



Research Update

Patterns in the Provision of Professional Medical Services in California Workers' Compensation

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Executive Summary

This study has two objectives. One is to examine patterns in the provision of professional medical services to California injured workers after the 2012 workers' compensation reforms included in SB 863¹ were implemented, and the other is to measure any disruptions in initial medical service delivery caused by the COVID-19 pandemic.

To examine the impact of SB 863, the authors measured the prevalence and volume of professional medical services rendered in the first 24 months of treatment for indemnity claims in which initial medical services were delivered between 2014 and 2019. To examine the impact of the pandemic, they compared the prevalence and volume of services in the first six months of treatment for indemnity claims in which medical services began in 2018 and 2019 to non-COVID indemnity claims in which treatment began in 2020 and 2021. In both cases, indemnity claims with and without major surgery were examined separately. Key findings include:

- The percent of claims with major surgery within the first 24 months of treatment has generally declined 1 percentage point per year since 2014.
- Claims with major surgery had significantly more Evaluation and Management (E&M) and Physical Medicine visits than those without major surgery during the first 24 months of treatment.
- About half of all claims with major surgery in the study sample had Injections compared to 17 to 18 percent of the claims without major surgery.
- Both the average and median number of services per claim within 24 months of initial treatment have been very stable across the services reviewed: E&M, Physical Medicine, Mental Health, Advanced Imaging, and Injections.
- The disruptions in the health care delivery system due to the COVID-19 pandemic do not appear to have had a substantial impact on early treatment (within 6 months of treatment start) for workers' compensation claims with and without major surgery.

¹ [SB 863](#) was the comprehensive workers' compensation reform bill negotiated by labor and employer representatives and the Brown Administration in 2012. Gov. Brown signed the bill in September 2012 and most of the key provisions impacting professional medical services were implemented within two years of its enactment.

Background and Objective

Delivery of timely and appropriate medical care has been the subject of multiple CWCI reports, with the most recent in-depth study published in September 2020.² That study examined changes in utilization trends for various medical services following the implementation of major medical reforms in the California workers' compensation system that had been enacted over the prior two decades, with a specific focus on services provided on indemnity claims during the first 24 months of treatment.

This study continues the analysis of patterns in the provision of professional medical services during the initial 24 months of care using a post-SB 863 sample of claims in which initial treatment was delivered between 2014 and 2019 to determine the prevalence and volume of services provided to injured workers following the implementation of those reforms. The findings show treatment patterns for five professional medical service categories: E&M, Physical Medicine, Advanced Imaging, Mental Health, and Injections, with the results for each category broken out for claims with and without major surgery.

To assess the impact of the pandemic on medical service delivery, the authors also examined changes in the utilization rates and the average number of visits within the initial six months of care for indemnity claims with and without major surgery using a sample of indemnity claims with 2018 through 2021 treatment start dates.

Data and Methods

For this study, the authors used medical service payment data on non-COVID indemnity claims from CWCI's Industry Research Information System (IRIS) database³ for service years 2014 to 2021, valued through June 30, 2022. To be included in the study sample, claims had to have at least one office visit, emergency department service, or inpatient care code.⁴ The first date an injured worker received a service marked the beginning of medical treatment for the claimed injury.

Visits per claim were measured for claims that had the service type within the evaluation period. A visit was defined as a group of services performed for an individual patient on the same day, with the same provider, and within the same service category. Visits for Physical Therapy, Chiropractic Manipulation, and Acupuncture were combined into the Physical Medicine category for purposes of reporting, while

² David, R., Jones, S., and Bullis, R. Changes in Medical Treatment Trends After 20 Years of Incremental Workers' Compensation Reform. *CWCI Research Note*. September 2020.

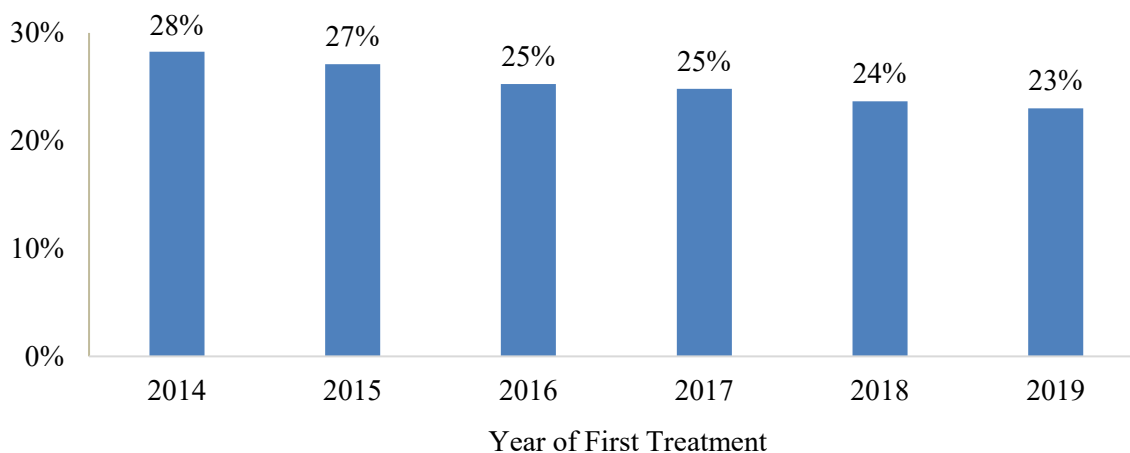
³ IRIS is CWCI's transactional database of insured and self-insured claims. It contains data on employee and employer characteristics, medical service data, benefits, and administrative costs on 7.8 million workers' compensation claims.

