

Using Workers' Compensation Data and Systems to Evaluate the Impact of COVID-19

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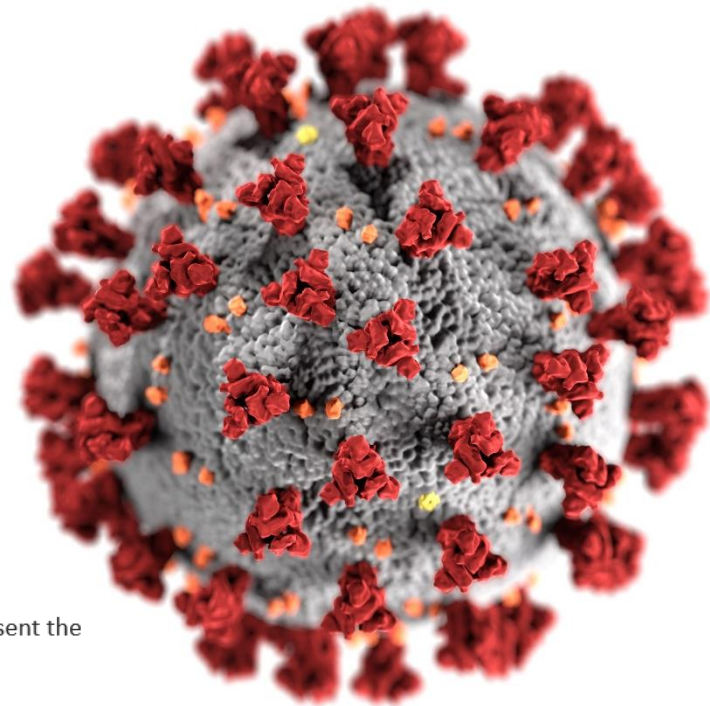
Center for Workers' Compensation Studies (CWCS)

National Institute for Occupational Safety and Health (NIOSH)

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



cdc.gov/coronavirus

Presentation Outline

- Workers' compensation (WC) system background, pre-COVID-19
- WC COVID-19 studies
 - Limitations
 - Partners
 - Reports
 - Data visualization
- Questions - Discussion

WC Systems Background, Pre-COVID-19



Workers' Compensation System Background

- WC involves state-governed administrative systems used to provide medical care and partial wage replacement for workers who become ill or injured due to work
- Insurance coverage is provided by a mix of private and state-based insurers, and self-insured employers, depending upon state regulations
 - Hospitals in most states are self-insured but do report data to their state WC bureau
- Federal workers covered under a separate system

NIOSH Center for Workers' Compensation Studies (CWCS) Mission

- Maximize the use of WC data and systems to improve workplace safety and health
- Build partnerships between public health, insurance, employer, and worker communities

Workers' Compensation System Prevention Potential



Claims

Health Services

Risk Assessment

Risk Control

Outreach

Insights for employers and workers

WC Claim Systems

- Largest databases of workplace injuries in the United States
- Several types of reports

First report of injury

Subsequent report of injury

Medical reports

Disputed claims information

Millions of claims in some states containing

- Narratives describing how injury occurred
- Industry and occupation
- Diagnoses
- Patient demographics
- Costs

State WC Claims Data Studies, Pre-COVID-19

- NIOSH \$5M grant for WC claims analyses
 - Developed collaborations between state WC bureaus, health departments, and unemployment insurance (UI)
 - Trend data by industry and cause
 - Funded:
 - California, Massachusetts, Ohio, Tennessee, Michigan

Links to
currently available WC grant
data reports:

MA:

<https://www.mass.gov/doc/dph-dia-and-dls-release-new-study-on-utilization-of-workers-compensation-data/download>

TN:

<https://sites.google.com/site/tennesseewc20142016/>

MI:

<https://mitracking.state.mi.us/>

State WC Claims Data Studies, Pre-COVID-19, cont'd

- Most states linked WC data to UI data via the Federal Employer Identification Number (FEIN)
 - Employer industry and # of employees
 - WC claim counts and rates at employer and industry level

Links to currently available WC grant data reports:

MA:

<https://www.mass.gov/doc/dph-dia-and-dls-release-new-study-on-utilization-of-workers-compensation-data/download>

