

A REPORT TO THE INDUSTRY



**Opioid Prescribing for
Injured Workers
Covered by
California Workers'
Compensation System
and Other Payers:
2017-2023**

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California Workers' Compensation Institute

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EXECUTIVE SUMMARY

Over the past decade, the California workers' compensation system has implemented various interventions to promote opioid prescribing practices that lead to improved outcomes for injured workers. This report summarizes the findings from a California Workers' Compensation Institute (CWCI) study that measured the use of prescription opioids within both the California workers' compensation system and the total California population from 2017–2023. In addition to focusing on utilization trends over this timeframe, the study seeks to determine the extent to which injured workers accessed opioids from sources outside of workers' compensation, for example from the commercial insurance system.

The study uses data extracted from the California Department of Justice's Controlled Substance Utilization Review and Evaluation System (CURES) to calculate the measures employed in the analysis. It builds upon prior CWCI studies in its examination of utilization patterns for workers' compensation patients, the strength of the *daily dose* of morphine equivalents (referred to as the morphine equivalent dose, or MED), and the *duration* of opioid use. The duration of use and MED level are highly correlated with addiction and harmful side effects of opioid medications, including overdose and overdose-related death.^{1,2} The study also compares these metrics to established opioid treatment guidelines to identify the proportion of patients whose opioid use exceeded these levels and how these proportions changed over time. Key findings include:

- Between 2017 and 2023, the number of Californians receiving opioid prescriptions fell by 34 percent, from 6.8 million, or 17.3 percent of the state's total population, to 4.5 million, or 11.5 percent of the state's population (Exhibit 1).
- Over the study period, declines in acute, subacute, and chronic³ opioid use among workers' compensation patients exceeded those for the total California population (Exhibit 3). Specifically:
 - The number of acute opioid workers' compensation patients declined an average of 9.2 percent per year, compared with 4.9 percent for all acute California opioid patients.
 - The number of subacute opioid workers' compensation patients declined by an average of 12.6 percent per year, compared with 9.8 percent for all subacute California opioid patients.
 - The number of chronic opioid workers' compensation patients declined by an average of 10.6 percent per year, compared with 6.3 percent for all chronic California opioid patients.

¹ Dunn KM, et al. Opioid prescriptions for chronic pain and overdose: a cohort study. *Ann Intern Med.* 2010 Jan 19;152(2):85-92. doi: 10.7326/0003-4819-152-2-201001190-00006. PMID: 20083827; PMCID: PMC3000551.

² Bohnert ASB, et al. Association Between Opioid Prescribing Patterns and Opioid Overdose-Related Deaths. *JAMA.* 2011;305(13):1315–1321. doi:10.1001/jama.2011.370.

³ Patient acuity was determined based on duration of opioid use: less than 30 days for acute patients, 30 - 89 days for subacute patients, and 90 or more days for chronic patients. Additional information is found in the Data and Methods section.

- The average daily morphine equivalent dose (MED) for workers' compensation patients declined over the study period for all three levels of patient acuity. The decrease was greatest for chronic patients (-26.0 percent), followed by acute patients (-23.6 percent), and subacute patients (-17.6 percent) (Exhibit 6).
- Over the study period, the proportion of acute workers' compensation patients that exceeded the recommended 50 MED per day threshold declined by 9.9 percentage points and the proportion that was within the 20–50 MED range increased by 13.3 percentage points (Exhibit 7).⁴
- The proportion of acute workers' compensation patients receiving opioid prescriptions exceeding the recommended 5-day supply decreased by 8.2 percentage points during the study period (Exhibit 8). Two-thirds of this decrease occurred in 2018, immediately after the ACOEM Pain Management and Opioid Treatment Guidelines⁵ were incorporated into the Medical Treatment Utilization Schedule (MTUS) and the MTUS Workers' Compensation Drug Formulary was implemented.⁶
- Among chronic workers' compensation patients, the share of total days' supply with an MED over 50 dropped from 27.1 percent in 2017 to 21.3 percent in 2023.
- During each calendar year in the study period, most workers' compensation chronic opioid patients received opioid prescriptions from other payers in addition to workers' compensation. The proportion who received opioids from both the workers' compensation system and from other payers declined from 72.1 percent in 2017 to 68.7 percent in 2023 (Exhibit 10).
- Over the study period the total daily MED for workers' compensation patients declined by 17.1 MED. The portion of the MED covered by workers' compensation declined by 8.4 MED or 24.1 percent, while the portion covered by other payers declined by 8.6 MED or 32.6 percent (Exhibit 12).
- A declining proportion of workers' compensation patients had prescriptions from other payers with days' supply that overlapped with their workers' compensation prescriptions. The proportion of days' supply that overlapped multiple medical delivery systems declined from 8.0 percent in 2017 to 3.7 percent in 2023 (Exhibit 13).