⁴ Services were identified using codes and definitions from the American Medical Association's Current Procedural Terminology (CPT) manual, which are incorporated into the Official Medical Fee Schedule.

Mental Health services included mental health counseling and testing services. Advanced Imaging and Injections were counted based on days with the service, independent of provider.

Results were broken out separately for claims with and without major surgery, with the major surgery claims identified by the presence of at least one American Medical Association (AMA) Current Procedural Terminology (CPT) code denoted as major surgery by the Centers for Medicare & Medicaid Services (CMS).⁵ Exhibit 1 shows that a steady decrease in the percent of claims with major surgery within 24 months of initial treatment began in 2014. This coincided with the implementation of the Independent Medical Review (IMR) dispute resolution process, the total elimination of duplicative fees for implanted spinal hardware used in spinal surgeries,⁶ and the sale of the Pacific Hospital of Long Beach, which had been California's number one hospital for workers' compensation spinal surgeries, following an FBI sting operation that exposed a major kickback scheme that led to the arrest and conviction of its former owner and a number of doctors and other co-conspirators.

Exhibit 1: Share of Claims with Major Surgery During First 24 Months of Treatment



Since 2014, the percentage of claims with major surgery within the first two years of treatment declined about 1 percentage point each year, falling to 23 percent of the non-COVID indemnity claims for which initial treatment started in 2019. CWCI research published in January 2023⁷ confirmed an increasing share of workers' compensation surgeries are performed on an outpatient basis, but the data on the prevalence of major surgery from both the 2020 study and this study include surgeries performed in either inpatient or outpatient settings.

⁵ For this study, major surgery is defined based on the presence of a 90-day global surgical package (aka global surgery) that includes all necessary services normally provided by a surgeon or a member of the surgeon's group practice, before, during, and after a procedure. Centers for Medicare & Medicaid Services. Medicare Learning Network. Global Surgery Booklet. September 2018. <https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/GlobalSurgery-ICN907166.pdf>

⁶ Title 8, California Code of Regulations. §9789.22(g)(3).

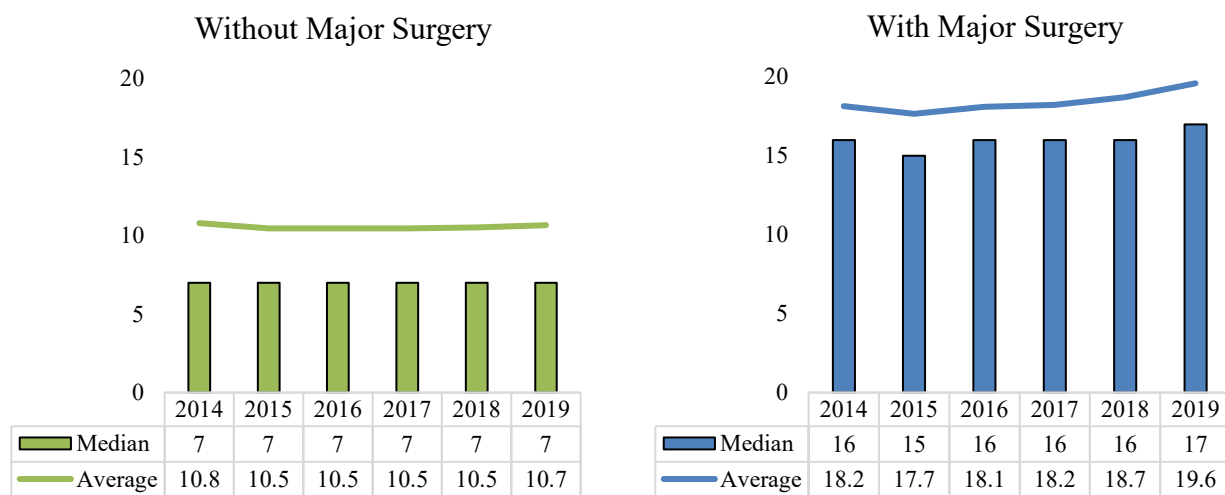
⁷ Jones, S. Trends in the Utilization of Inpatient Care in California Workers' Comp, *CWCI Research Update*, Jan. 2023.

Results

Evaluation and Management

The average and median number of encounters for E&M services, including initial and follow-up office visits, emergency room visits, telephonic and inpatient evaluations, and consultations during the first 24 months of treatment varied only slightly for claims without major surgery across the study period, with the median number of visits remaining steady at 7, while the average number of visits ranged from 10.5 to 10.8 (Exhibit 2).