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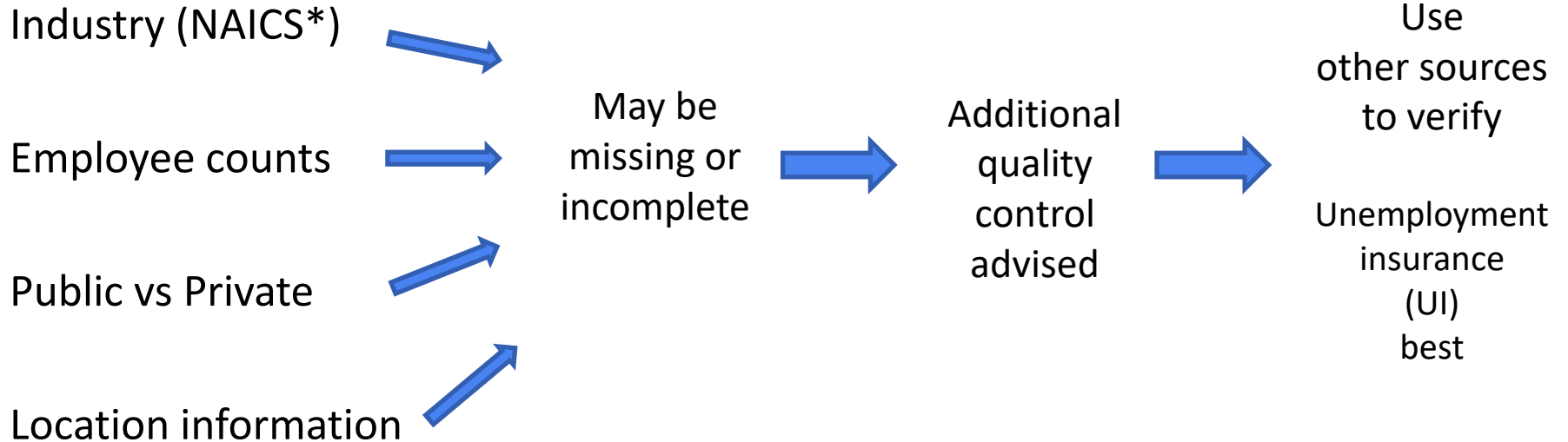
<https://mitracking.state.mi.us/>

Key WC Data Fields- Conclusions from WC Grants

- **Injury Codes and Incident Narratives**
 - Generally complete, accurate, useful
 - Crosswalks between Workers' Compensation Insurance Organization (WCIO) and Bureau of Labor Statistics (BLS) Occupational Injury and Illness Classification System (OIICS) codes possible at the 1-digit level
 - Incident narratives can be auto-coded - several free algorithms available to use
- **Worker Data**
 - Limited but complete, accurate, useful
 - Occupation narratives can be auto-coded to Standard Occupation Codes (SOC)
 - Crosswalks being developed between manual class codes and SOC and industries

Key WC Data Fields- Conclusions from WC Grants, cont'd

Employer Data



*NAICS= North American Industry Classification System

Massachusetts WC Report Excerpts

- 93,123 WC lost wage (6 or more days away from work) claims were filed from 2014-2016 for the private sector
- Average annual rate:
 - 10.9 per 1,000 full-time workers
- Most common event categories:
 - Overexertion and bodily reaction (38%)
 - Fall, slip, strip (29%)
 - Contact with object or equipment (19%)
 - Violence (5%)
 - Transportation (5%)

Using Massachusetts Workers' Compensation Data to Identify Priorities for Preventing Occupational Injuries and Illnesses among Private Sector Workers

Findings from an Analysis of Massachusetts Workers' Compensation Lost Wage Claims, 2014-2016

Massachusetts Department of Industrial Accidents

Massachusetts Department of Public Health
Occupational Health Surveillance Program

Massachusetts Department of Labor Standards
Occupational Safety and Health Statistics Program



<https://www.mass.gov/doc/dph-dia-and-dls-release-new-study-on-utilization-of-workers-compensation-data/download>

Massachusetts WC Report Excerpts, cont'd

Five top ranked industry subsectors based on all WC claims

| Industry Subsector | Claims Rate per 1000 Full-Time Workers | Claims Count |
|---|--|--------------|
| Couriers and messengers | 46.4 | 1580 |
| Truck transportation | 34.2 | 1782 |
| Wholesalers, non-durable goods | 24.1 | 3168 |
| Nursing and residential care facilities | 19.8 | 5506 |
| Specialty trade contractors | 18.8 | 5515 |

<https://www.mass.gov/doc/dph-dia-and-dls-release-new-study-on-utilization-of-workers-compensation-data/download>

WC and COVID-19



Limitations to Using WC to Evaluate COVID-19

- COVID-19 compensability through WC insurance is evolving and differs between states
 - Some states have rebuttable presumptions to provide insurance coverage for COVID-19 infections and related conditions for certain occupations, such as healthcare workers and first responders
 - In most states, for other occupations, claims are evaluated for compensability for COVID-19 conditions on a case-by-case basis, depending on how the illness was related to work exposures
 - Current listing of state laws National Conference of State Legislatures (NCSL)

<https://www.ncsl.org/research/labor-and-employment/covid-19-workers-compensation.aspx>