⁴ Proposed Evidence-Based Updates to the Medical Treatment Utilization Schedule (MTUS); proposed opioid guidelines, American College of Occupational and Environmental Medicine (ACOEM), <https://www.dir.ca.gov/dwc/DWCPropRegs/2023/MTUS-Evidence-Based-Update-December/ACOEM-Opioids-Guideline.pdf>. Section 4.3.2: Acute Severe Pain; p. 28.

⁵ Chronic Pain Guidelines (7/18/09, 7/28/16, updated 5/15/17). Opioid Guidelines (7/18/16, updated 4/20/17, effective 12/1/17).

⁶ Effective 1/1/18.

BACKGROUND

Over the past decade, the California workers' compensation system has implemented various interventions to promote safe opioid prescribing practices that result in improved health outcomes for injured workers. Focusing on the seven-year period from 2017 to 2023, this report examines trends associated with the utilization of opioids by individuals covered by the California's workers' compensation system, including the extent to which workers' compensation patients utilized opioids outside of workers' compensation (for example, within commercial insurance and private payment systems).

Previous CWCI analyses on opioid utilization in California workers' compensation documented the declines in total morphine milligram equivalents (MMEs) per opioid prescription and per claim.^{7,8} However, this study focuses on the *daily* morphine equivalent dose (MED) and the *duration* of opioid use. Such measures are highly correlated with the harmful side effects of opioid medications, including addiction, overdose, and death.

Using CURES⁹ data obtained from the California Department of Justice (DOJ), the authors calculated the average MED and average duration of the workers' compensation opioid prescriptions for each of the seven years included in the study, as well as the percentage change in the average MED and average prescription duration from 2017 through 2023. These measures were compared to widely recognized opioid treatment guidelines and recommendations that promote safe and effective opioid use. The authors also identified the proportion of patients whose utilization exceeded recommended levels and the extent to which that proportion changed over time.

As background, in 2013, SB 809 mandated that prescribers and dispensers of controlled substances register with CURES by January 1, 2016.¹⁰ California Health and Safety Code §11165(d) mandated that dispensers enter prescription and patient information for Schedule II-IV controlled substances into CURES as soon as reasonably possible. In 2016, Governor Brown signed SB 482 which altered the CURES mandate, requiring that within six months of the DOJ certifying that CURES was ready for statewide use, Schedule II-IV controlled substance prescribers begin consulting CURES before writing prescriptions for these medications.¹¹ This requirement took effect October 2, 2018, at which point providers were required to check CURES and run a "patient activity report" the first time they prescribed a Schedule II-IV drug to a patient, and at least once every four months for as long as the drug remained in the patient's treatment plan. A physician's failure to consult CURES could result in a citation or disciplinary action by the California Medical Board, including license revocation.¹²

In 2019, AB 528 revised the CURES reporting time to no more than one working day after the dispensing date and extended the patient activity report period for ongoing prescriptions from four to six months. In addition, on

⁷ Hayes S, Smith K, and Swedlow A. The Impact of Declining Opioid Use on Lost-Time Claim Development & Outcomes in California Workers' Compensation. A Report to the Industry. California Workers' Compensation Institute. November 2019.

⁸ Hayes S and Swedlow A. Trends in Use of Opioids in California's Workers' Compensation System. Research Note. California Workers' Compensation Institute. May 2016.

⁹ CURES is California's Prescription Drug Monitoring Program (PDMP). Details regarding CURES can be found on: <https://oag.ca.gov/cures>.

¹⁰ Subsequent legislation (AB 679) enacted in 2015 extended the CURES registration deadline by six months to July 1, 2016.

¹¹ <https://www.mbc.ca.gov/Resources/Medical-Resources/CURES/Mandatory-Use.aspx>

¹² CURES mandatory consultation requirement; Health and Safety Code section 11165.4(a). and <https://oag.ca.gov/cures/faqs#11>

July 1, 2020, the DOJ adopted regulations¹³ required by 2018 legislation (AB 1751) that included parameters for the use of CURES data by public policy researchers.