Exhibit 2: Evaluation and Management – Visits per Claim within 24 Months



Among claims with major surgery, the median number of E&M visits at 24 months registered little variation, with claims ranging from 15 to 17 visits in the six initial treatment years. The average number of E&M visits on the claims with major surgery at 24 months increased steadily from 17.7 visits in initial treatment year 2015 to 19.6 visits for claims with initial treatment in 2019.

Claims with major surgery had almost twice the average number of E&M visits in the most current year (19.6 visits) compared to those without major surgery (10.7 visits).

Physical Medicine

The percent of indemnity claims that had at least one Physical Medicine service in the first 24-month treatment period has remained stable for claims with and without major surgery. As noted in Exhibit 3, 62 to 65 percent of claims without major surgery had a Physical Medicine visit within the first two years of treatment, while among surgical claims, that proportion has been 84 to 85 percent.

Exhibit 3: Physical Medicine Services – Share of Claims with Service at 24 Months

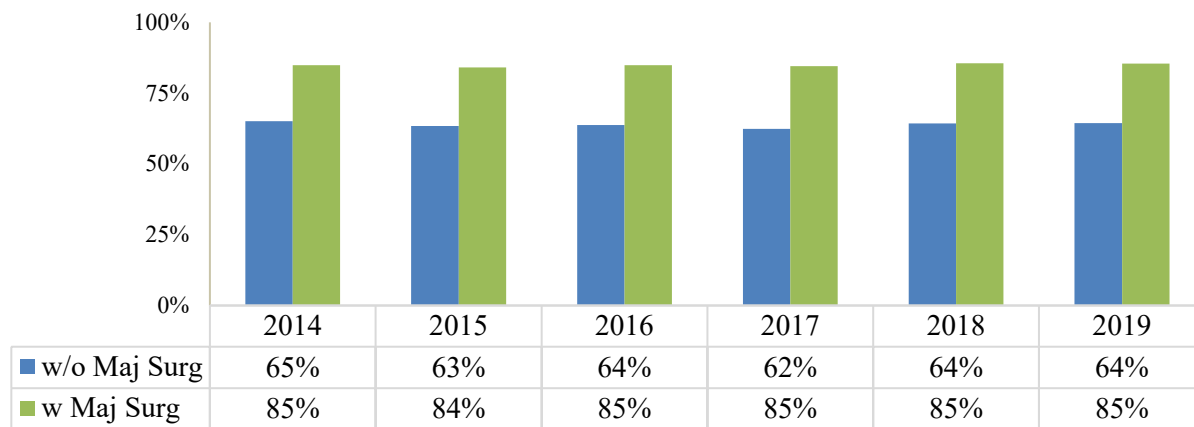
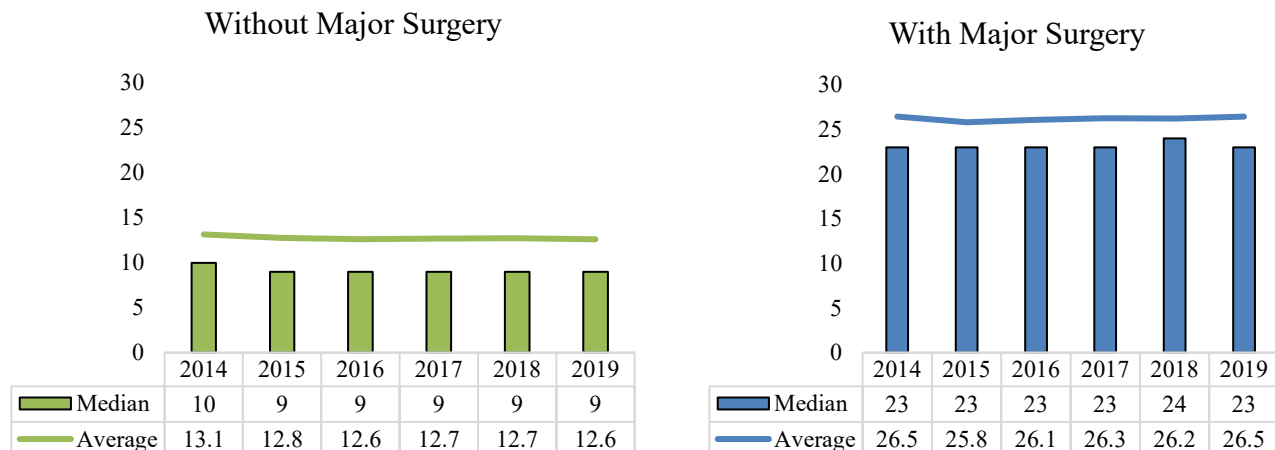


Exhibit 4 shows the average and median number of Physical Medicine visits within the first 24 months of treatment for injured workers who received Physical Medicine services. For each of the six initial treatment years both the average and median number of Physical Medicine visits were more than twice as high for claims with major surgery than for those without, and the results showed little variation over time. For claims without major surgery, the median was 9 to 10 Physical Medicine visits within the first two years of treatment, and the average was 12.6 to 13.1 visits; while among the surgical claims the median was 23 to 24 Physical Medicine visits, and the average was 25.8 to 26.5 visits.