Limitations to Using WC to Evaluate COVID-19, cont'd

- Case definitions for COVID-19 in WC also vary between states and over time
 - Early cases may have been accepted without positive tests, while later cases may have required such confirmation
- Limits to generalizability, and WC data are not appropriate to use to ascertain the true distribution of COVID-19 by occupation and industry

Advantages to Using WC to Evaluate COVID-19

- WC systems are designed to administer care and recovery for injured and ill workers and track outcomes over several years
- Insights about well-represented occupations and the long-term impacts of COVID-19 can be evaluated in part by using WC systems

WC Code Systems and COVID-19

- Many U.S. states now using specific codes to capture COVID-19 nature and cause
- Workers' Compensation Insurance Organization (WCIO) Cause of Injury Code (DN0037) - 83 for "Pandemic" and a Nature of Injury Code (DN0035) - 83 for "COVID-19"
 - Codes for each claim are manually generated by a combination of employers, claims administrators, insurers and/or state WC bureaus based on free text descriptions of how the incident occurred, diagnoses, and other claims information
- Codes used for the reporting for any claim effective December 2019 or later

State Reporting of COVID-19 WC Claims

- Several U.S. states and insurance organizations are posting COVID-19 WC data publicly
- Selected public reports:
 - [CWCI CA COVID WC Dashboard](https://www.cwci.org/CV19claims.html) -https://www.cwci.org/CV19claims.html
 - [CA DWC COVID-19 Claims Data](https://data.ca.gov/dataset/dwc-covid-19-claims) -https://data.ca.gov/dataset/dwc-covid-19-claims
 - [WCIRB Updates on COVID-19 Workers' Comp Claims Impact | WCIRB California](https://www.wcirb.com/news/wcirb-updates-covid-19-workers%E2%80%99-comp-claims-impact) - https://www.wcirb.com/news/wcirb-updates-covid-19-workers%E2%80%99-comp-claims-impact
 - [FL COVID WC Report](https://www.myfloridacfo.com/Division/WC/PublicationsFormsManualsReports/Reports/2021-COVID-19-October-Report.pdf) (as of 10/21)-
https://www.myfloridacfo.com/Division/WC/PublicationsFormsManualsReports/Reports/2021-COVID-19-October-Report.pdf
 - [MN COVID WC Report 10 04 21](http://www.dli.mn.gov/sites/default/files/ppt/COVID-19_work_comp_claims_statistics_100421.pptx) - http://www.dli.mn.gov/sites/default/files/ppt/COVID-19_work_comp_claims_statistics_100421.pptx
 - [MT COVID WC Dashboard](https://erd.dli.mt.gov/data-dashboards/covid-related-wc-claims) -https://erd.dli.mt.gov/data-dashboards/covid-related-wc-claims
 - [VA COVID WC Dashboard](http://www.vwc.state.va.us/content/covid-19-claims-information) -http://www.vwc.state.va.us/content/covid-19-claims-information
 - [WA WC COVID-19 Report](https://lni.wa.gov/safety-health/safety-research/covid-19) (updated monthly) -https://lni.wa.gov/safety-health/safety-research/covid-19
 - [NCCI- Medical Indicators & Trends—Q1 2021 Edition](https://www.ncci.com/SecureDocuments/AES_Content/MINT_1Q_2021_Edition_posting.html?cacheversion=1598847847) -
https://www.ncci.com/SecureDocuments/AES_Content/MINT_1Q_2021_Edition_posting.html?cacheversion=1598847847

NIOSH COVID-19 WC Activities

- Hosting monthly COVID-19 WC calls with ~ 50 interested parties to share best practices for WC analyses – many states and provinces already publicly post data
- Providing support for International Association of Industrial Accident Boards and Commissions (IAIABC) survey to track COVID-19 in WC systems nationally
- Funding several studies



CDC-NIOSH Funded COVID-19 WC Studies

- **WC Study Goals**

- How is the illness related to worker factors (occupation, age, job tenure, sex) and employer factors (industry, firm size, geographic region)?
- What is the impact on injured worker care and the overall WC system?
- What are the long-term illness impacts on workers?
 - Detailed diagnoses, treatments, disability, costs, work status, hospitalizations, deaths and other outcomes

- **Partners**

- Six states (California, Illinois, Massachusetts, Ohio, Washington, Wisconsin)
- Workers' Compensation Research Institute (WCRI)

- **Outputs**

- Ongoing data being shared in several states, formal reports from partners
- CWCS webinar planned in early 2022 where partners will share results

WC COVID-19 Initial Findings



COVID-19 Claims and Employer and Worker Factors

- COVID-19 WC claims remain concentrated in healthcare, public safety, education, and retail in most states, due in part to presumptive coverages