OBJECTIVES

This study was designed to address the following three research questions:

- What were the opioid prescribing trends in the California workers' compensation system between 2017 and 2023—including frequency of opioid prescribing as well as the strength and duration of the prescription?
- Did opioid prescribing rates improve over time with respect to recommended levels (i.e., over the study period did a smaller proportion of patients exceed these levels)?
- Did the workers' compensation patients utilize opioids in other payers' systems (e.g., if utilization declined in the workers' compensation system, were these declines offset by increased utilization outside of workers' compensation—such as, through other payers' coverage or private payment)?

DATA AND METHODS

Study Population

The study population was patients who had an opioid prescription dispensed at a pharmacy or at an outpatient setting in California between 2017 and 2023. CWCI generally refers to those in the workers' compensation system as “injured workers” instead of “patients,” but for consistency with individuals not in the workers' compensation system, in the remainder of this report we use the term “patients” for the entire study population. CWCI acquired data for the study from the CURES de-identified dataset of controlled substance drugs (see Appendix A - Data Dictionary: CURES De-identified Dataset), which included 275,130,431 prescriptions. Several categories of drugs were excluded from the study dataset, including a small number of non-controlled drugs (0.4 percent) and many non-opioid controlled drugs (53.0 percent). Of the remaining 128,195,414 opioid prescriptions, several drugs for which CMS does not provide an MME conversion factor were also excluded: buprenorphine (used to treat opioid use disorder/addiction),¹⁴ injectable solutions, and powders.¹⁵ Over the study period, 4.4 percent of opioid prescriptions were for buprenorphine, 0.1 percent were for injections, and 0.2 percent were for powders. After these exclusions, 122,081,361 prescriptions remained in the study dataset. Appendix B provides a further dataset breakdown on opioid utilization as measured by payer, prescriptions, days' supply,

¹³ [CURES Regulations | State of California - Department of Justice - Office of the Attorney General](#)

¹⁴ Buprenorphine is prescribed for the medical treatment of people with an opioid drug dependence, such as heroin or other opioid medicines. Patients on buprenorphine are less prone to dependency and can ease their withdrawal symptoms and cravings with fewer side effects, compared with stronger opioids.

¹⁵ When the CDC first compiled the MME conversion factors for opioid medications, the purpose was to support epidemiological surveillance and research which normally relies on health insurance claims data or PDMP data. These types of data primarily include opioid prescriptions dispensed directly to patients by retail pharmacies and are rarely injectables or powders. Additionally, the audience of the CDC Clinical Practice Guideline for Prescribing Opioids for Pain are clinicians who prescribe opioids which are normally dispensed by retail pharmacies.

MMEs, and patient acuity. Workers' compensation is clearly the smallest payer group with less than 1 percent of the prescriptions, days' supply and MMEs.

The authors used the "type of payment" code entered into CURES by the dispensing pharmacist or prescriber to identify workers' compensation patients and track opioid utilization across payers. The payment codes included:

- Workers' Compensation
- Private Pay – i.e., no health plan coverage and/or paid out-of-pocket
- Medi-Cal (California's Medicaid program)
- Medicare
- Commercial Insurance
- All Other (Military/VA, Indian Health Service, and other government and privately funded health programs)

Measures

To address the research questions, the authors developed several measures of opioid utilization and tracked them by calendar year and day over the study period (2017–2023) for the workers' compensation and non-workers' compensation reference populations listed above. These included:

- For each patient, the daily morphine equivalent dose (MED) during the study period was calculated by totaling the daily doses from all prescriptions covering that calendar day.¹⁶ MED was calculated using both CURES data—quantity; days' supply; and drug ingredient, formulation, and strength¹⁷—and the MME conversion factors obtained from the Centers for Medicare & Medicaid Services (CMS).¹⁸
- To derive a measure of patient acuity, the authors categorized each day for every patient in the study based on the duration of their opioid use up to that day. Each day was assigned to one of the following acuity levels reflecting the length of opioid use prior to that date:
 - Chronic: utilization for 90 or more days within the most recent 120 days
 - Subacute: utilization of 30 or more days within the most recent 40 days
 - Acute: utilization of less than 30 days (i.e., all other opioid days)

When a patient fell in more than one acuity level during a calendar year—such as, acute utilization followed by periods of subacute and/or chronic utilization—they were assigned to the category that represented the more advanced acuity level. That is, subacute and chronic overrode acute, and chronic overrode subacute for the entire year. Additionally, CURES data from 2016 were used to determine the acuity of patients as of January 1, 2017.

¹⁶ The terms "morphine milligram equivalent" (MME) and "morphine equivalent dose" (MED) are often used interchangeably. However, in this study, MME refers to the broad concept of comparing opioid potency using a standard measure, while MED specifically applies to the total daily dose in morphine equivalents.

