California Workers' Compensation Institute

Research Update

California Workers' Comp Inpatient Hospitalization Trends, 2010-2020

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Executive Summary

This report provides an update to a series of studies CWCI began in 2014 that use hospital discharge data compiled by the California Office of Statewide Health Planning and Development (OSHPD) to examine California workers' compensation inpatient hospitalization trends. As in the prior studies,[1,2,3,4,5] the analysis compares the volume and types of inpatient hospitalizations covered by workers' compensation to those covered by Medicare, Medi-Cal, and private coverage.

Background and Objective

Inpatient hospitalizations account for a small share of California workers' compensation medical services but are associated with more complex injuries or occupational diseases. This latest iteration of CWCI's inpatient hospitalization research series uses OSHPD data from service years 2010 through 2020 to provide an updated look at the following metrics:

- the volume and distribution of inpatient discharges across payer groups;
- the top ten Medicare Severity Diagnosis-Related Group (MS-DRG) codes[6] used to describe workers' compensation inpatient discharges;
- the top five medical diagnostic categories describing workers' compensation inpatient discharges; and
- the top ten hospitals with the highest proportion of workers' compensation in their payer mix.

In addition, because the worldwide COVID-19 pandemic that began in March of 2020 had a tangible impact on California employment, workplace locations, and the mix of occupational injuries and diseases, the analysis also seeks to identify changes in the volume and mix of inpatient utilization that were related to the pandemic.

[1] Jones, S.L. California Workers' Compensation Inpatient Hospitalization Trends, 2010-2019. *CWCI Research Update*. November 2020.
[2] Jones, S.L. California Workers' Compensation Inpatient Hospitalization Trends, 2010-2018. *CWCI Research Update*. September 2019.
[3] Jones, S.L. California Workers' Compensation Inpatient Hospitalization Trends. *CWCI Research Update*. May 2018.
[4] Jones, S.L. Inpatient Utilization in the California Workers' Compensation: 2008-2014. *CWCI Spotlight Report*. March 2016.
[5] Jones, S.L. and David, R. Inpatient Utilization in the California Workers' Compensation System. *CWCI Research Update*. December 2014.
[6] Each MS-DRG is defined by a particular set of patient attributes which include principal diagnosis, specific secondary diagnoses, procedures, sex and discharge status (e.g., discharged to home, transferred to skilled nursing facility, expired, etc.)

Data and Methods

For this study, the author used discharge data obtained from OSHPD for calendar year 2010 through 2020 inpatient hospitalizations. The public-use database compiled by OSHPD includes detailed information submitted under the Health Data and Advisory Council Consolidation Act by health care facilities providing inpatient services in California. The data is grouped by service year and includes the type of payer billed, the MS-DRG code, the length of stay, and charges. Hospital information includes each facility's name, identification number, and location by county.

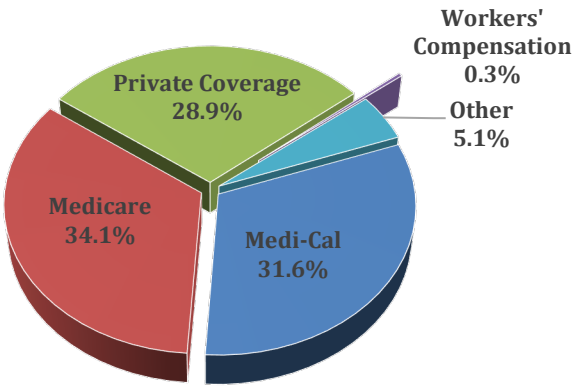
The study compares discharge data associated with four payer types (Medicare, Medi-Cal, private coverage, and workers' compensation). The Medical Diagnostic Category (MDC) and Surgery/Medical indicator associated with each MS-DRG as defined by the Centers for Medicare and Medicaid Services (CMS)[7] were appended to the OSHPD records, enabling the author to analyze each type of hospital discharge event.

To determine which MS-DRGs encompassed inpatient stays related to COVID-19 infections the author relied on CMS' ICD-10 MS-DRGs Version 37.1[8] instructions to map the new COVID-19 ICD-10 diagnosis code (U07.1) to the appropriate MS-DRG codes.