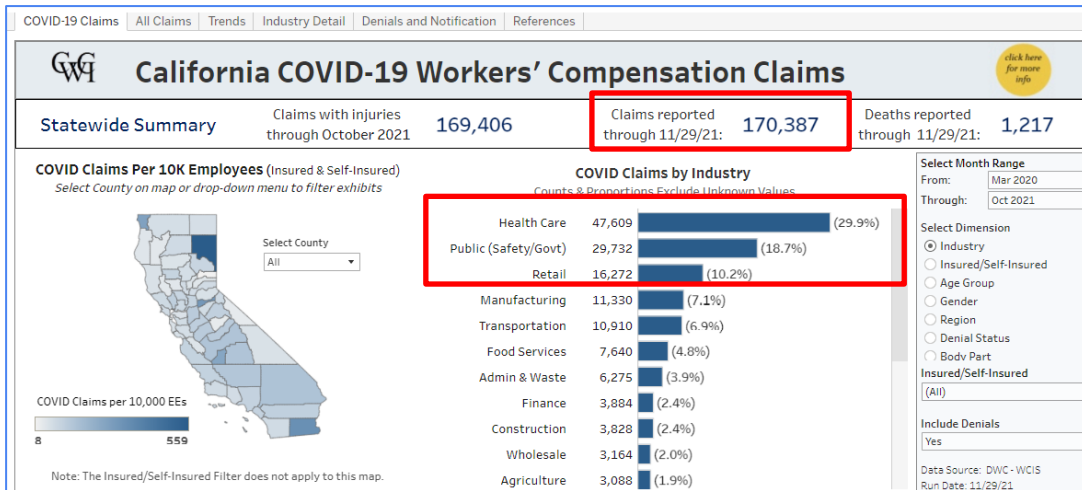


Figure 1 [California Workers' Compensation Institute - COVID-19 & Non-COVID Interactive App \(cwci.org\)](https://www.cwci.org/CV19claims.html) - <https://www.cwci.org/CV19claims.html>

Workers' Compensation Claims for Exposure to and Disease from COVID-19
WA State Fund and Self-Insured Claims Established between Feb 26, 2020 and Oct 11, 2021

| Industry Sector ¹ | Claims Filed ² | Quarant-ine ³ | Known Positive Laboratory Test ⁴ | Hospitalized | Fatal | Claims Accepted | Claims Not Yet Allowed |
|-------------------------------------|---------------------------|--------------------------|---|--------------|-----------|-----------------|------------------------|
| Health Care & Social Assistance | 6396 | 6075 | 4386 | 97 | 21 | 6030 | 45 |
| Public Administration | 1590 | 1529 | 858 | 35 | 9 | 1452 | 21 |
| Educational Services | 468 | 448 | 384 | 10 | 1 | 443 | 1 |
| Admin & Support & Waste Mgmt. | 332 | 321 | 247 | 4 | - | 255 | 10 |
| Retail Trade | 164 | 159 | 108 | 5 | 1 | 55 | 9 |
| Agricult., Forestry, Fish & Hunting | 143 | 134 | 105 | 3 | 6 | 76 | 3 |
| Accommodation & Food Services | 142 | 130 | 54 | 4 | 1 | 53 | 4 |
| Other Srvs.(except Public Adm.) | 126 | 109 | 54 | - | - | 101 | 5 |
| Manufacturing | 122 | 109 | 61 | 1 | 3 | 17 | 2 |
| Transportation & Warehousing | 109 | 100 | 51 | 6 | 1 | 40 | 5 |
| Construction | 103 | 87 | 48 | 1 | 1 | 14 | 8 |
| Wholesale Trade | 61 | 58 | 17 | 1 | - | 5 | 1 |
| Professional, Sci., & Tech. Srvs. | 47 | 45 | 23 | - | - | 14 | 1 |
| Real Estate & Rental & Leasing | 27 | 24 | 8 | - | - | 8 | 3 |
| Arts, Entertainment, & Rec. | 15 | 14 | 14 | - | - | 2 | 4 |
| Finance & Insurance | 9 | 8 | 4 | - | - | - | 1 |
| Information | 7 | 7 | 4 | - | - | 2 | 1 |
| Utilities | 2 | 2 | 1 | - | - | 2 | - |
| Mgmt. of Companies & Enterprises | 1 | 1 | 1 | - | - | 1 | - |
| Unknown Industry, Not Specified | 20 | 17 | 13 | 1 | - | 4 | - |
| Total | 9884 | 9377 | 6441 | 168 | 44 | 8574 | 124 |

- Industry sectors defined using the North American Industry Classification System (NAICS). Educational Services is predominant for university-affiliated hospitals. Administrative & Support & Waste Mgmt. is predominant for hospital and nursing home administrators.
- Includes claims adjudicated as Accepted, Rejected, Provisional, and claims Not Yet Allowed.
- Workers may have been told by their employer or healthcare provider to self-quarantine for any # of days.
- Number of positive tests are likely an undercount, as test results are not always known, particularly for self-insured claims. We linked L&I claim records with COVID-19 data from the WA Department of Health to identify 1.8% of the positive tests.