¹⁷ MED = Strength per Unit x (Number of Units / Days' Supply) x MME Conversion Factor

¹⁸ Centers for Medicare & Medicaid Services (CMS), Opioid Equivalent Morphine Milligram Equivalent (MME) Conversion Factors, January 1, 2020.

FINDINGS

The study findings are presented in four parts:

- Part 1: Analysis of the Study Population
- Part 2: Trends in Opioid Utilization
- Part 3: Trends in the Distributions of Morphine Equivalent Dose (MED) and Days’ Supply
- Part 4: Chronic Patients with Opioid Prescriptions Covered by Workers’ Compensation and One or More Other Payer(s)

PART 1: ANALYSIS OF THE STUDY POPULATION

Study Population as a Proportion of the California Population

As mentioned above, the study population consisted of all patients in CURES with a qualifying opioid prescription in the 2017–2023 study period. Each patient was counted once in each year in which they had one or more qualifying opioid prescription(s). Exhibit 1 shows the proportion of the total California population that had at least one qualifying opioid prescription during each study year.

Exhibit 1: CURES Opioid Patients (Study Population) as a Proportion of California Population¹⁹

Population	2017	2018	2019	2020	2021	2022	2023	% change 2017-2023
California*	39,352,398	39,519,535	39,605,361	39,648,938	39,327,868	39,114,785	39,061,058	-0.7%
CURES opioid patients	6,800,052	6,140,576	5,510,734	4,886,406	4,956,950	4,704,719	4,484,511	-34.1%
CURES opioid patients: % of CA	17.3%	15.5%	13.9%	12.3%	12.6%	12.0%	11.5%	-33.6%

* State of California, Department of Finance, E-4 Population Estimates for Cities, Counties, and State. Sacramento, California, May 2023 and May 2024 reports.

As shown in Exhibit 1, during the study period the total population in California decreased from an estimated 39.4 million people in 2017 to 39.1 million in 2023, a decrease of 0.7 percent or 291,340 people. During this period, the study population decreased from approximately 6.8 million opioid patients to 4.5 million, a decrease of just over 34 percent. The number of opioid patients as a percentage of the California population declined from 17.3 percent in 2017 to 11.5 percent in 2023 (a change of 5.8 percentage points or 33.6 percent).

¹⁹ The California statewide population includes undocumented persons who were not fully eligible for health benefits during the study period. As a result, the denominator for the calculation of the study population as a percent of the California population includes some individuals that are not eligible to be included in the study population.

Demographics of Study Population

Exhibit 2 shows the number of patients who had an opioid prescription at any point during the study period categorized by the payment code. It displays patients' gender, age, and geographic location. Many received opioid prescriptions from multiple payers. Each of these patients was counted once within each of the applicable payer categories, but only once under the Total column. If a patient's birth year or gender was inconsistent across multiple prescription records, we selected the most frequently reported value corresponding with the de-identified Patient ID.

Exhibit 2: Study Population Demographics by Type of Payment (2017–2023)

	Total*	Workers' Comp	Commercial	Private Pay	Medicare	Medi-Cal	All Other
Patients	22,255,521	242,067	10,992,973	7,375,215	3,819,369	3,262,819	1,892,383
Gender							
Male	43.2%	56.2%	43.3%	44.1%	42.0%	37.8%	48.8%
Female	56.7%	43.8%	56.7%	55.7%	58.0%	62.2%	51.0%
Other/Unk	0.1%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%
Age							
<18	4.9%	0.9%	4.9%	4.9%	0.1%	5.8%	3.6%
18-29	13.2%	7.6%	13.2%	13.2%	0.6%	21.9%	7.4%
30-39	15.3%	14.5%	15.7%	16.7%	1.5%	22.4%	10.4%
40-49	14.1%	20.6%	15.4%	15.5%	2.6%	17.7%	11.0%
50-59	16.2%	29.6%	18.5%	17.6%	6.4%	18.2%	15.9%
60-64	9.7%	13.7%	10.7%	10.0%	6.4%	9.2%	11.1%
65+	26.5%	13.0%	21.5%	22.0%	82.4%	4.8%	40.6%
Area Type**							
Urban	96.0%	95.8%	95.4%	97.1%	95.3%	95.6%	94.6%
Rural	4.0%	4.2%	4.6%	2.9%	4.7%	4.4%	5.4%

* As mentioned, some patients receive opioids from multiple payers and therefore are counted in more than one payer category. However, they are counted only once in the Total column.

