- **What are the Typical Costs of a COVID-19 Workers' Compensation Claim?**
 - Medical Costs
 - Temporary Disability Benefits
 - Permanent Disability Benefits
 - Death Benefits
 - Loss Adjustment Expenses

Cost Evaluation of Governor's Executive Order

WCIRB Process

- **Extensive Review of Available Research on COVID-19 Particularly in California**
- **Estimate Number of Workers Subject to Presumption and Link to Published Information by Occupation and Industrial Sector on Workforce, Age, and Wages**
- **Analysis of Workers' Compensation Cost Components of Similar Claims**
- **Obtain Feedback and Peer Review from Researchers, Actuaries, Physicians, and Claims Experts**
- **Key WCIRB Assumptions for Purposes of this Evaluation**
 - Estimates made over a range of potential hospitalization and death rates of workers with presumption
 - Medical and indemnity costs on COVID-19 claims similar to those of claims with similar characteristics
 - Loss adjustment expenses on COVID-19 claims similar to other workers' compensation claims
 - No estimate of cost of COVID-19 claims on affected workers in absence of presumption
 - No estimate of cost of COVID-19 claims on workers not affected by the presumption
 - No impact on costs of quarantined workers without COVID-19

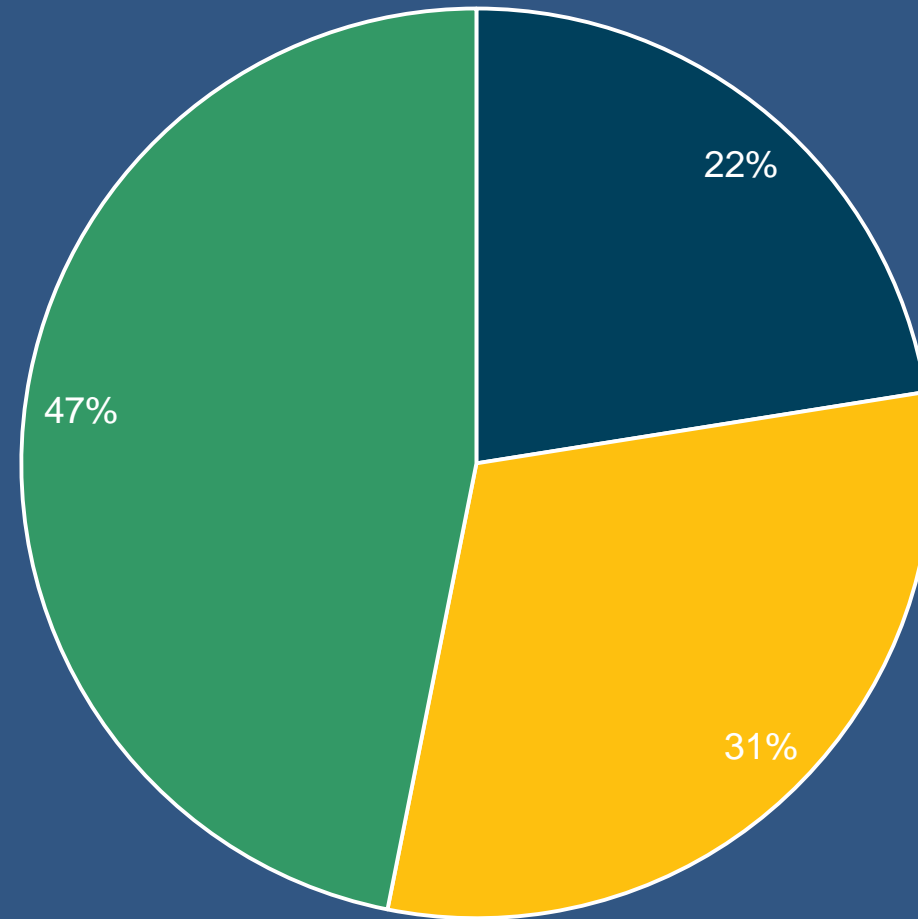
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Workers Impacted by Presumption

- **Mapped workers to three groups via occupation and industry:**
 - Health Care workers, Firefighters, EMS and Rescue employees, Front Line Law Enforcement
 - All other workers who are considered essential under the Governor's Executive Order
 - All other workers
- **Allocated those working as of February 2020 for pandemic-related employment changes by sector:**
 - Working outside the home
 - Telecommuting
 - Unemployed
- **Employment counts based on EDD data by sector as of February 2020 represent pre-COVID-19 pandemic numbers**
 - Used countrywide unemployment by sector and reports of new claims in CA to estimate the share not working
 - Used a mapping of potential for telecommuting by occupation to estimate the potential share working at home
- **Relied on ACS data for distributions of ages and wages so that we could include both insured and self-insured employers**
 - Used wage distributions to estimate TD benefits
 - Used age distributions to estimate the type of COVID-19 claim
- **For non-healthcare/first responder group estimated share working outside of home based on data on telecommuting, use of transit, etc.**