Table 1 [Washington Labor and Industries](https://lni.wa.gov/safety-health/safety-research/covid-19) - <https://lni.wa.gov/safety-health/safety-research/covid-19>

Florida State Report Example

FL WC COVID-19 Report as of October 31, 2021

COVID-19 Injured Worker (IW) Claims

Table 2

COVID-19 Claim Counts and Amount Paid | Consolidated by Industry of Employer

| Industries Grouped by Business NAICS Code | COVID-19 Compensable Claim Count | COVID-19 Compensable Total Paid | COVID-19 Denials (Full/Partial) Claim Count | COVID-19 Denials (Full/Partial) Total Paid | COVID-19 Total Claim Count | COVID-19 Total Paid | COVID-19 Average Paid per Claim | COVID-19 Average Paid Compensable Claims | COVID-19 % of Claim Count | COVID-19 % of Total Paid |
|---|----------------------------------|---------------------------------|---|--|----------------------------|---------------------|---------------------------------|--|---------------------------|--------------------------|
| Construction | 40 | \$113,857 | 165 | \$1,179 | 205 | \$115,036 | \$561 | \$2,846 | 0.3% | 0.1% |
| Education and Health Services | 10,327 | \$52,506,848 | 10,607 | \$469,970 | 20,934 | \$52,976,818 | \$2,531 | \$5,084 | 35.4% | 35.9% |
| Financial Activities | 36 | \$100,190 | 1,291 | \$13,193 | 1,327 | \$113,383 | \$85 | \$2,783 | 2.2% | 0.1% |
| Information | 1 | \$13,511 | 36 | \$0 | 37 | \$13,511 | \$365 | \$13,511 | 0.1% | 0.0% |
| Leisure and Hospitality | 5 | \$58,445 | 1,284 | \$39,767 | 1,289 | \$98,212 | \$76 | \$11,689 | 2.2% | 0.1% |
| Manufacturing | 22 | \$151,203 | 684 | \$572 | 706 | \$151,775 | \$215 | \$6,873 | 1.2% | 0.1% |
| Natural Resources and Mining | 6 | \$122,980 | 75 | \$0 | 81 | \$122,980 | \$1,518 | \$20,497 | 0.1% | 0.1% |
| Professional and Business Services | 2,069 | \$9,467,587 | 1,576 | \$26,316 | 3,645 | \$9,493,903 | \$2,605 | \$4,576 | 6.2% | 6.4% |
| Public Administration* | 19,463 | \$83,976,814 | 7,373 | \$241,501 | 26,836 | \$84,218,315 | \$3,138 | \$4,315 | 45.3% | 57.0% |
| Trade, Transportation, and Utilities | 97 | \$344,048 | 3,905 | \$32,830 | 4,002 | \$376,878 | \$94 | \$3,547 | 6.8% | 0.3% |
| Unclassified/missing data | 0 | \$0 | 115 | \$412 | 115 | \$412 | \$4 | \$0 | 0.2% | 0.0% |
| Grand Total | 32,066 | \$146,855,483 | 27,111 | \$825,740 | 59,177 | \$147,681,223 | \$2,496 | \$4,580 | | |

*Public Administration figures includes most first responders.

COVID-19 WC Claim Demographics

- Gender
 - CA: Female 47.5% (78,900); Male 52.5% (87,274)
 - FL: Female 48.4% (28,644); Male 50.5% (29,855)

- Age

Florida

| Age Group (years) | % | Count |
|-------------------|-------|-------|
| 15 to 19 | 1.2% | 739 |
| 20 to 29 | 21.5% | 12742 |
| 30 to 39 | 28.1% | 16646 |
| 40 to 49 | 23.1% | 13683 |
| 50 to 59 | 18.5% | 10936 |
| 60 to 69 | 6.5% | 3818 |
| 70 plus | 0.2% | 99 |

Table 3

<https://www.myfloridacfo.com/Division/WC/PublicationsFormsManualsReports/Reports/2021-COVID-19-November-Report.pdf>

California

| Age Group (years) | % | Count |
|-------------------|-------|-------|
| <20 | 2.5% | 4147 |
| 20 to 29 | 24.5% | 41472 |
| 30 to 39 | 26.7% | 45109 |
| 40 to 49 | 21.9% | 36996 |
| 50 to 59 | 16.9% | 28555 |
| 60 to 64 | 5.0% | 8397 |
| 65+ | 2.6% | 4342 |