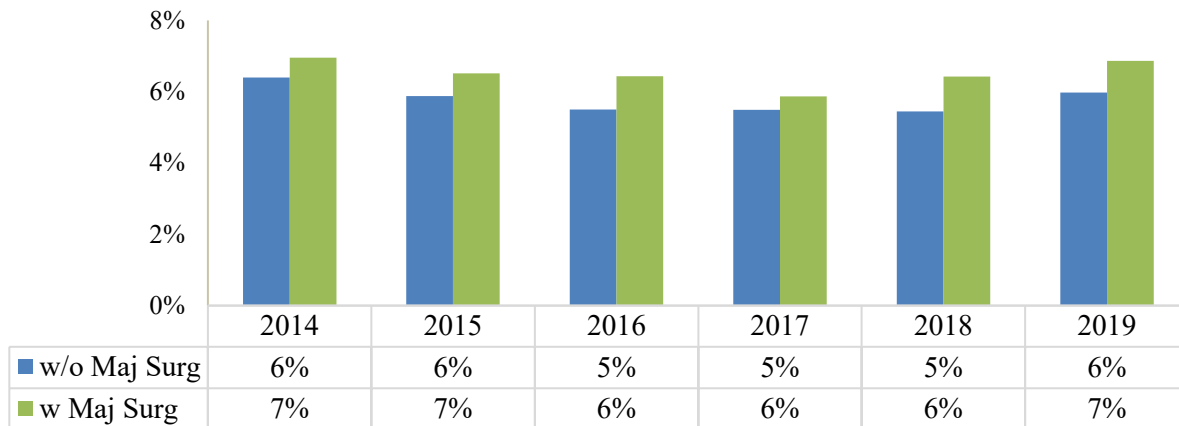
Exhibit 4: Physical Medicine – Visits Per Claim at 24 Months



Mental Health Services

Exhibit 5 shows that the share of claims with Mental Health services was only slightly lower for claims without major surgery versus those with surgery, ranging from 5 to 6 percent for claims without major surgery and 6 to 7 percent for those with surgery for the six-year time period.

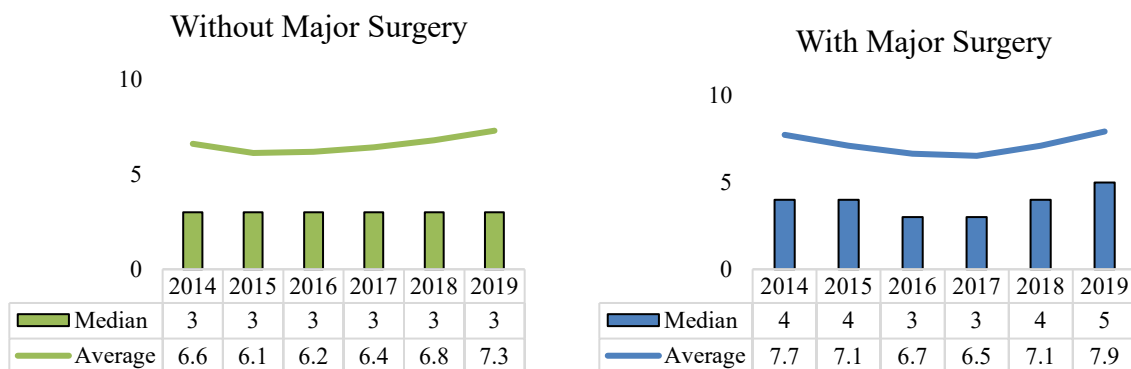
Exhibit 5: Mental Health – Share of Claims with Service at 24 Months



Among claims without major surgery the median number of Mental Health visits in the first 24 months of treatment held steady at 3 visits across all six initial visit years, though the average has consistently been more than twice the median (Exhibit 6). Among the claims with major surgery, however, the median number of Mental Health visits at 24 months showed greater variation, ranging between 3 and 5 visits, while the average was between 6.5 and 7.9 visits.

In claims with and without major surgery, the average number of visits at 24 months was highest for claims in which treatment began in 2018 and 2019. The spread between the median and average number of visits among claims with and without surgery indicates that both types of claims had a significant number of outliers in which the number of Mental Health visits was well above average.

Exhibit 6: Mental Health – Visits per Claim at 24 Months



Advanced Imaging (CT/PET/MRI)

Advanced imaging encompasses CT scans, PET scans, and MRIs. Exhibit 7 shows that among claims with 2014 through 2019 initial treatment dates there was little change in the average or median number of Advanced Imaging services at 24 months. Among claims without major surgery, 40 to 42 percent had Advanced Imaging at the 24-month benchmark, while among surgical claims, that rate ranged from 61 to 64 percent, with the highest percentage noted for claims from the three most recent years.