Findings

In 2020, California inpatient hospitalizations paid under the workers' compensation system continued to represent a very small share of all hospitalizations in the state. Exhibit 1 shows that only 0.3 percent of all hospital discharges last year were associated with care under workers' compensation, while Medicare accounted for 34.1 percent, Medi-Cal accounted for 31.6 percent, and private coverage accounted for 28.9 percent. The "Other" payer category noted in Exhibit 1 includes other government programs, self-pay, and indigent care, which together represented 5.1 percent of California inpatient discharges in 2020.

Exhibit 1: Distribution of 2020 Discharges by Payer Type



[7] Center for Medicare and Medicaid Services. List of MS-DRGs Version 37.0. https://www.cms.gov/icd10m/version37-fullcode-cms/fullcode_cms/P0001.html

[8] Center for Medicare and Medicaid Services. *ICD-10 MS-DRGs Version 37.1 R1 Effective Apr 1, 2020 - Updated March 23, 2020.*

The remainder of this study will focus on workers' compensation in comparison to the three primary payer groups and will exclude payers in the "Other" category.

Exhibit 2 shows that removal of the other payers from the population of discharges does not change the share of workers' compensation related hospitalizations in a material way – the adjusted share becomes 0.4 percent rather than 0.3 percent. While the total number of hospital discharges has trended down for the past three years, workers' compensation's share has remained at 0.4 percent since 2017.

Exhibit 2: MS-DRG Count by Discharge Year and Payer Type

Discharge Year	Workers' Compensation	Medicare	Medi-Cal	Private	Grand Total
2010	22,410 (0.6%)	1,285,879	1,033,221	1,286,444	3,627,954
2011	22,159 (0.6%)	1,285,127	1,019,927	1,255,205	3,582,418
2012	21,528 (0.6%)	1,267,438	1,010,989	1,220,113	3,520,068
2013	20,336 (0.6%)	1,257,607	997,994	1,161,439	3,437,376
2014	18,592 (0.5%)	1,227,683	1,165,677	1,146,266	3,558,218
2015	17,557 (0.5%)	1,270,350	1,199,965	1,141,215	3,629,087
2016	16,574 (0.5%)	1,280,718	1,227,738	1,121,137	3,646,167
2017	15,831 (0.4%)	1,313,298	1,221,418	1,110,021	3,660,568
2018	15,529 (0.4%)	1,313,004	1,198,834	1,095,771	3,623,138
2019	14,298 (0.4%)	1,337,724	1,182,664	1,081,645	3,616,331
2020	11,837 (0.4%)	1,174,042	1,087,585	996,531	3,269,995
2010 - 2020 Change	**-47.2%**	**-8.7%**	**5.3%**	**-22.5%**	**-9.9%**

The latest data show 10-year decreases in hospitalizations for each payer type except Medi-Cal, which increased by 5.3 percent between 2010 and 2020. CWCI's 2020 Research Update on inpatient hospitalizations showed that the number of Medicare and Medi-Cal inpatient stays increased from 2010 through 2019, but the updated figures show that with the onset of the pandemic in the spring of 2020, the number of inpatient discharges declined sharply across all payer systems, then continued declining during the peak infection periods, a downtrend also reported by the Kaiser Family Foundation.[9]

A closer look at the 2019 and 2020 data (Exhibit 3) shows that out of the four payer systems, workers' compensation had the largest percentage decrease in inpatient discharges during the first year of the pandemic (-17.4 percent), while Medi-Cal experienced the smallest decrease (-10.0 percent).

Beginning with Governor Newsom's Executive Order N-33-20, issued March 19, 2020, non-essential workers were placed under a stay-at-home order and elective surgeries performed on an inpatient basis, which were dependent on available hospital resources, were sharply curtailed. At the same time, the decline in the covered work force also contributed to the decline in workers' compensation inpatient discharges, as 2.62 million Californians lost their jobs during March and April of 2020 as a direct result of the pandemic and by the end of the year the state had only regained 1.15 million (44 percent) of those jobs, leaving California's unemployment rate at 9.3 percent compared to 4.2 percent a year earlier.[10]

[9] Heist, T., Schwartz, K., and Butler, S. *Trends in Overall and Non-COVID-19 Hospital Admissions.* Kaiser Family Foundation. Feb 18, 2021. https://www.kff.org/health-costs/issue-brief/trends-in-overall-and-non-covid-19-hospital-admissions/
[10] California Employment Development Department, News Release No. 21-04, January 22, 2021.