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Estimated Distribution as of May 2020 of Workers Employed in February 2020



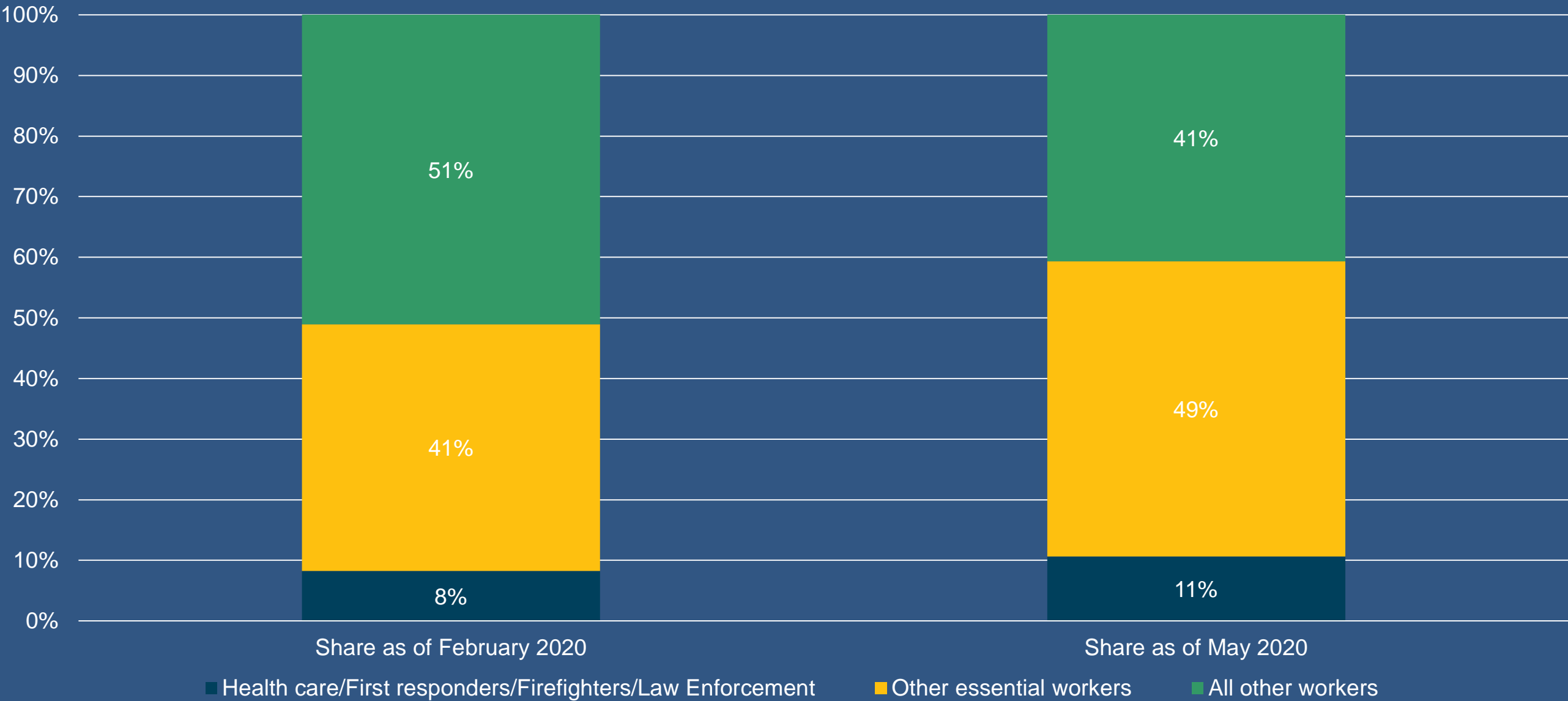
□ % Unemployed as of May 2020

■ % Telecommuting or not working but still employed

■ % Working outside the home

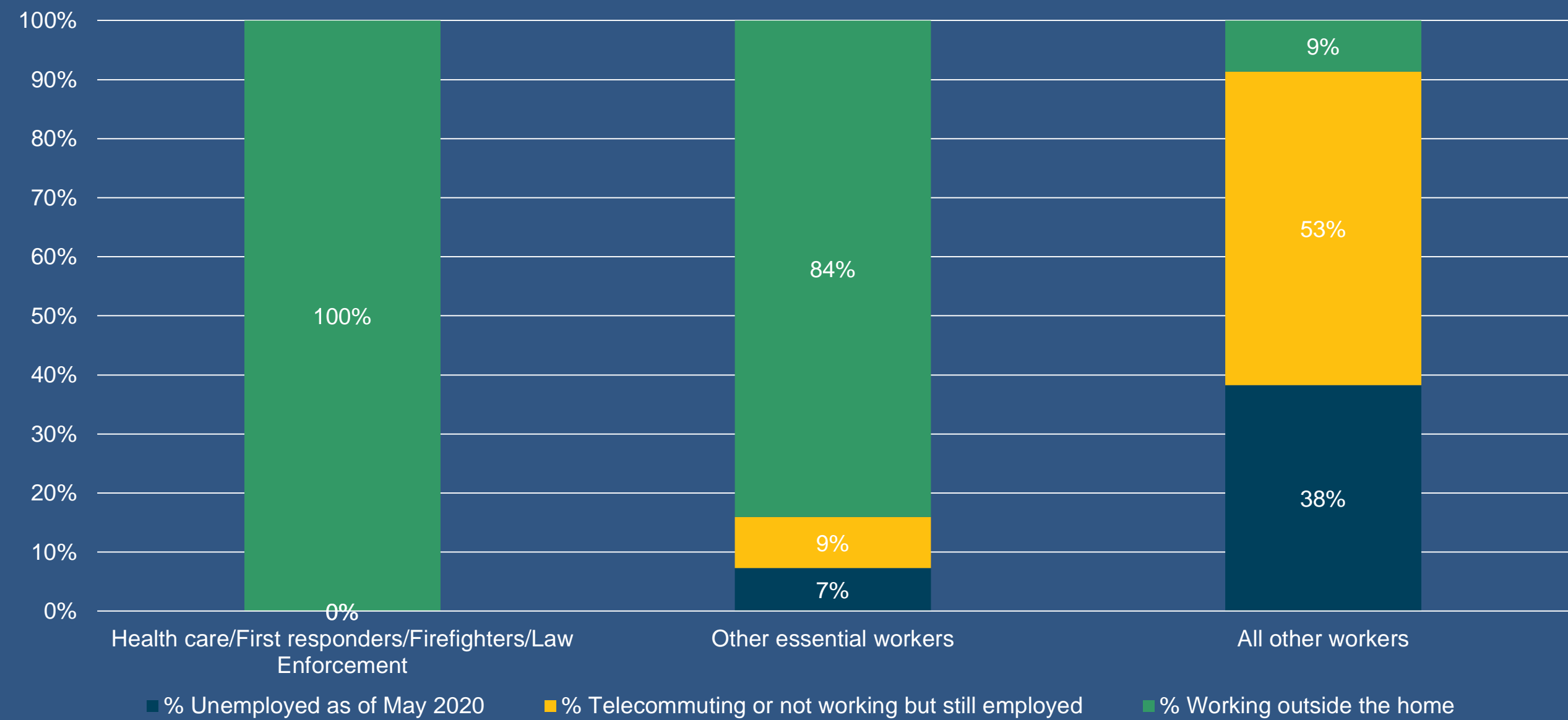
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Estimated Distribution of Workers Affected By Presumption



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Estimated Share of Workers Affected By Presumption



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Projected Workers' Compensation Claims – General Approach

- **Projected death rates based on published IHME projections**
 - Projection for end of July used (first exposure occurred on or before July 5)
 - Death rates by age interval published by CA DPH
 - Total deaths adjusted to the working age population for affected workers
- **Projected hospitalization rates based on published CDC (COVID-NET) data**
 - Hospitalization rates by age interval published weekly
 - Used inverse power curve to project data to mid-July (first exposure occurred on or before July 5)
 - Total hospitalizations adjusted to the working age population for affected workers
- **Hospital claims segregated into Severe (no ICU) and Critical (ICU) based on published sources**
 - Approx. 30% of hospitalizations assumed to be Critical
- **Mild (no hospitalization) claims estimated based on ratio of non-hospitalization COVID-19 claims to hospitalization claims based on published sources and judgement**
 - Approx. 90% of COVID-19 cases assumed to be Mild
 - Estimates of Mild cases most significantly impacted by rate of testing

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Projected Workers' Compensation Claims – Low/Mid/High Estimates

- **Low-range estimate**

- Claim rates by age interval 4 times higher for health care workers and first responders and comparable to the general population for other ECI workers and all other workers

- **Mid-range estimate**

- Claim rates by age interval 10 times higher for health care workers and first responders, 1.5 times higher for other ECI Workers, and comparable to the general population for all other workers
- Results in approximately 80% of projected working-age COVID-19 cases are from workers covered by presumption
- Results in distributions of claims between health care workers and first responders comparable to early claim filings

- **High-range estimate**

- 95% of working-age COVID-19 cases are assumed to be from workers covered by presumption
- High-end projection of total COVID-19 cases used, which assumes relaxing of social distancing and stay-at-home orders in coming months

- **Low and High estimates not intended to be best-case or worst-case scenarios**