Exhibit 7: Advanced Imaging – Share of Claims with Service at 24 Months

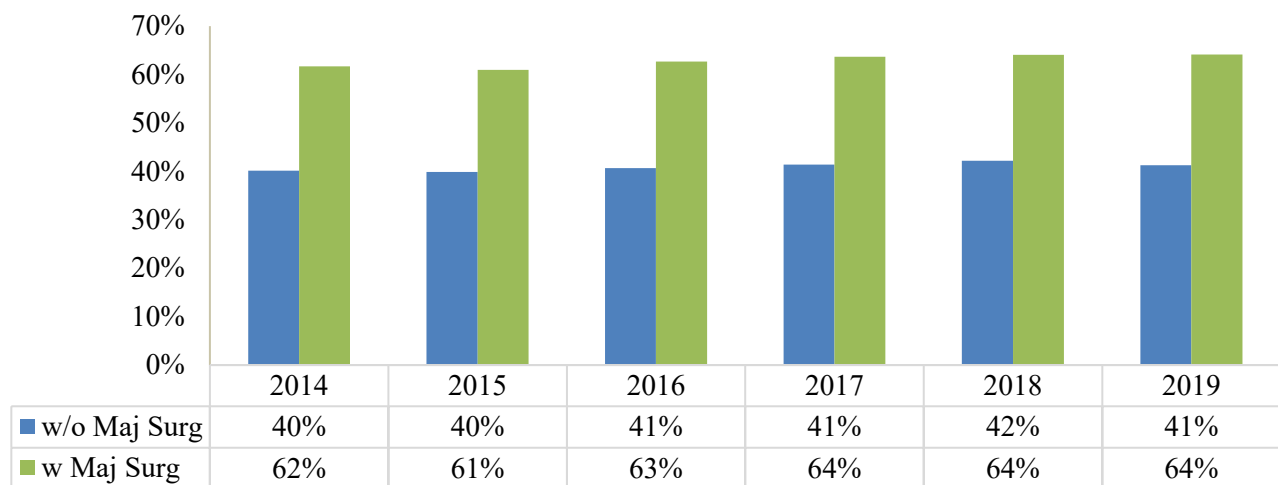
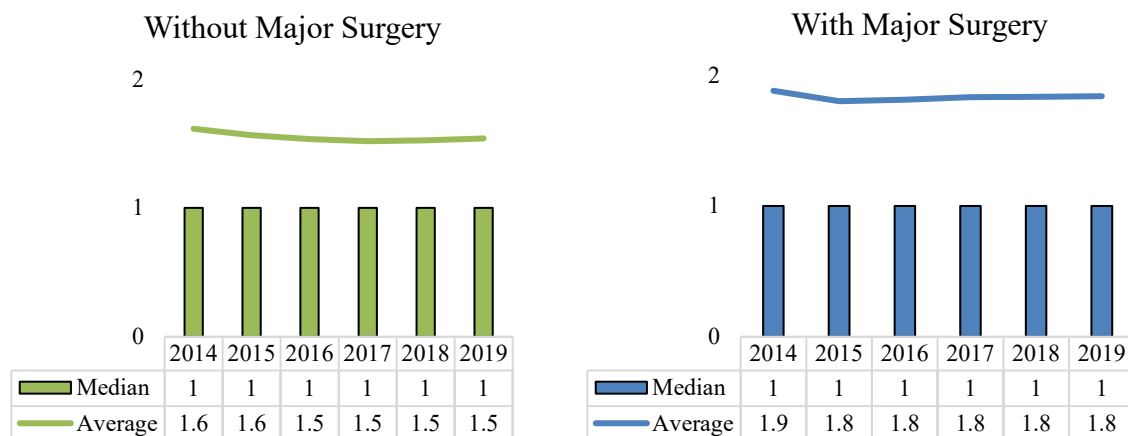


Exhibit 8 shows that the average service days with Advanced Imaging was very stable for both populations with the median at 1 in all periods and the mean ranging from 1.5 to 1.6 for claims without major surgery and from 1.8 to 1.9 for claims with major surgery.