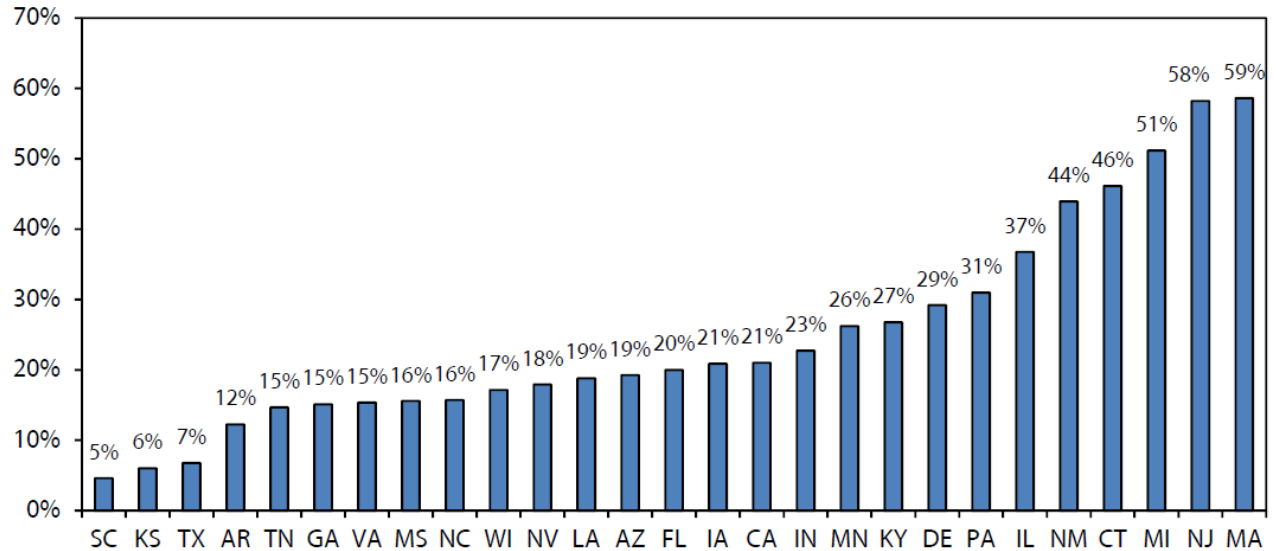
Table 4

[CWCI CA COVID WC Dashboard \(as of 11/29/21\)-
https://www.cwci.org/CV19claims.html](https://www.cwci.org/CV19claims.html)

Impact of COVID-19 on WC Claim Composition

- COVID-19 WC claims represented a median 20% (5 to 59%) of lost-time claims by 2020-Q2 in 27 WCRI states

Figure 2 **Percentage of COVID-19 Lost-Time Claims out of All Lost-Time Claims, by State, 2020Q2**



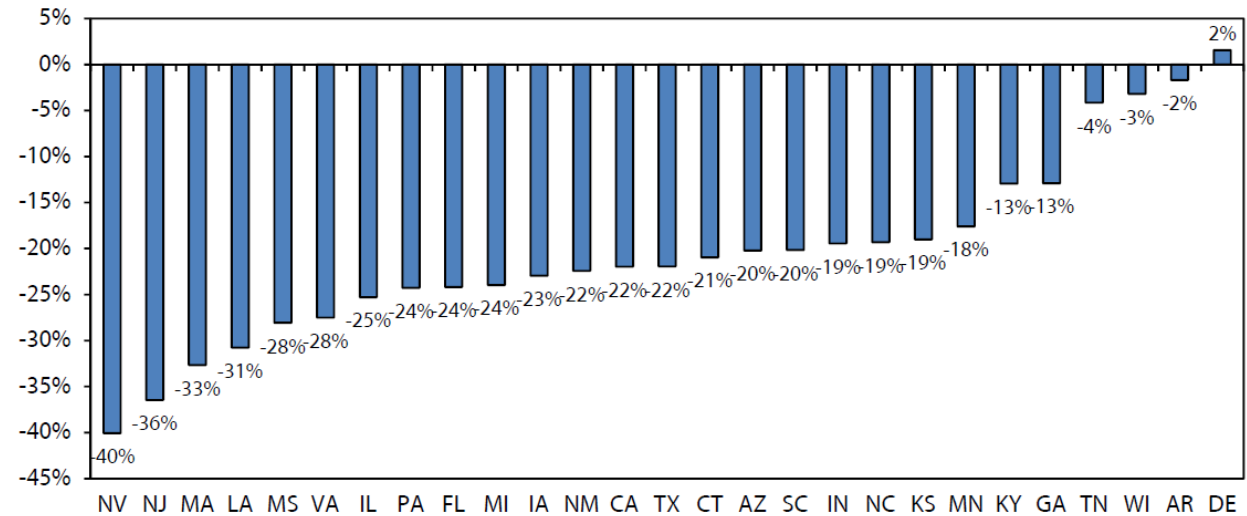
Note: Claims with more than seven days of lost time with injury dates in 2020Q2, evaluated as of June 30, 2020.