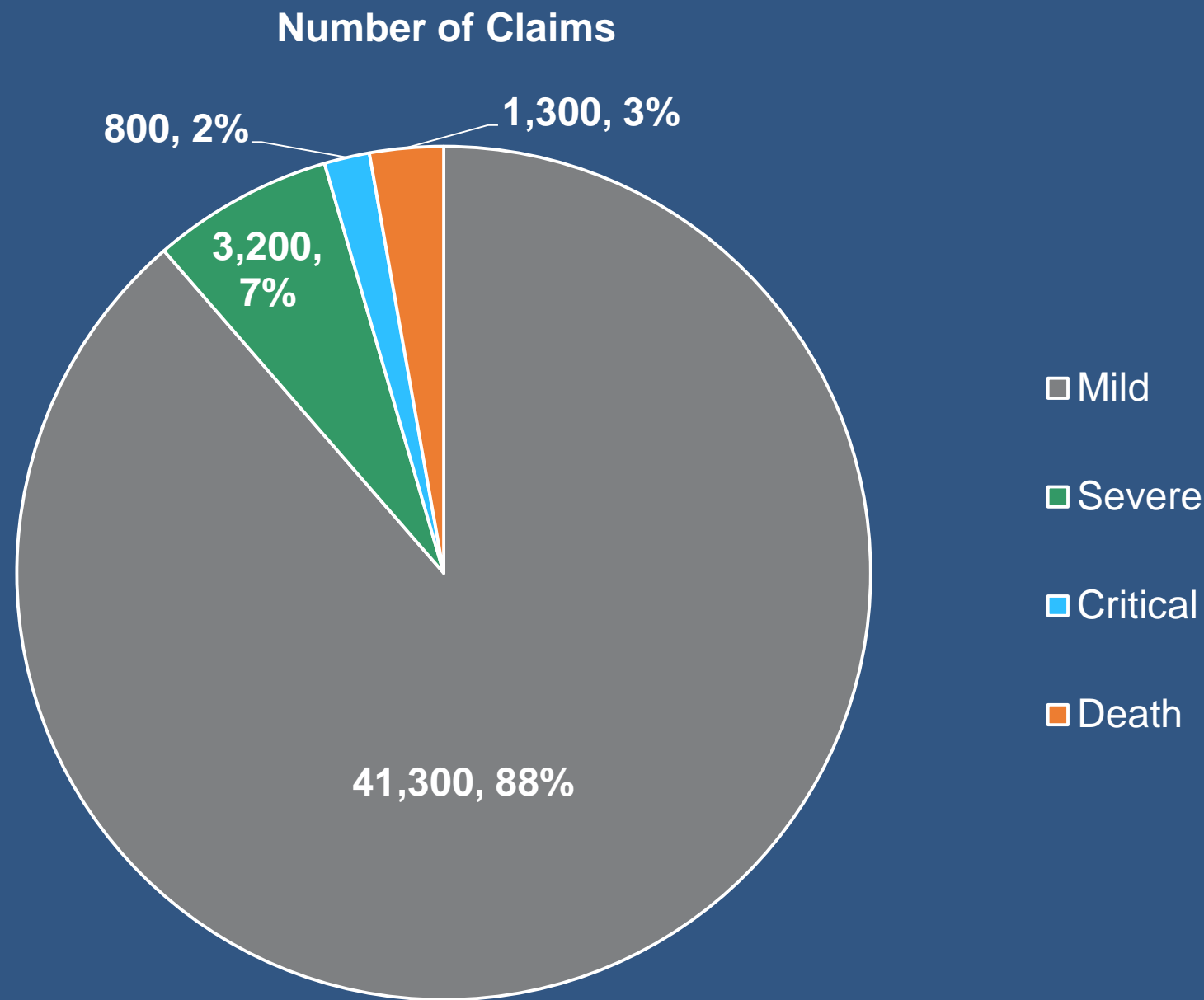
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Projected Workers' Compensation Claims – Impact of Rebuttable Presumption

- Initial feedback from claims experts suggests most claims will be covered by the presumption
- For Severe/Critical/Death claims: offset of 5% for health care workers and first responders and 10% other affected workers
- For Mild claims: offset of 15% for health care workers and first responders and 25% other affected workers (also considers impact of TD offset and requirement for physician certification)

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Distribution Preliminary Mid-Range Estimates of Claims by Type of COVID-19 Claim



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Average Claim Cost Analysis

■ Medical Costs

- Estimated based on the DWC Official Medical Fee Schedule & WCIRB medical transaction data for medical treatment for claims similar to COVID-19
- Added long-term medical for claims with PD based on the medical data
- Validated by physicians, researchers and actuaries