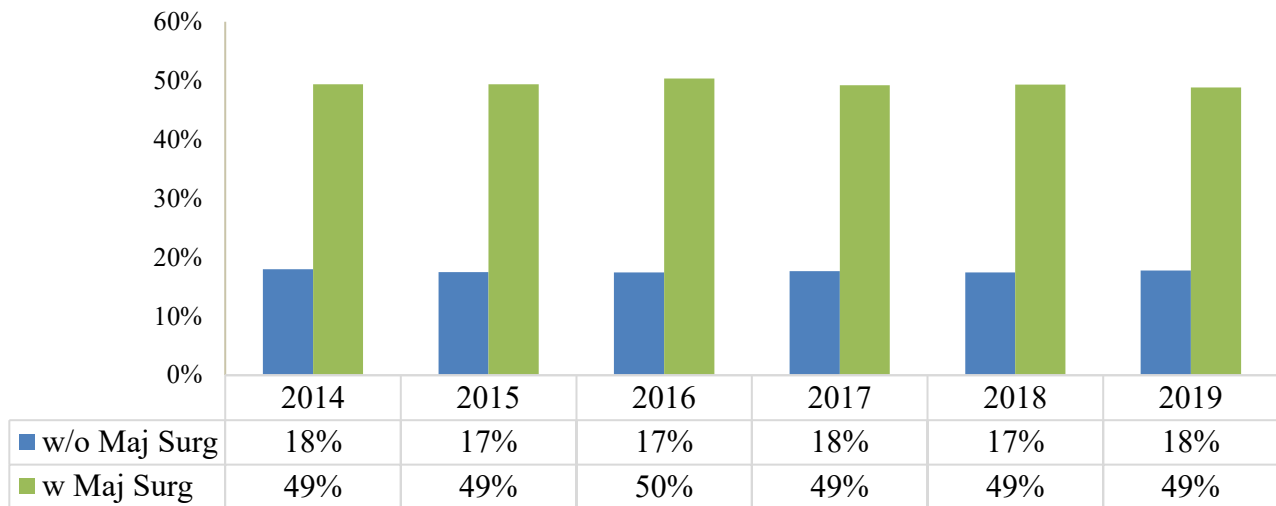
Exhibit 8: Advanced Imaging – Service Days per Claim at 24 Months



Injection Services

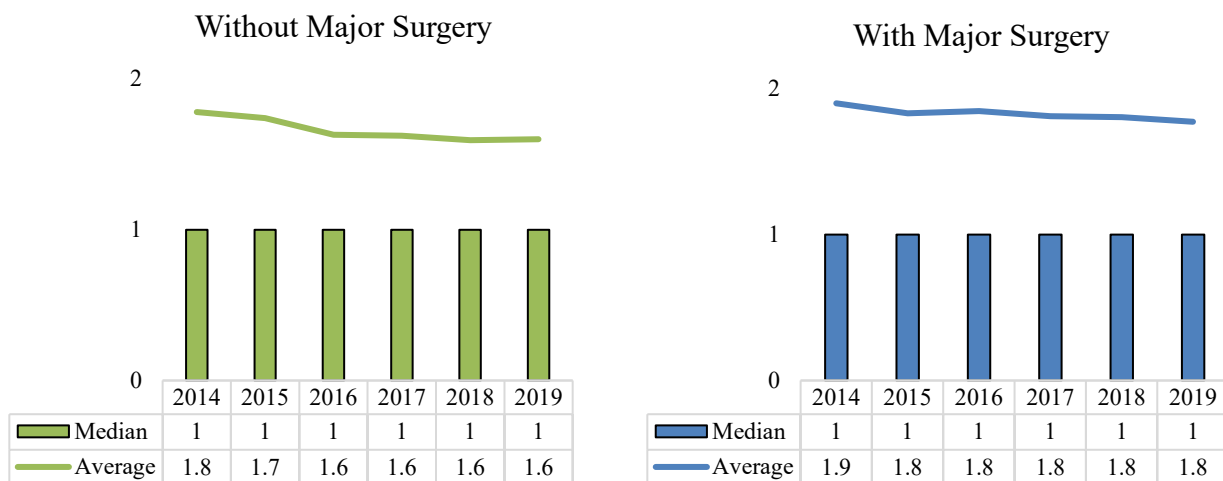
Injection services may be used for diagnostic or treatment purposes, and for this study all Injection services were included in this service category. Exhibit 9, shows the percentage of claims with Injection services at 24 months. The share of claims without major surgery receiving an injection was very consistent over time ranging from 17 to 18 percent. A much higher percentage of claims with major surgery received injections ranging from 49 to 50 percent but was also consistent over time.

Exhibit 9: Injections – Share of Claims with Service at 24 Months



For claims with and without major surgery, the median number of days with injections within the first 24 months of treatment was 1, and there was no change in the average days of service from 2016 to 2019 (Exhibit 10).

Exhibit 10: Injections – Service Days per Claim at 24 Months



Impact of the Pandemic on Early Treatment Patterns

In March 2020, Governor Newsom declared that a pandemic existed in California, which over the ensuing months set in motion major changes within the state as millions of nonessential workers were ordered to work from home and millions more were laid off or furloughed, which resulted in a reduction in the number of workers' compensation claims filed. At various times within the next two years, medical resources in the state were stretched thin as hospitals scrambled to keep up with the fluctuating number of COVID-19 patients who flooded emergency rooms and hospital Intensive Care Units seeking treatment. As new waves of coronavirus infections hit the state, medical care facilities were forced to redirect their resources, often cancelling or delaying elective or non-life-threatening procedures, while at the same time, many Californians chose not to seek treatment due to the fear of becoming infected at their doctor's office, clinic, or hospital.

To assess the impact of the pandemic on injured workers' initial medical service delivery, the authors tracked changes in the utilization rates during the initial six months of care for indemnity claims with and without major surgery, using a sample of non-COVID claims with 2018 – 2021 treatment start dates.