<https://www.wcrinet.org/reports/the-early-impact-of-covid-19-on-workers-compensation-claim-composition>

Impact of COVID-19 on WC Claim Composition, cont'd

Figure 3

Percentage Change from 2019Q2 to 2020Q2 in the Number of Non-COVID-19 Lost-Time Claims, by State



Note: Claims with more than seven days of lost time with injury dates in 2019Q2 and 2020Q2, evaluated as of June 30, 2019, or June 30, 2020, respectively.

<https://www.wcrinet.org/reports/the-early-impact-of-covid-19-on-workers-compensation-claim-composition>

- Non-COVID-19 WC lost-time claims declined a median 22% (-40 to +2%) (2019-Q2 vs 2020-Q2) in 27 WCRI states

Reasons for COVID-19 Claim Variability and Overall WC Claim Declines

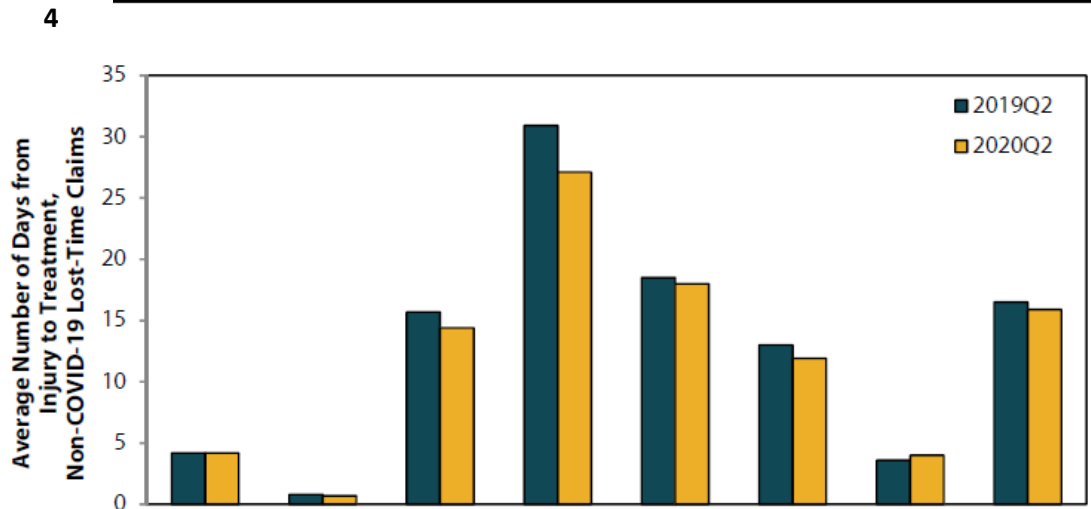
- The variability in the percentages of COVID-19 claims by state may be due to several factors, including compensability of COVID-19 WC claims, variations in industry distributions, and the severity of the pandemic in these states at the time of this report (2020-Q2)
- Some states (such as MA) also have programs in which WC benefits can be paid on any claims for an initial period of 90-180 days before a decision is made whether or not the claim is compensable
- The overall decline in WC claims in 2020 is thought to be due to slowdowns and job losses in certain industries, and the shift to teleworking

Impact on Injured Worker Care for Non-COVID-19 Claims

- WCRI found similar time-to-treatment and average number of visits for main service types for Non-COVID-19 claims in 27 states for workers injured in 2020 Q2 vs. 2019 Q2
- Telemedicine visits substituted for in-person visits for some services
- Impact of pandemic on WC medical care for Non-COVID-19 claims appears minimal

<https://www.wcrinet.org/reports/the-early-impact-of-covid-19-on-medical-treatment-for-workers-compensation-non-covid-19-claims>

Figure 4 Average Number of Days from Injury to Treatment, Non-COVID-19 Lost-Time Claims



| | E&M | ER | Phys. Med. | Neuro. Testing | Pain Mgt. Inj. | Major Surgery | Minor Rad. | Major Rad. |
|------------|------|---------|------------|----------------|----------------|---------------|------------|------------|
| 2020Q2 | 4.2 | 0.7 | 14.4 | 27.1 | 18.0 | 11.9 | 4.0 | 15.9 |
| 2019Q2 | 4.2 | 0.8 | 15.7 | 30.9 | 18.5 | 13.0 | 3.6 | 16.5 |
| Difference | 0.06 | -0.09** | -1.31*** | -3.85* | -0.51 | -1.10** | 0.35*** | -0.55* |

Key: E&M: evaluation and management; ER: emergency; Neuro. Testing: neurological/neuromuscular testing; Pain Mgt. Inj.: pain management injections; Phys. Med.: physical medicine; Rad.: radiology.