■ Temporary Disability & Permanent Disability Benefits

- Reviewed medical evidence on COVID-19 prognosis and complications (e.g., damages to lungs, heart, brain and kidney)
- Estimated based on WCIRB data on claims with illnesses similar to COVID-19 complications and feedback from claims experts, researchers, and physicians
- Adjusted TD duration and added a 5% offset for TD benefits due to supplemental sick leave benefits available in response to COVID-19
- Adjusted % of claims receiving PD benefits

■ Death Benefits

- Estimated based on the historical average cost of death claims in the WCIRB data
- Death claims with no dependents do not include death benefits but include medical and TD costs

■ Loss Adjustment Expenses

- Assumed to be incurred at a level consistent with other claims (36.1% of losses)

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Medical Cost Analysis

Type of COVID 19 Claims	Estimated Medical Cost	Total Medical per Claim
Mild (no hospitalization)		
Physician services (test, telehealth office visits, medication)	\$400	\$400
Severe (hospitalization w/o ICU)		
Initial physician services	\$300	\$64,000
Inpatient care (1 week)	\$47,400	
Follow-up medical care (2 weeks)	\$11,300	
Long-term medical for 25% of the cases (medication, PT, etc)	\$5,000	
Critical (hospitalization w/ ICU, no death)		
Initial physician services	\$300	\$154,300
Inpatient care (2 weeks)	\$92,000	
Rehabilitation & follow-up care (6-8 weeks)	\$42,000	
Long-term medical for 50% of the cases (medication, PT, etc)	\$20,000	
Death		
Initial physician services	\$300	\$111,600
Inpatient care (2 weeks)	\$111,300	

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Indemnity Cost Analysis

Type of COVID 19 Claim	Symptoms Onset to Hospital Admission (wks)	Hospital Stay (wks)	Rehabilitation & Recovery (wks)	TD Duration (wks)	Total Average TD Benefit (\$)	PD Benefit	Death Benefit
Mild	—	—	3	3	\$1,700	—	—
Severe (hospitalization w/o ICU)	1	1	4	6	\$3,400	\$22,000 (25% of Severe claims, PD rating of 20%)	
Critical (hospitalization w/ ICU, no death)	1	2	11	14	\$7,800	\$48,000 (50% of Critical claims, PD rating of 35%)	
Death	1	2	—	3	\$1,700	—	\$190,000

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Estimated Claim Cost

Type of COVID-19 Claim	Percent of Claims (Mid-Range Estimate)	Cost of Indemnity and Medical Benefits
Mild (No Hospitalization)	89%	\$2,100
Severe (Hospitalization w/o ICU)	7%	\$72,900
Critical (Hospitalization w/ ICU, no Death)	2%	\$186,100
Death	3%	\$280,500
All Claims	100%	\$17,700

Cost Evaluation of Governor's Executive Order

Preliminary Cost Evaluation

Estimate Type	Health Care Workers and First Responders		Others Working Outside the Home		Preliminary Total System Costs in \$Billions
	# of Claims	Cost in \$B	# of Claims	Cost in \$B	
Low	11,900	\$0.3	11,700	\$0.3	\$0.6
Mid	29,800	\$0.7	16,800	\$0.4	\$1.1
High	46,500	\$1.1	26,200	\$0.7	\$1.8

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Distribution of Preliminary Mid-Range Estimates by Type of COVID-19 Claim and Type Of Benefit

Preliminary Costs in \$Millions

Claim Type	Number of Claims	TD Benefits	PD Benefits	Death Benefits	Medical Costs	LAE	Total Costs
Mild	41,200	\$70	N/A	N/A	\$20	\$30	\$120
Severe	3,200	\$10	\$20	N/A	\$200	\$80	\$320
Critical	800	\$10	\$20	N/A	\$120	\$50	\$200
Death	1,300	\$2	N/A	\$210	\$140	\$130	\$490
All	46,600	\$90	\$40	\$210	\$490	\$300	\$1,120

Cost Evaluation of Governor's Executive Order

Conditions and Limitations

- No estimate reflected on the cost of COVID-19 claims arising from workers other than in the identified groups
- Mid-range estimate does not reflect any increases in COVID-19 claims due to relaxing of stay-at-home order
- “High” and “Low” estimates not intended as worst-case and best-case scenarios
- Valuation reflects the estimated cost to the system including the rebuttable presumption and did not attempt to reflect the differential from the cost of the claims without a presumption
- Very fluid environment – WCIRB estimates reflect information available at the time
- Analysis based on rebuttable presumption included in the Governor's order; if it is modified or implemented differently than assumed, cost impacts can be affected
- Co-morbidities and pre-existing conditions can affect the costs of COVID-19 claims, no adjustment was made for the relative cost and frequency of occurrences of these conditions
- WCIRB relied upon publicly available research and data from credible sources but did not validate underlying information