Inpatient hospitalizations are grouped into two basic categories – hospitalizations that include the use of an operating room are identified as Surgical and those that do not involve surgery are categorized as Medical. Exhibit 3 shows the change in the volume of Surgical versus Medical hospitalizations for the four payer types between 2019 and 2020. Surgical admissions declined at a greater rate than Medical admissions across all payer types in 2020, with workers' compensation and private coverage surgical hospitalizations decreasing by 20.4 percent and 19.9 percent respectively. In comparison, Medical admissions decreased by 10.2 percent for workers' compensation and 8.6 percent for private coverage.

Exhibit 3: Change in Discharge Volume by Payer Type* and Hospitalization Category, 2019 -2020

	Workers' Comp	Medicare	Medi-Cal	Private	Total
Medical	-10.2%	-11.5%	-9.2%	-8.6%	-10.2%
Surgical	-20.4%	-17.1%	-12.6%	-19.9%	-16.9%
Total Change	-17.4%	-12.9%	-10.0%	-12.7%	-12.1%

*Excludes pregnancy, childbirth, and newborns

The hierarchy created to identify inpatient hospitalization events begins with the Major Diagnostic Categories (MDCs), which classify patients based on the organ system being treated. Of the 25 mutually exclusive MDCs, workers' compensation patients have primarily fallen under MDC 08, which encompasses diseases and disorders of the musculoskeletal system and connective tissue. Exhibit 4 data show that historically, almost two-thirds of workers' compensation hospital discharges were related to musculoskeletal and connective tissue injuries or diseases. Notably, with the introduction of COVID-19 claims into the workers' compensation system, in calendar year 2020 diseases and disorders of the respiratory system (MDC 04) entered the top five MDC rankings for workers' compensation.

Exhibit 4: Top Five Major Diagnostic Categories for 2020 Workers' Compensation Discharges (As a Percentage of Inpatient Hospitalizations, 2010 - 2020)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
MDC 08	63.8%	62.8%	64.1%	64.1%	64.0%	64.8%	66.0%	64.4%	62.8%	63.1%	58.5%
MDC 04	2.3%	2.4%	2.5%	2.7%	2.5%	2.9%	3.0%	2.8%	2.8%	2.6%	7.4%
MDC 01	5.3%	5.1%	5.3%	4.9%	4.7%	4.9%	5.3%	5.4%	5.8%	6.2%	5.4%
MDC 18	2.3%	2.3%	2.2%	2.4%	2.6%	2.7%	2.7%	2.9%	3.4%	3.3%	5.2%
MDC 21	3.5%	3.5%	3.6%	3.8%	3.9%	3.8%	3.7%	3.8%	4.0%	3.8%	4.6%
Total	77.1%	76.1%	77.7%	77.7%	77.6%	79.0%	80.7%	79.3%	78.8%	79.0%	81.0%
MDC Description											
08 – Diseases & disorders of the musculoskeletal system & connective tissue											
04 - Diseases & disorders of the respiratory system											
01 – Diseases & disorders of the nervous system											
18 - Infectious & Parasitic Diseases, Systemic or Unspecified Sites											
21 – Injuries, poisonings & toxic effects of drugs											

The prevalence of respiratory system medical issues among injured workers increased three-fold in 2020 compared to 2019. In the decade leading up to the pandemic, respiratory system compromise ranged between 2.3 and 3.0 percent of all workers' compensation MDCs, but between 2019 and 2020 that

percentage increased from 2.5 percent to 7.4 percent. While analyzing data for COVID-19 claims in its Industry Research Information System (IRIS)[11] data, CWCI noted that some of the hospitalizations related to COVID-19 infection fall under MDC 18 for septicemia and sepsis. The growing prevalence of this diagnostic category is also evident in the OSHPD data, which show that workers' compensation hospitalizations for the treatment of septicemia and sepsis climbed from 3.3 percent of the discharges in 2019 to 5.2 percent of the discharges in 2020.

As shown in Exhibit 5, medical conditions encompassed under MDC 04 are more consolidated for workers' compensation patients compared to other patient populations. In 2020, respiratory infections and inflammations accounted for 57.8 percent of the workers' compensation MDC 04 classifications. The MS-DRGs for pneumothorax (collapsed lung) and chest trauma accounted for much smaller shares of the workers' compensation MDC 04 discharges (5.5 percent and 6.6 percent respectively), though their share of the hospitalizations involving diseases and disorders of the respiratory system was higher in workers' compensation than in Medicare, Medi-Cal or private coverage.