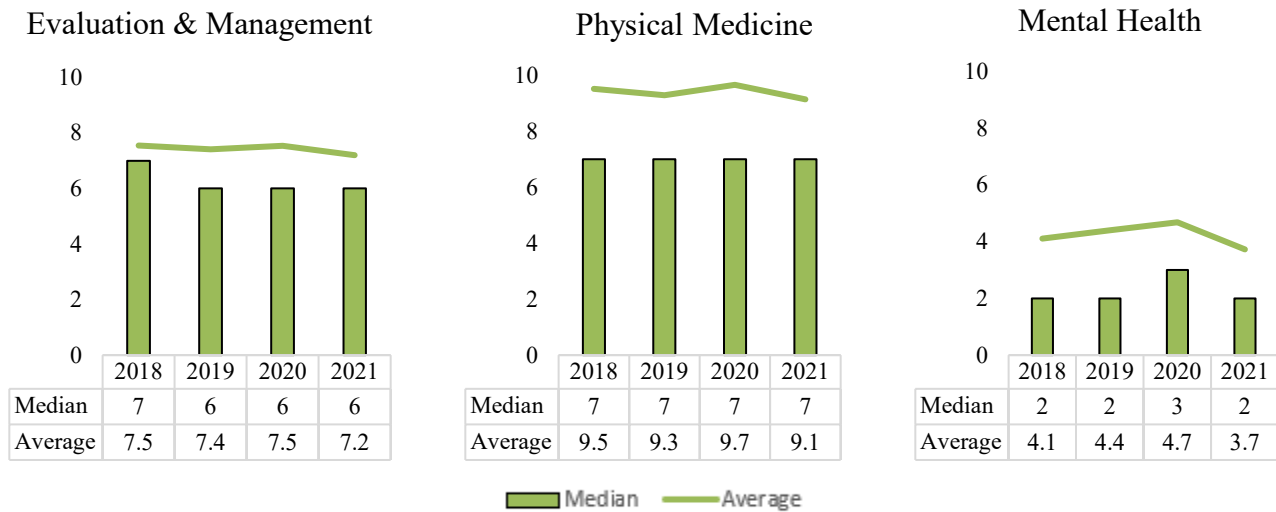
Exhibits 11 and 12 show results for claims without major surgery. The share of claims receiving each of the services showed only minor variations between the 2018 and 2020 study years, but between the 2018 and 2021 study years, the percentage of claims without major surgery that had Advanced Imaging declined by 2.6 percentage points while the percentage of claims with Injections declined by 2.0 percentage points. Meanwhile, despite the pandemic, the percentage of claims without major surgery that had Physical Medicine services held steady at about 63 percent for claims from initial service years 2018 through 2020, then edged up to almost 64 percent for claims in which the initial treatment was rendered in 2021.

Exhibit 11: Claims without Major Surgery: Share of Claims with Service at 6 Months

Service Category	2018	2019	2020	2021	Change	Change
					2018 to 2020	2018 to 2021
Physical Medicine	62.9%	63.2%	62.8%	63.8%	-0.1%	0.9%
Mental Health	2.7%	2.6%	2.5%	2.5%	-0.2%	-0.2%
Advanced Imaging	37.8%	37.2%	36.4%	35.2%	-1.4%	-2.6%
Injections	13.7%	13.8%	13.6%	11.7%	-0.1%	-2.0%

Median visits per claim for E&M, Physical Medicine, and Mental Health services were very stable across the period. Average visits per claim were the same or higher for all three services between 2018 and 2020, however, 2021 had slightly lower rates compared to 2018 values.

Exhibit 12: Claims without Major Surgery: Visits per Claim at 6 Months



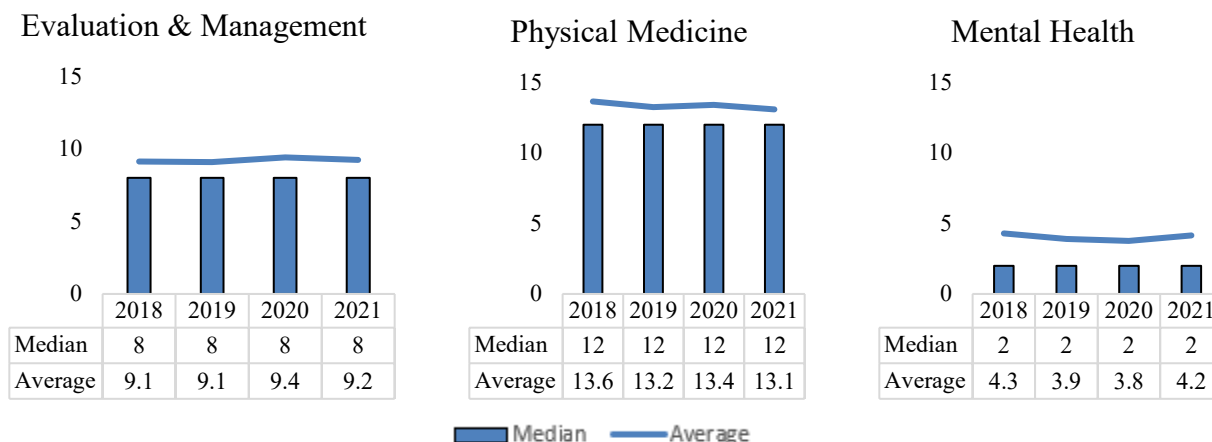
Exhibits 13 and 14 show results for claims with major surgery. Except for Advanced Imaging, the share of claims receiving each of the services was stable from 2018 to 2020 study years (Exhibit 13) while 2021 values were generally higher than in 2018.