** Urban patients are those who resided in counties that fell within a Metropolitan Statistical Area (MSA). All other patients were classified as rural. An MSA is defined as a county or a group of counties that includes at least one urbanized area with a population of 50,000 or more, along with adjacent counties that have economic ties to the central area.

Exhibit 2 also displays the study population's demographics by payer. As noted, 22,255,521 patients received one or more opioid prescriptions during the 2017-2023 study period. The number of patients that received opioids ranged from 242,067 (workers' compensation) to 10,992,973 (commercial insurance). Exhibit 2 reveals key differences between the various subgroups. As would be expected, Medicare opioid recipients were largely age 65+ (82 percent). While females comprised the majority in most subgroups, males represented a majority of the patients in the workers' compensation category (56 percent). Most patients resided in metropolitan statistical areas (MSAs), which reflects the concentration of the state's overall population in urban vs. rural areas.

PART 2: TRENDS IN OPIOID UTILIZATION

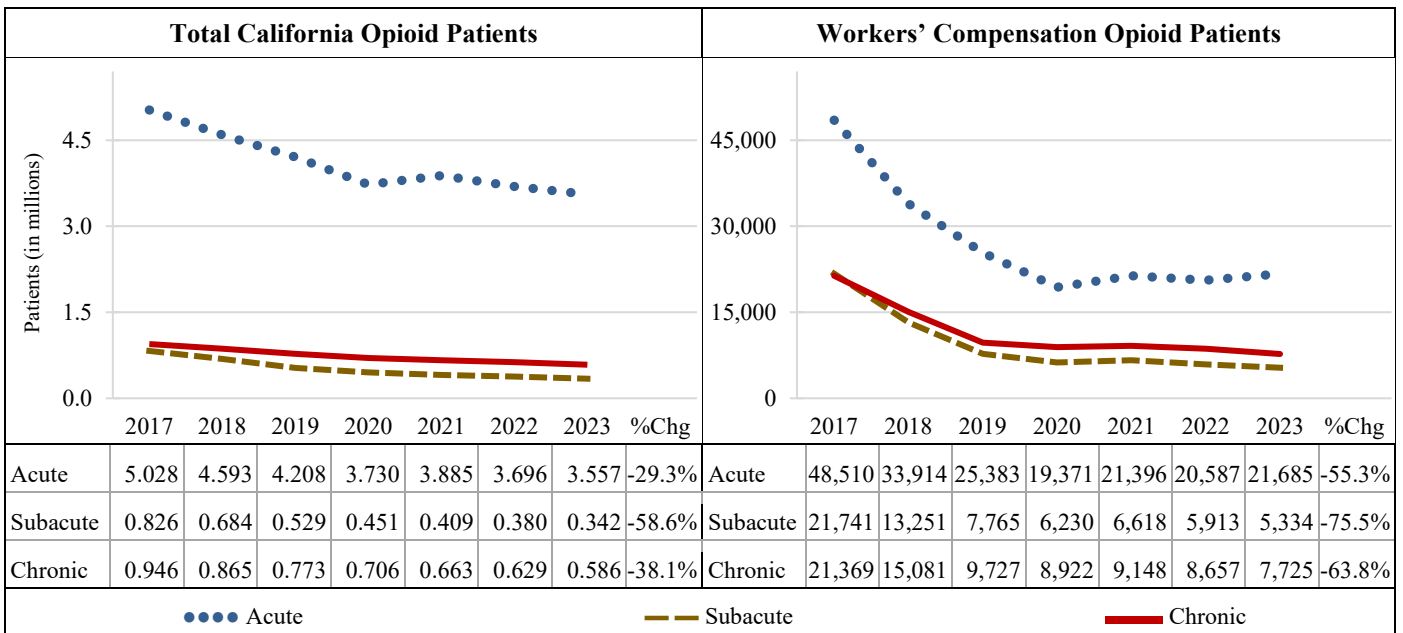
To measure the impact of various components that contributed to the overall trend in opioid utilization, the authors examined the following measures for each of the seven study years:

- 1) total number of opioid patients
- 2) average number of prescriptions per patient
- 3) average days’ supply per prescription
- 4) average days’ supply per patient
- 5) average daily morphine equivalent dose (MED)

Total Number of Opioid Patients – Statewide vs. Workers’ Compensation

Exhibit 3 displays the total number of opioid patients by acuity from 2017 through 2023 for the California population compared to the workers’ compensation population.