02

Potential Impact of Economic Downturn on Frequency



Potential Impact of Economic Downturn on Frequency & TD Duration

Background

- **Prior studies suggest that with economic downturn, claim frequency declines accelerate and average TD duration extends**
- **Potential impacts of recent COVID-19 driven downturn on claim frequency**
 - Economic downturn may accelerate claim frequency declines 
 - Shift of employees to clerical and telecommuting could reduce claim frequency 
 - CT claim proportions have increased in California during recessions 
 - Recent trends in post-termination claims could increase claim frequency 
 - Claims arising from COVID-19 exposures 

Potential Impact of Economic Downturn on Frequency & TD Duration

General Approach

- **Potential impacts on claim frequency**

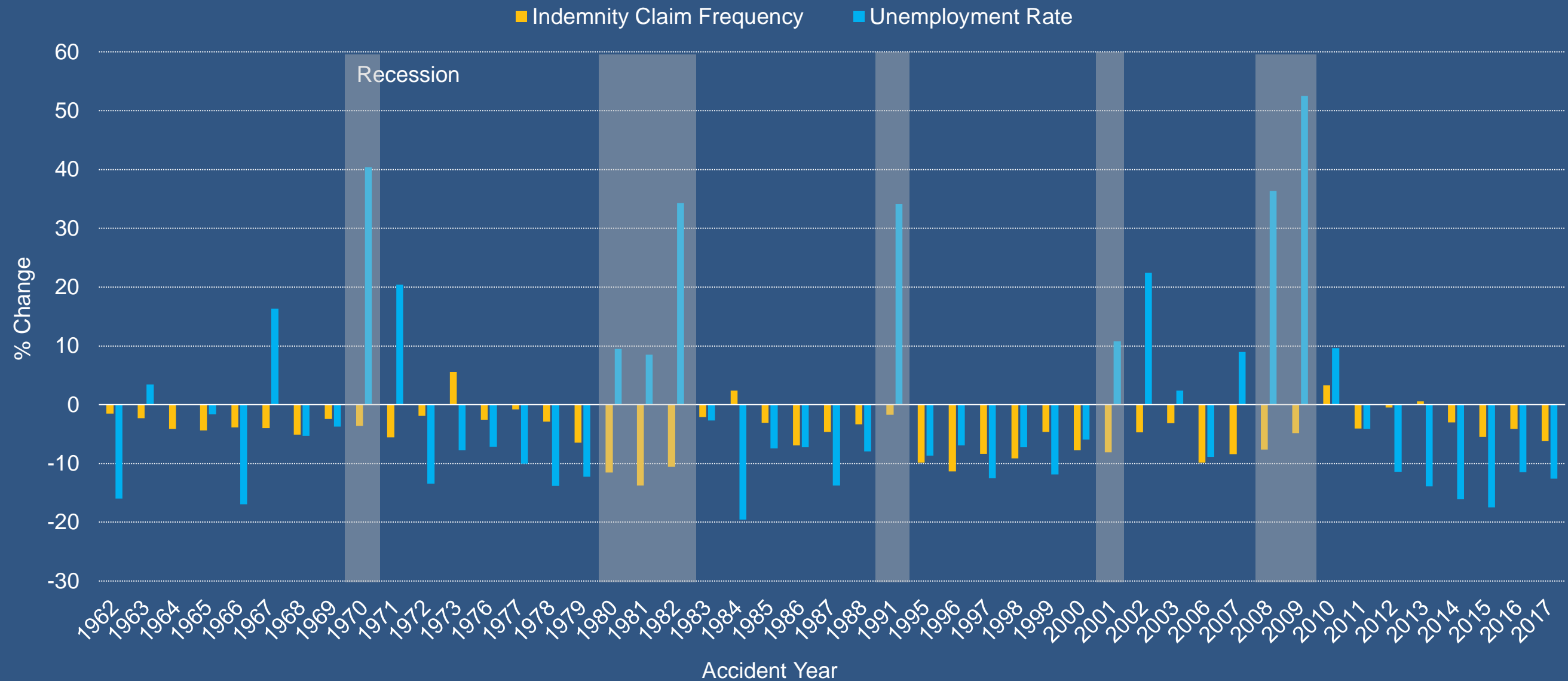
- Economic conditions only one of many factors influencing claim frequency
- Review almost 60-year history of relationship between change in employment levels and indemnity claim frequency
- Review frequency shift in sectors impacted by Dot Com Bust and Great Recession
- Review patterns of CT claims during economic downturns
- Review potential post-termination claims with recent job losses
- Review potential magnitude of COVID-19 claims

- **Potential Impacts on TD Duration**

- Review historical relationship between unemployment and TD duration

Shifts in Unemployment and Changes in Indemnity Claim Frequency (per \$1m exposure adjusted to the 2018 wage level) (1961-2017)