Exhibit 13 shows that across the four initial service years, 74.7 to 76.0 percent of the surgical claims had Physical Medicine services within the first 6 months of treatment, while 1.7 to 2.3 percent received Mental Health services. As was the case with the claims without major surgery, the share of claims with major surgery that had Advanced Imaging in the first six months declined for claims with initial treatment in 2020, declining by 4.1 percentage points to 43.7 percent compared to 47.8 percent in 2018, but among the claims in which treatment began in 2021, that percentage was back up to 47.2 percent. The utilization of Injection services also showed little variation in 2020, with about a third of the claims involving these procedures across all four of the initial service years, though they were slightly more prevalent during the second year of the pandemic, as 34.8 percent of the claims in which treatment began in 2021 had at least one Injection service within the first six months.

Exhibit 13: Claims with Major Surgery: Share of Claims with Service at 6 Months

Service Category	2018	2019	2020	2021	Change 2018 to 2020	Change 2018 to 2021
Physical Medicine	75.9%	74.7%	75.4%	76.0%	-0.5%	0.1%
Mental Health	2.0%	2.2%	1.7%	2.3%	-0.3%	0.3%
Advanced Imaging	47.8%	45.6%	43.7%	47.2%	-4.2%	-0.6%
Injections	33.1%	31.7%	32.9%	34.8%	-0.2%	1.7%

Exhibit 14: Claims with Major Surgery: Visits per Claim at 6 Months



As Exhibit 14 shows, among major surgery claims from initial treatment years 2018 through 2021 there was no change in the median number of visits for E&M, Physical Medicine, or Mental Health in the first 6 months of treatment. The average number of E&M visits rose from 9.1 to 9.4 between initial service years 2018 and 2020, then moved back down to 9.2 in initial service year 2021, while the average number of Physical Medicine visits at 6 months ranged between 13.1 and 13.6 over the four-year span. For Mental Health, the average number of visits hit a 3-year low for claims in which treatment began in 2020, with 3.8 visits per claim that year, down slightly from 4.3 in 2018 and 3.9 in 2019, but the average was back up to 4.2 visits for claims from initial treatment year 2021.

Summary

The results of this study show that overall, the years since the implementation of SB 863 have marked a period of sustained stability and predictability in the delivery of professional medical services in California workers' compensation.

Previous studies noted that prior to the implementation of IMR, the FBI sting operation that led to the sale of the Pacific Hospital of Long Beach, and the elimination of the duplicative fees for spinal hardware, more than 30 percent of indemnity claims involved surgery within 24 months. This study found that figure dropped to 28 percent in 2014 and continued to decline by about 1 percentage point per year, falling to 23 percent for claims with initial treatment in 2019.

As would be expected given the seriousness of the injuries, claims that involved major surgery had significantly more E&M and Physical Medicine visits within the first 24 months than those without major surgery, but both the average and median number of services in that initial 2-year treatment window have been very steady across almost all service types. Notably, the use of Mental Health services was about equal among injured workers with and without major surgery in the study sample, with 5 to 6 percent the non-surgical claimants and 6 to 7 percent of the surgical claimants receiving

Mental Health services in the first 24 months of treatment during the study period. The data on the median and average number of Mental Health visits tell a somewhat different story. Among claims without major surgery, the median number of visits within the first two years held steady during the pandemic, with half involving less than three visits and half involving more than three visits, while the average number of Mental Health visits at the 2-year benchmark increased significantly for claims with initial treatment in 2018 and 2019. Among claims with major surgery, both the median and average number of Mental Health visits at 24 months increased to 6-year highs for claims with initial treatment in 2019.

Furthermore, the data on medical service utilization within the first six months suggest that for claims with and without major surgery, the disruptions in the health care delivery system due to the COVID-19 pandemic have not significantly diminished the quantity or types of professional medical services rendered to injured workers during the initial stages of their claims. To some extent, this may be due to the increased use of telehealth, which has become much more widespread both in workers' compensation and in other health systems and has been particularly helpful in assuring the continued delivery of E&M, Physical Medicine, and Mental Health services.

CWCI will continue to monitor the provision of professional medical services in California workers' compensation and report on the results in future studies.

About the Authors

Rena David is Senior Vice President of Research and Operations at the California Workers' Compensation Institute.

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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 76% 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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