Exhibit 3: Opioid Patients by Acuity (2017–2023)



Findings include:

- **California acute opioid patient population:** California’s population of acute opioid patients decreased from 5,028,402 in 2017 to 3,557,121 in 2023: a total decrease of 29.3 percent over the study period (or -4.9 percent per year). Most of the decline occurred between 2017 and 2020, the first year of the COVID-19 pandemic. Between 2020 and 2023, the patient population was relatively flat.
- **Workers’ compensation acute opioid patient population:** During the study period, the number of acute opioid patients in workers’ compensation decreased from 48,510 to 21,685 or 55.3 percent overall (-9.2 percent per year). Like the California acute opioid patient population, the number of workers’ compensation

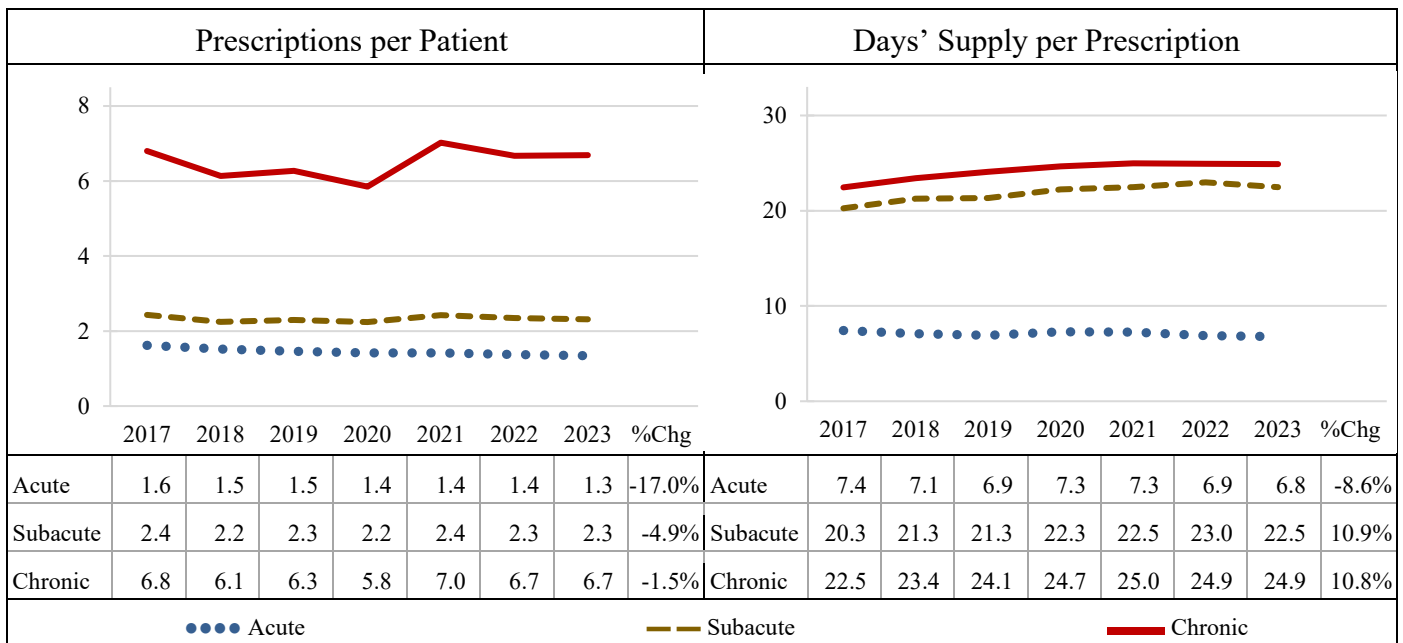
acute opioid patients declined between 2017 and 2020 and was relatively flat between 2020 and 2023. The decline in acute opioid patients is noteworthy, as it represents a substantial reduction (55.3 percent) in the number of acute patients who may become subacute or chronic opioid patients in the future. However, the number of acute patients increased from 20,587 in 2022 to 21,685 in 2023 (+5.3 percent).

- **Subacute opioid patient population:** The total number of subacute opioid patients in California and in the workers’ compensation system declined over the study period. The workers’ compensation subacute opioid population declined by 23.8 percent per year from 2017 to 2020. Similar to acute patients, the trend between 2020 and 2023 was relatively flat.
- **Chronic opioid patient population:** Both the California and workers’ compensation chronic opioid patient populations exhibited similar trends as their respective subacute opioid patients. California’s chronic opioid patient population declined steadily over the entire study period, whereas the workers’ compensation chronic opioid patient population declined by 25.4 percent from 2017-2020, increased slightly in 2021—after the first year of the COVID-19 pandemic—then resumed the downtrend in 2022 and 2023.