Exhibit 5: Top 5 Workers' Comp MDC 04 MS-DRGs with Severity Levels Combined (CY 2020)

MS-DRGs	Workers' Comp	Medicare	Medi-Cal	Private
177, 178, 179	57.8%	32.2%	34.8%	40.9%
207, 208	12.8%	9.6%	9.7%	8.0%
199, 200, 201	5.5%	1.4%	2.1%	3.0%
183, 184, 185	6.6%	1.4%	1.0%	1.3%
189	3.7%	9.9%	8.7%	6.1%
Total	82.6%	44.7%	47.6%	53.2%
MS-DRG Descriptions				
177, 178, 179 - Respiratory infections & inflammations				
207, 208 - Respiratory system diagnosis with ventilator support				
199, 200, 201 – Pneumothorax				
183, 184, 185 - Major chest trauma				
189 - Pulmonary edema & respiratory failure				

Although the number of inpatient hospitalizations in workers' compensation decreased in 2020 (Exhibit 3), non-surgical admissions continued to be far less prevalent than in other payor systems. Exhibit 6 shows that 32.6 percent of all injured worker hospitalizations in 2020 were for the treatment of a medical disease or disorder for which surgery was not contemplated, compared to 66.8 percent for private coverage, 75.1 percent for Medicare, and 78.5 percent for Medi-Cal.

Exhibit 6: 2020 Inpatient Utilization, Medical Issue vs Surgical Procedure by Payer Type*

	Workers' Comp	Medicare	Medi-Cal	Private	Total
Medical	32.6%	75.1%	78.5%	66.8%	74.0%
Surgical	67.4%	24.9%	21.5%	33.2%	26.0%

*Excludes pregnancy, childbirth, and newborns

[11] IRIS is CWCI's proprietary database containing data on employee and employer characteristics, medical service data, benefits, and administrative costs on approximately 7 million California workers' compensation claims.

The impact of the pandemic also can be seen in the rankings of the top five diagnosis groups for 2020 Medical hospitalizations, shown in Exhibit 7. MS-DRG 177 (respiratory infections and inflammations with MCC[12]) includes COVID-19 infections, and as noted earlier, severe COVID-19 infections may lead to sepsis.[13,14] In 2020, hospitalizations for respiratory infections and inflammations with MCC ranked first among all workers' compensation Medical MS-DRGs, accounting for 12.4 percent of the total, as well as 4.0 percent of all workers' compensation discharges, while MS-DRG 871 (the diagnosis group for septicemia or severe sepsis without mechanical ventilation) ranked second, representing 7 percent of the Medical hospitalizations and 2.3 percent of all hospitalizations. Meanwhile, MS-DRG 552 (hospitalization for medical back problems without MCC), which had been the number one Medical MS-DRG for workers' compensation in 2018[15] and 2019,[16] fell to number three in the 2020 rankings after being surpassed by both of the diagnosis groups tied to COVID-19.

Exhibit 7: Top Five MS-DRGs for Workers' Compensation Medical Hospitalizations (Discharge Year 2020)

MS-DRG	% Medical	% Total	MS-DRG Description
177	12.4%	4.0%	Respiratory infections & inflammations with MCC
871	7.0%	2.3%	Septicemia or severe sepsis w/o mv >96 hours with MCC
552	5.5%	1.8%	Medical back problems w/o MCC
560	4.4%	1.4%	Aftercare, musculoskeletal system & connective tissue with CC
603	3.1%	1.0%	Cellulitis w/o MCC
Total	32.3%	10.5%	

Hospitalizations for surgery continued to account for more than two-thirds of workers' compensation discharges in 2020 (Exhibit 6) and the top three MS-DRGs were unchanged from 2019. The 2020 data show MS-DRG (cervical spinal fusion without CC/MCC) dropped out of the top five rankings while MS-DRG 454 (combined anterior/posterior spinal fusion with CC) joined the top five list (Exhibit 8).