– Year-to-Year Change Excluding Years of Reforms*



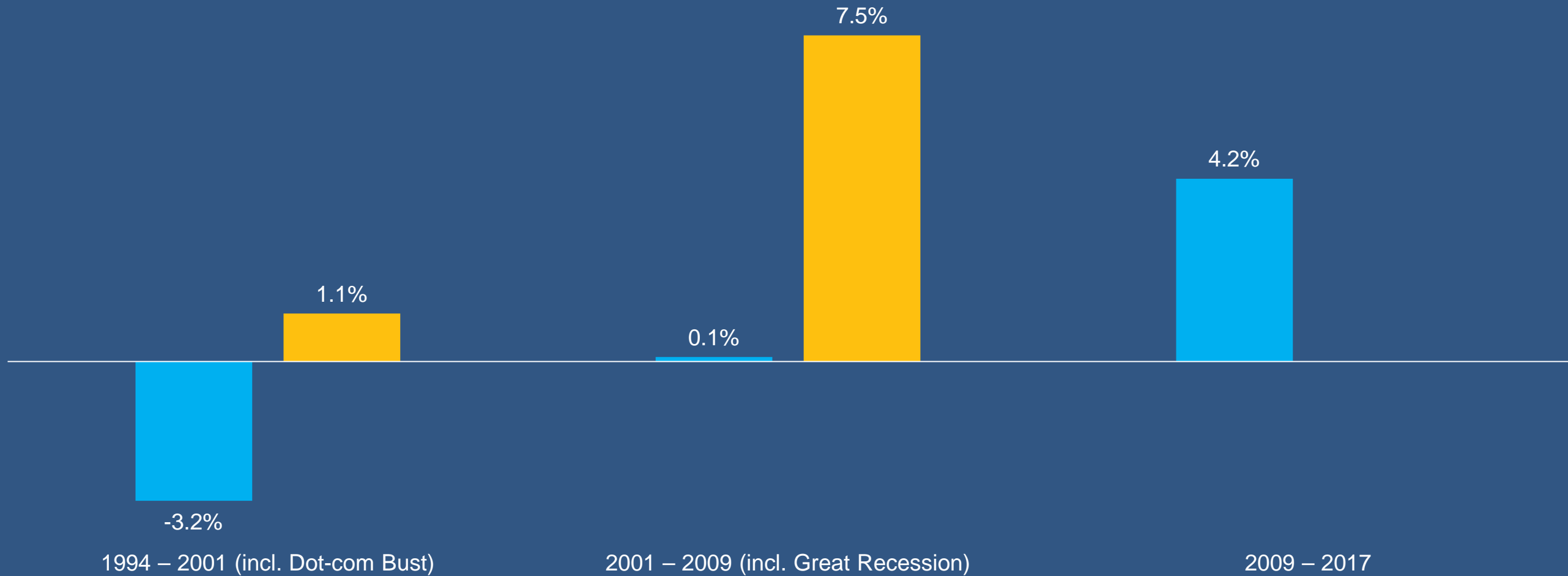
Claim Frequency Change in Industry Sectors Most Affected by the 2001 Recession and Great Recession

(claim frequency per \$1m exposure adjusted to the sector's 2018 wage level)

Industry	Annualized Rate of Change in Employment	Annual % Change in Claim Frequency	Annualized Rate of Change in Employment	Annual % Change in Claim Frequency
	Economic Expansion Preceding Great Recession (2001-2007, excl. years of reforms)		Great Recession (2007-2009)	
Construction	4.5%	-6.5%	-13.9%	-5.7%
Professional Services and Administration	1.9%	-2.0%	-7.9%	-3.6%
Real Estate & Finance	0.7%	-3.2%	-7.0%	3.3%
Manufacturing	-1.6%	-3.3%	-3.9%	-6.0%
	Economic Expansion Preceding 2001 Recession		2001 Recession	
Information	4.0%	4.1%	-16.8%	-3.7%
Manufacturing	-0.1%	-0.5%	-7.4%	-8.0%

Annual Percent Change in CT Claims per 100 Indemnity Claims (Economic Expansion vs. Economic Recession)