Note: Claims with more than seven days of lost time with injury dates in Q1 and Q2 of 2020 and Q3 and Q4 of 2019 are evaluated as of June 30, 2020, and claims with injury dates in Q1 and Q2 of 2019 and Q3 and Q4 of 2018 are evaluated as of June 30, 2019.

*** Statistically significant at the 1% level; ** Statistically significant at the 5% level; * Statistically significant at the 10% level.

COVID-19 WC Claim Costs - Florida

- In Florida, 95% of WC COVID-19 claims have costs ranging from \$0-\$4,999
- Average paid per claim is \$2,947 among closed claims
- 5% of claims represent 72% of costs

Claim Count & Amount Paid by Paid Benefit Ranges

| Benefit Payment Range | COVID-19 Claim Count | COVID-19 Total Paid |
|------------------------|----------------------|----------------------|
| \$0 to \$4,999 | 54,782 | \$38,239,547 |
| \$5,000 to \$9,999 | 1,844 | \$12,306,566 |
| \$10,000 to \$19,999 | 582 | \$8,025,176 |
| \$20,000 to \$29,999 | 190 | \$4,608,854 |
| \$30,000 to \$39,999 | 92 | \$3,151,942 |
| \$40,000 to \$49,999 | 41 | \$1,826,830 |
| \$50,000 to \$99,999 | 183 | \$13,058,421 |
| \$100,000 to \$249,999 | 115 | \$16,904,920 |
| \$250,000 to \$499,999 | 35 | \$12,023,323 |
| \$500,000 + | 24 | \$26,300,090 |
| Grand Total | 57,888 | \$136,445,669 |

FL State Report As of 10/21

<https://www.myfloridacfo.com/Division/WC/PublicationsFormsManuals/Reports/Reports/2021-COVID-19-November-Report.pdf>

COVID-19 WC Claim Costs among those with Hospital Inpatient Stays



11% of COVID-19 treated claims have a **hospital inpatient** stay

COVID-19 Treated Claims with **Hospital Inpatient** Stays

| | With ICU | Without ICU |
|-----------------------|----------|-------------|
| Share of Claims | 19% | 81% |
| Average Paid per Stay | \$81,962 | \$47,560 |

Metrics are derived from the approximately 13,000 COVID-19 treated claims reported across all states, as of 7/15/2021

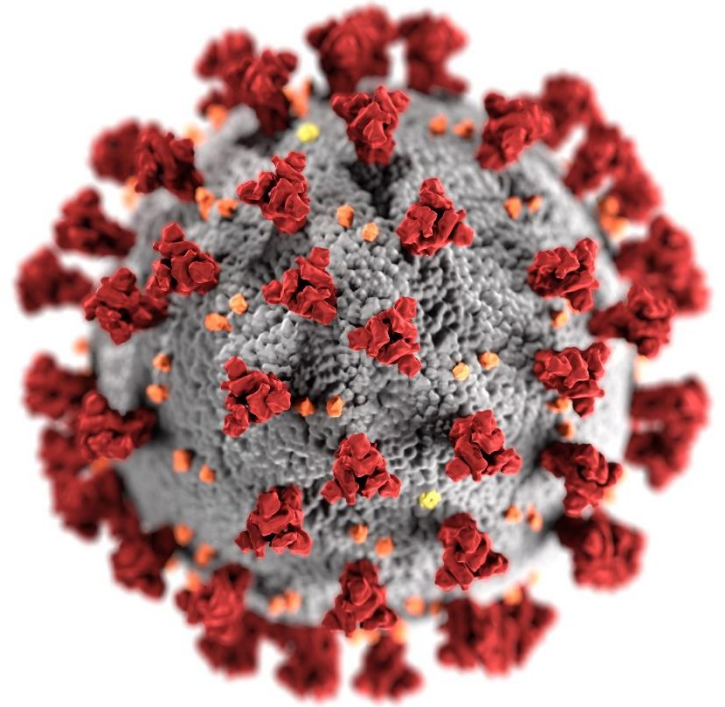
[NCCI- Medical Indicators & Trends—Q1 2021 Edition](#)

https://www.ncci.com/SecureDocuments/AES_Content/MINT_1Q_2021_Edition_posting.html?cacheversion=1598847847

Next Steps - Long-Term Impact of COVID-19

- The NIOSH funded states (CA, IL, MI, OH, WA, WI) and WCRI will continue analyses on WC claims using data up to 2022 to evaluate the long-term impact of COVID-19:
 - Detailed diagnoses, treatments, disability, costs, work status, hospitalizations, deaths and other outcomes
- Additional funds have been requested to support studies using data through 2024 and add a worker survey study to gather data not typically collected through WC systems, including worker self-reported health status and additional demographic variables on worker race, ethnicity, and socio-economic status

Questions - Discussion



For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