Exhibit 8: Top Five MS-DRGs for Workers' Compensation Surgical Hospitalizations (Discharge Year 2020)

MS-DRG	% Surgical	% Total	MS-DRG Description
470	19.2%	12.9%	Major hip & knee replacement or reattachment of lower extremity w/o MCC
460	6.8%	4.6%	Spinal fusion except cervical w/o MCC
455	5.0%	3.4%	Combined anterior/posterior spinal fusion w/o CC/MCC
483	4.1%	2.8%	Major joint/limb reattachment procedure of upper extremities
454	3.8%	2.6%	Combined anterior/posterior spinal fusion with CC
Total	38.9%	26.2%	

[12] MCC appended to an MS-DRG description indicates a Major Complications or Comorbidities secondary diagnosis. ICD-10-CM/PCS MS-DRG v37.0 Definitions Manual. Centers for Medicare & Medicaid Services. https://www.cms.gov/icd10m/version37-fullcode-cms/fullcode_cms/P0031.html

[13] Cheney, C. *Expert: Severe COVID-19 Illness is Viral Sepsis*. Healthleaders. November 25, 2020. https://www.healthleadersmedia.com/clinical-care/expert-severe-covid-19-illness-viral-sepsis

[14] Italy, K. *Treating Sepsis in COVID-19 Patients*. Health. January 8, 2021. https://www.wolterskluwer.com/en/expert-insights/treating-sepsis-in-covid-19-patients

[15] Jones, S.L. California Workers' Compensation Inpatient Hospitalization Trends, 2010-2018. *CWCI Research Update*. September 2019.

[16] Jones, S.L. California Workers' Compensation Inpatient Hospitalization Trends, 2010-2019. *CWCI Research Update*. November 2020.

Combining the severity levels[17] associated with diagnostic groupings provides a clearer picture of the top diagnostic groupings for workers' compensation hospitalizations. Exhibit 9 compares the top ten workers' compensation discharges when severity levels are combined to the values for the other three payer types. In 2020, major joint replacements continued as the top diagnosis-related group for workers' compensation hospitalizations, followed by MS-DRGs for spinal fusion surgeries, distinguishing workers' compensation from all other payer types.

Exhibit 9: Top Ten Workers' Compensation Discharges by Volume Severity Levels Combined (Discharge Year 2020)

MS-DRGs	Workers' Comp	Medicare	Medi-Cal	Private Coverage
469, 470	13.2%	2.6%	0.6%	2.3%
453, 454, 455	6.3%	0.5%	0.1%	0.6%
456, 457, 458, 459, 460	5.0%	0.5%	0.2%	0.7%
471, 472, 473	4.7%	0.3%	0.2%	0.6%
177, 178, 179	4.3%	4.0%	3.9%	4.1%
492, 493, 494	4.0%	0.4%	0.7%	0.8%
518, 519, 520	4.0%	0.2%	0.1%	0.5%
870, 871, 872	3.4%	13.2%	9.0%	7.6%
483	2.8%	0.5%	0.1%	0.2%
551, 552	2.1%	0.7%	0.4%	0.5%
Total	49.6%	22.9%	15.4%	17.9%
MS-DRG Descriptions				
469, 470 - Major hip and knee joint replacement or reattachment of lower extremity				
453, 454, 455 - Combined anterior/posterior spinal fusion				
456, 457, 458, 459, 460 - Spinal fusion except cervical				
471, 472, 473 - Cervical spinal fusion				
177, 178, 179 - Respiratory infections & inflammations				
492, 493, 494 - Lower extremity & humerus procedure except hip, foot, femur				
518, 519, 520 - Back & neck procedure except spinal fusion				
870, 871, 872 - Septicemia or severe sepsis				
483 - Major joint/limb reattachment procedure of upper extremities				
551, 552 - Medical back problems				

As might be expected based on the increase in hospitalizations for respiratory infections and sepsis, the MS-DRGs representing these medical conditions ranked fifth and eighth for workers' compensation. Unlike hospitalizations for significant major joint or spinal surgery, the disparities between workers' compensation and the other payers associated with the share of inpatient stays for respiratory infections and inflammations disappears – the share of hospitalizations for each payer type ranged from 3.9 percent to 4.3 percent.

[17] MS-DRGs are severity adjusted to account for different resource needs and outcomes for the same diagnosis group. Adjustments include Major Complications or Comorbidities (MCC), Complications or Comorbidities (CC) and without MCC or CC.