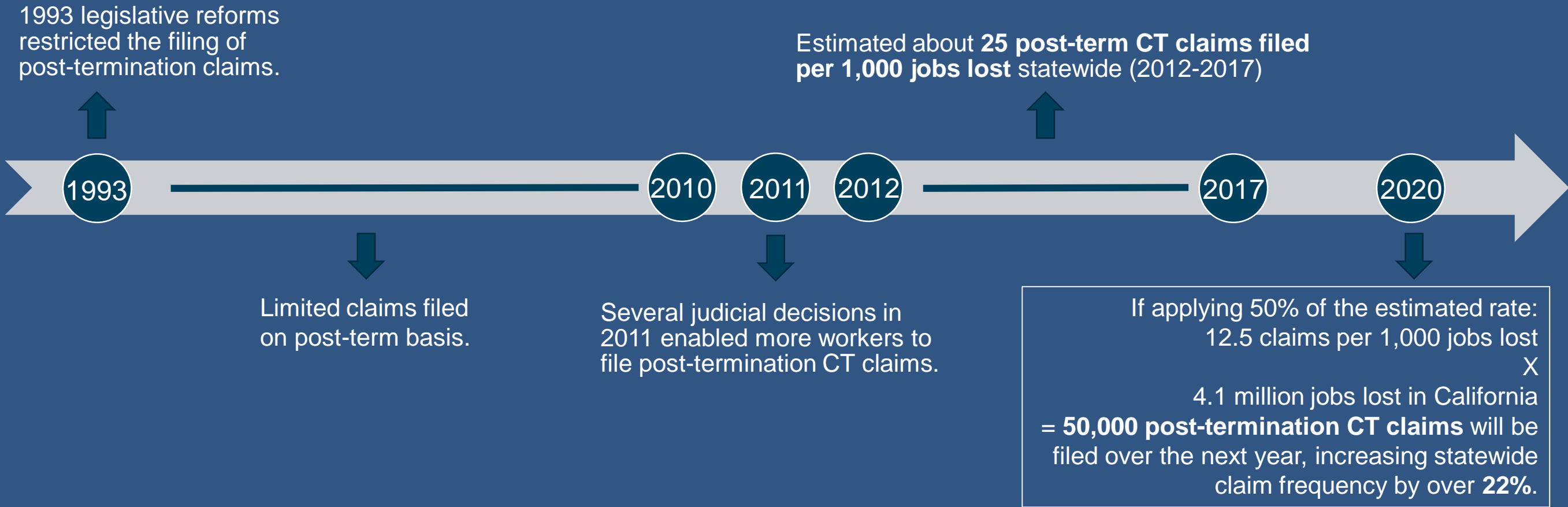
■ Expansion ■ Recession



Forecast of Indemnity Claim Frequency Due to Economic Changes based on WCIRB's Frequency Model



Post-termination CT Claims

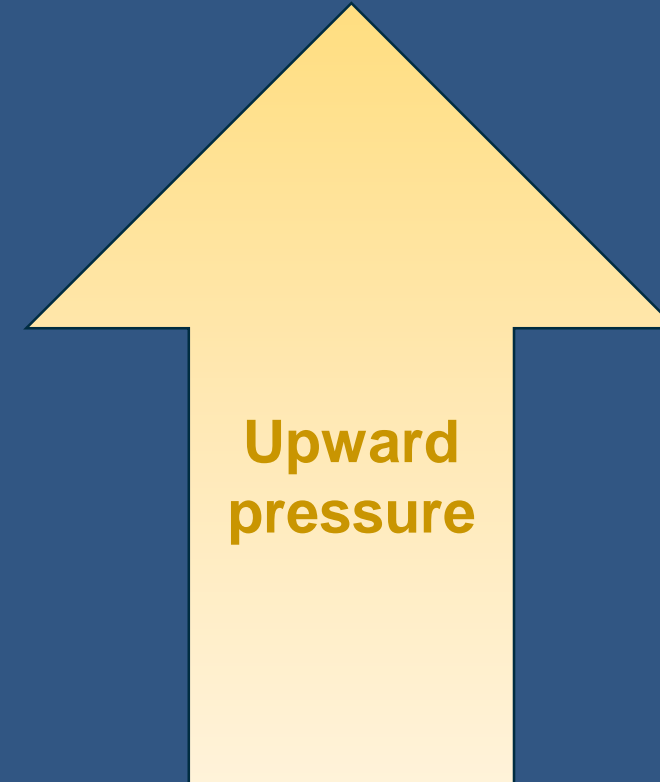


WCIRB's Forecast of COVID-19 Claims (as of April 2020)

- Requested by Assembly Insurance Committee on April 8
- WCIRB's cost evaluation based on a broad conclusive presumption of compensability of COVID-19 for health workers and first responders (ECI group 1) and all other essential workers (ECI group 2) and 100% claim rate
- WCIRB's analysis relied on public available research and data from credible sources at the time of the evaluation
- At WCIRB's low-end estimate (assuming 4% infection rate for ECI group 1 and 0.8% infection rate for ECI group 2) about **95,000 COVID-19 claims** would be filed in the next year, increasing statewide claim frequency by **40%**

Summary of the Potential Changes in 2020 Claim Frequency

- **Unemployment (-15.4%)**
- **Workers re-classified to clerical**
- **Workers shifted to telecommuting**



- **Post-Termination claims (+22%)**
- **CT claims**
- **COVID-19 claims (+40%)**
- **Work-from-home claims**

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