There are three different groupings for spinal fusion, based on whether or not the fusion involved the cervical vertebrae and if the surgery involved both anterior and posterior approach. Combining the discharges for MS-DRGs representing the different vertebral areas and the more complex access route (anterior and posterior) shows that spinal fusion surgery continued to be the leading reason for all workers' compensation hospitalizations in 2020, as was the case in each of the prior inpatient utilization studies. Although the number of workers' compensation spinal fusions has declined 62.3 percent since 2010,[18] they still accounted for 15.9 percent of all workers' compensation inpatient discharges last year, compared to 1.3 percent for Medicare, 0.6 percent for Medi-Cal and 1.9 percent for private coverage (Exhibit 10).

Exhibit 10: Volume of Discharges for Implant-Eligible Spinal Surgeries and Percent of Implant-Eligible Spinal Surgeries to All Discharges by Payer Group (Excludes 028, 029, 030[19])

Discharge Year	Workers' Comp	Medicare	Medi-Cal	Private Coverage
2010	4,980 (22.2%)	11,707 (0.9%)	1,836 (0.2%)	15,026 (1.2%)
2011	4,809 (21.7%)	12,327 (1.0%)	1,901 (0.2%)	14,627 (1.2%)
2012	4,784 (22.2%)	13,187 (1.0%)	2,002 (0.2%)	14,740 (1.2%)
2013	4,357 (21.4%)	13,835 (1.1%)	2,122 (0.2%)	14,484 (1.2%)
2014	3,771 (20.3%)	14,767 (1.2%)	3,263 (0.3%)	14,226(1.2%)
2015	3,476 (19.8%)	15,120(1.2%)	3,752 (0.3%)	14,071 (1.2%)
2016	3,138 (18.9%)	16,080 (1.3%)	4,379 (0.4%)	13,683 (1.2%)
2017	2,819 (17.8%)	16,051 (1.2%)	4,679 (0.4%)	12,692 (1.1%)
2018	2,696 (17.4%)	16,102 (1.2%)	4,439 (0.4%)	11,975 (1.1%)
2019	2,338 (16.4%)	17,101 (1.4%)	4,703 (0.4%)	11,796 (1.1%)
2020	1,877 (15.9%)	15,391 (1.3%)	4,155 (0.6%)	10,465 (1.9%)
'10 - '20 Net Change	**-62.3%**	**31.5%**	**126.3%**	**-30.4%**

[18] The decline in workers' compensation spinal fusions coincided with two reforms included in SB 863 in 2012; the elimination of duplicate payments for spinal hardware and the adoption of Independent Medical Review to resolve disputes over whether medical services for injured workers meet evidence-based medicine standards.

[19] MS-DRGs 028, 029 and 030 may also involve spinal fusion, but they have been excluded since they also include other types of spinal surgery addressing nervous system disorders, such as neurostimulator implantation.

Top Ten California Hospitals for Inpatient Hospitalizations

The distribution of inpatient discharges across California hospitals confirms that inpatient care in California is dispersed across a large number of facilities throughout the state. Exhibit 11 shows that in 2020, Cedars-Sinai Medical Center in Los Angeles accounted for more inpatient discharges than any other hospital in the state, yet it still only represented 1.4 percent of all hospitalizations paid by the four different payer groups. Workers' compensation patients comprised just 0.7 percent of all Cedar-Sinai inpatient discharges last year, which translates to 1.9 percent of the state's injured worker inpatient hospitalizations.

Although small, rural hospitals are not likely to offer a full spectrum of inpatient services, the widespread availability of inpatient services throughout California is reflected in the top five hospitals serving patients in Los Angeles, Fresno, the San Francisco Bay Area, and San Diego. As noted earlier, workers' compensation accounted for only 0.3 percent of all inpatient hospitalizations statewide in 2020, so it is not surprising that in 9 out of the top 10 hospitals, workers' compensation represented less than one percent of the inpatient discharges (Exhibit 11), with the only exception being Scripps Mercy Hospital in San Diego, where injured workers represented 1.3 percent of the inpatient population last year. Together the top ten hospitals rendering inpatient care to injured workers in 2020 accounted for 12.2 percent of all California workers' compensation inpatient discharges last year.

Exhibit 11: Top Ten Hospitals Based on Total Discharge Volume* for 2020

Hospital Name	WC	Medicare	Medi-Cal	Private	Total	WC as % of hospital's discharges
Cedars-Sinai Medical Center	1.9%	1.7%	0.5%	1.8%	1.4%	0.7%
Community Regional Medical Center-Fresno	1.7%	1.0%	1.9%	0.8%	1.2%	0.7%
UCSF Medical Center	1.1%	0.9%	0.9%	1.7%	1.1%	0.5%
Stanford Health Care	0.8%	1.1%	0.6%	1.5%	1.0%	0.4%
UC San Diego Health Hillcrest - Hillcrest Medical Center	1.1%	0.9%	1.3%	0.8%	1.0%	0.6%
University of California Davis Medical Center	1.3%	0.8%	1.2%	0.9%	1.0%	0.7%
LAC + USC Medical Center	0.7%	0.4%	2.5%	0.2%	0.9%	0.4%
Hoag Memorial Hospital Presbyterian	0.5%	1.1%	0.4%	1.3%	0.9%	0.3%
Grossmont Hospital	0.7%	1.0%	1.1%	0.5%	0.9%	0.4%
Scripps Mercy Hospital	2.3%	1.0%	1.0%	0.5%	0.9%	1.3%
Total	12.2%	9.8%	11.4%	10.0%	10.3%	

*Excludes, pregnancy, childbirth, and newborns

Top 10 Hospitals Based on Workers' Compensation Discharges

The ten California hospitals that had the largest share of workers' compensation inpatient hospitalizations in 2020 are listed in Exhibit 12. For comparative purposes, Exhibit 12 also notes each hospital's share of the state's Medicare, Medi-Cal and private coverage inpatient discharges, as well as the percentage of injured workers within their inpatient populations.

Scripps Mercy Hospital was the number one hospital in California for workers' compensation inpatient hospitalizations in 2020, with 2.3 percent of the statewide total, though injured workers represented only 1.3 percent of the hospital's discharges. The stand-out hospital among the top ten is Fresno Surgical Hospital which had 1.5 percent of workers' compensation discharges, ranking sixth in terms of workers' compensation inpatient volume, but injured workers comprised 11.7 percent of its inpatient population, which is at least ten percentage points higher than any of the other top ten hospitals.

Exhibit 12: Top Ten Hospital's Based on 2020 Worker's Compensation Discharge Volume

Hospital Name	WC	Medicare	Medi-Cal	Private	Total	WC as % of hospital's discharges
Scripps Mercy Hospital	2.3%	1.0%	1.0%	0.5%	0.9%	1.3%
Cedars-Sinai Medical Center	1.9%	1.7%	0.5%	1.8%	1.4%	0.7%
Community Regional Medical Center-Fresno	1.7%	1.0%	1.9%	0.8%	1.2%	0.7%
John Muir Medical Center-Walnut Creek Campus	1.6%	0.6%	0.3%	0.7%	0.6%	1.4%
Providence St. Joseph Hospital	1.6%	0.6%	0.4%	0.6%	0.5%	1.4%
Fresno Surgical Hospital	1.5%	0.1%	0.0%	0.1%	0.1%	11.7%
Sharp Memorial Hospital	1.3%	0.9%	0.6%	1.0%	0.8%	0.8%
Huntington Memorial Hospital	1.3%	0.7%	0.5%	1.2%	0.8%	0.8%
University of California Davis Medical Center	1.3%	0.8%	1.2%	0.9%	1.0%	0.7%
MemorialCare Long Beach Medical Center	1.3%	0.7%	0.7%	0.6%	0.7%	0.9%
Total	15.8%	8.1%	7.1%	8.1%	7.9%	

Hospitals Where Injured Workers Accounted for a High Share of Inpatient Discharges

Parsing the data further, Exhibit 13 lists the five California hospitals that had the highest proportion of their 2020 inpatient hospitalizations covered by workers' compensation. Fresno Surgical Hospital ranked third behind Patients' Hospital of Redding and Docs Surgical Hospital. Patients' Hospital of Redding is a physician-owned surgical hospital and injured workers represented 22.3 percent of its inpatient population last year, up from 13.9 percent in 2019. Docs Surgical Hospital, located in Los Angeles, experienced a four-percentage point decrease in workers' compensation as a share of its inpatient population, but it experienced an increase of 27.3 percent in workers' compensation volume and a total inpatient increase of 69.5 percent from 2019 through 2020. This significant increase in inpatient volume in 2020 reflects the fact that Docs Surgical Hospital only sees patients for orthopedic injuries and disorders, so during the first year of the pandemic it would have been less impacted than other hospitals that had their resources strained by the need to treat COVID-19 patients.

Exhibit 13: Top Five Hospitals Based on Workers' Compensation as Share of Hospital's Inpatient Population During 2019 and 2020

Hospital	CY 2019	CY 2020	Change in WC Volume	Change in Total Volume
Patients' Hospital of Redding	13.9%	22.3%	31.8%	-17.7%
Docs Surgical Hospital	18.6%	14.0%	27.3%	69.5%
Fresno Surgical Hospital	8.3%	11.7%	22.6%	-13.0%
West Covina Medical Center	3.1%	8.8%	52.6%	-45.6%
Chapman Global Medical Center	7.2%	7.3%	-13.8%	-13.9%

Discussion

The latest statewide inpatient hospital data shows that workers' compensation continued to represent a very small share of inpatient utilization in calendar year 2020. Comparing the discharge volume from 2010 to 2020 shows the number of workers' compensation hospitalizations is down 47.2 percent versus a 9.9 percent decline in total hospitalizations statewide (Exhibit 2).

Recently, the most notable factor influencing inpatient hospitalizations for all payer types was the introduction of the COVID-19 pandemic in March of 2020. All payer types experienced double-digit declines in the volume of inpatient discharges from 2019 to 2020, with workers' compensation experiencing the largest decrease (17.4 percent), while Medi-Cal had the lowest decrease (10.0 percent).

The huge decline in California's covered work force at the beginning of the pandemic, as well the shift to remote work by non-essential workers following the governor's stay-at-home order, led to a decline in claim volume, which combined with the cessation or curtailment of elective surgeries during peaks in COVID-19 infection rates resulted in fewer inpatient stays for surgical procedures: 16.9 percent overall and 20.4 percent for workers' compensation (Exhibit 3). At the same time, the total number of non-surgical hospitalizations declined by 10.2 percent both overall and in workers' compensation (Exhibit 3). Meanwhile, there was a notable shift in the types of conditions treated and the services delivered, as hospitalizations for respiratory infections and inflammations increased to 57.8 percent of all workers'

compensation hospitalizations involving diseases and disorders for the respiratory system (Exhibit 5), clearly indicating the major impact that COVID-19 had on inpatient care within the system.

Spinal fusion surgery continued to be the number one reason for injured worker hospitalizations, representing 15.9 percent of all workers' compensation discharges (Exhibit 10), followed by major hip or knee replacement surgery at 13.2 percent (Exhibit 9). In comparison, spinal fusion surgery accounted for 1.9 percent of all discharges for private coverage patients and 1.3 percent for Medicare. The differences in patient populations were even greater for hip or knee replacement surgery – the share of total discharges for private coverage was 2.3 percent and Medicare showed 2.6 percent.

The distribution of inpatient discharges was spread across 437 hospitals statewide, with Cedars-Sinai Medical Center in Los Angeles having the largest share of total discharges (1.4 percent) in 2020 (Exhibit 11). The top hospital based on the volume of workers' compensation discharges was Scripps Mercy Hospital in San Diego, where injured workers accounted for 1.3 percent of the hospital's inpatient population. In comparison, Cedars-Sinai Medical Center serviced 1.9 percent of all workers' compensation inpatients, but injured workers only accounted for 0.7 percent of its patient population.

Of the top ten hospitals based on workers' compensation volume, Fresno Surgical Hospital had the highest proportion of workers' compensation patients for its patient population at 11.7 percent (Exhibit 12). There were two other physician-owned hospitals that joined Fresno Surgical Hospital in the top five list of hospitals based on workers' compensation as a share of the hospital's patient population – Patients' Hospital of Redding and Docs Surgical Hospital in Los Angeles. Notably, each of these three hospitals focus on surgical admissions rather than non-surgical (Medical) admissions. As such, these hospitals may have been less impacted by resource issues encountered by other hospital treating COVID-19 patients. Notably, Docs Surgical Hospital experienced an increase of 69.5 percent in its total discharge volume and an increase of 27.3 percent in its workers' compensation volume in 2020.

CWCI will continue to monitor inpatient utilization, as well as the types of medical conditions influencing utilization for workers' compensation patients.

About the Author

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California Workers' Compensation Institute

The California Workers' Compensation Institute, incorporated in 1964, is a private, nonprofit organization of insurers and self-insured employers conducting and communicating research and analyses to improve the California workers' compensation system. Institute members include insurers that collectively write more than 80% of California workers' compensation direct written premium, as well as many of the largest public and private self-insured employers in the state. Additional information about CWCI research and activities is available on the Institute's website (www.cwci.org).

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