Prescriptions per Patient and Days’ Supply per Prescription – Workers’ Compensation

Analyzing the components of opioid utilization (“prescriptions per patient” and “days’ supply per prescription”) for workers’ compensation patients (Exhibit 4) provides insight into the trend’s direction and magnitude.

Exhibit 4: Opioid Prescriptions per Patient and Days’ Supply per Prescription by Acuity – Workers’ Compensation (2017–2023)*



*The product of these two metrics *Prescriptions per Patient* multiplied by *Days’ Supply per Prescription* is equal to *Days’ Supply per Patient*, which is displayed in Exhibit 5 on the next page.

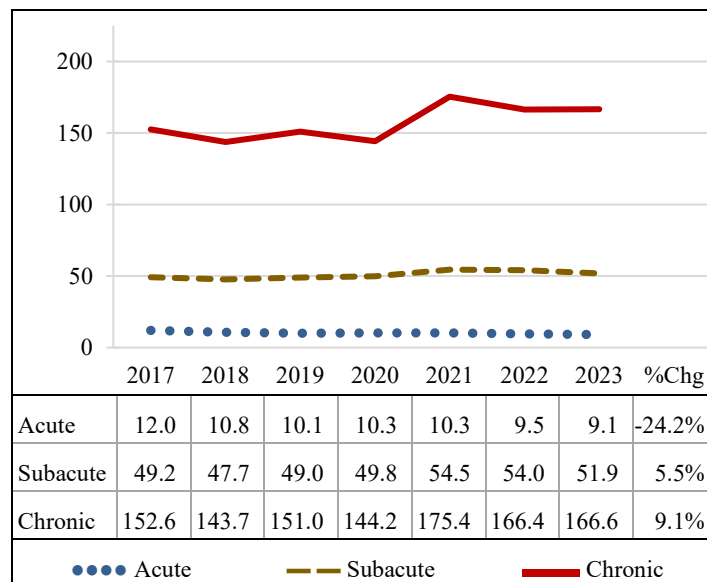
Findings include:

- Acute opioid population:** Over the study period, both measures declined for acute patients. There was a 17.0 percent decrease in the average number of prescriptions per patient and an 8.6 percent decrease in the average days’ supply per prescription.
- Subacute opioid population:** The measures for subacute patients trended in opposite directions, with the number of prescriptions per patient decreasing by 4.9 percent from 2017 through 2023, while the average days’ supply per prescription increased by 10.9 percent.
- Chronic opioid population:** Throughout the study period, the two measures for chronic patients also trended in opposite directions, on balance. The number of prescriptions per patient fluctuated within a range, resulting in a net decrease of 1.5 percent. Specifically, prescriptions per chronic patient declined through 2020, the first year of the pandemic, but increased in 2021, the second year of the pandemic. The average number of prescriptions per chronic patient rose by 20.0 percent (from 5.8 in 2020 to 7.0 in 2021) before leveling off at 6.7 in 2022 and 2023. Meanwhile, chronic patients’ average days’ supply per prescription exhibited continuous growth, increasing by 10.8 percent overall.

Days’ Supply per Patient (Duration) – Workers’ Compensation

Duration of opioid utilization is an important indicator of the risk for opioid dependence. It is measured by the average days’ supply per patient. Days’ supply per patient reflects two different prescribing decisions: the number of prescriptions per patient and the days’ supply per prescription.

Exhibit 5: Average Days’ Supply per Opioid Patient by Acuity – Workers’ Compensation (2017–2023)



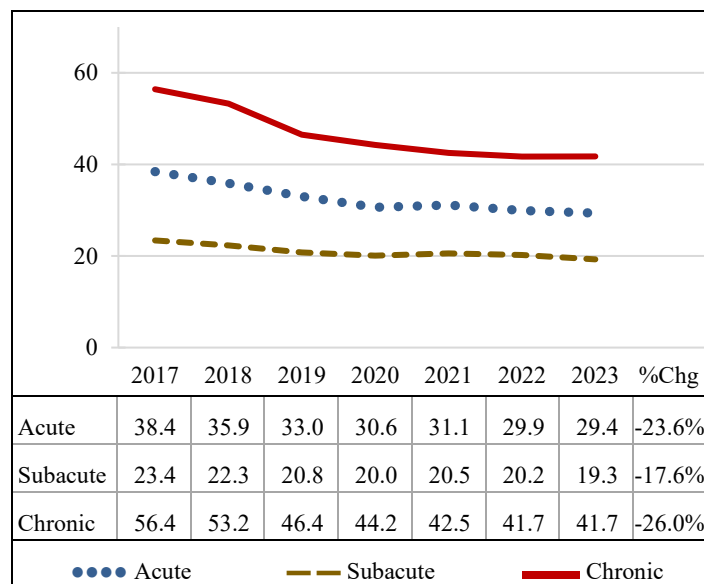
Findings include:

- Acute patients:** The average days’ supply per patient for acute opioid patients in workers’ compensation decreased by 24.2 percent from 12.0 days to 9.1 days per year. This decrease was driven by a 17.0 percent reduction in prescriptions per patient and an 8.6 percent decline in days’ supply per prescription. (See Exhibit 4 on the preceding page.)
- Subacute patients:** The average days’ supply per patient for subacute opioid patients in workers’ compensation increased by 5.5 percent (Exhibit 5) as Exhibit 4 illustrates that the 4.9 percent decline in prescriptions per patient was more than offset by a 10.9 percent increase in days’ supply per prescription.
- Chronic patients:** The average days’ supply per patient for chronic opioid patients in workers’ compensation increased by 9.1 percent (Exhibit 5). Although the underlying prescriptions per patient declined by 1.5 percent, this was offset by a 10.8 percent increase in the days’ supply per prescription (Exhibit 4). Additionally, the sharp increase in the average days’ supply per patient in 2021 (21.7 percent) reflects the spike in prescriptions per patient during that timeframe (Exhibit 4).

Morphine Equivalent Dose (MED) – Workers’ Compensation

The authors examined changes in the strength of the opioid prescriptions provided to workers’ compensation patients over the study period by comparing the average MED per day by patient acuity.

Exhibit 6: Average MED* per Day by Acuity – Workers’ Compensation (2017–2023)



*MED: Morphine Equivalent Dose (milligrams)

As shown in Exhibit 6, the average MED per day declined for all three categories of workers' compensation patients. Specifically, it declined 23.6 percent for acute patients, 17.6 percent for subacute patients, and 26.0 percent for chronic patients.

PART 3: TRENDS IN THE DISTRIBUTIONS OF DAILY MORPHINE EQUIVALENT DOSE (MED) AND DAYS' SUPPLY FOR WORKERS' COMPENSATION PATIENTS

Having analyzed trends in the *average* MED and days' supply, this section of the study examines the *distributions* of MED and days' supply prescribed to workers' compensation patients. Analyzing these distributions helps to identify changes in the population, such as shifts in the proportion of patients across high, medium, and low levels of these measures.

These thresholds were chosen to align with treatment guidelines for patients with acute severe pain that were developed by the American College of Occupational and Environmental Medicine (ACOEM) and adopted into the MTUS. "The dose for acute pain should generally be approximately 20 mg MME and not exceed 50 mg MME for an individual who is not currently taking an opioid."^{20,21}

While this study utilizes guideline levels for analysis of a large population, this does not imply adherence to these guidelines. Readers should not conclude that the findings reflect the proportions of patients who, based on their clinical history, would meet the guidelines. Instead, the analysis uses the threshold levels noted in the guidelines to observe changes in the study population over time.

New Acute Patients – Distribution of Morphine Equivalent Dose (MED)

This section focuses on how the proportions of new acute patients within different MED ranges (<20, 20-50, >50) changed over the study period. To ensure that the analysis was limited to new acute opioid utilizers, the authors limited the sample to patients who had not utilized opioids in the 365-day period before their initial fill date (i.e., new patients), and whose initial prescription was for less than 30 days (i.e., acute patients). CURES data from 2016 were used to identify patients with 2017 opioid fill dates who were opioid free for a minimum of 365 days. Exhibit 7 shows the yearly distributions of new acute opioid patients within the workers' compensation system, categorized by their maximum daily morphine equivalent dose (MED) during their acute phase (days 1-29) of treatment and how those distributions changed over the seven-year study period.

²⁰ Opioid Guideline for Acute Severe Pain (4.3.2.), Evidence-Based Updates to the Medical Treatment Utilization Schedule (MTUS), Title 8, California Code of Regulations, Section 9792.24.4, Effective-March 27, 2024. <https://www.dir.ca.gov/dwc/DWCPropRegs/2023/MTUS-Evidence-Based-Update-December/Index.htm>

²¹ The MTUS guideline (4.3.2) states that "long-term opioid use often begins with treatment of acute pain" (Cheng et al., 2013; Durand et al., 2019). The guideline also states: "When an opioid is used for acute pain, clinicians should prescribe the lowest effective dose of an immediate-release opioid and should prescribe no greater quantity than needed for the expected duration of pain severe enough to require the opioid. Because adverse effects and risk increase with dose, especially when greater than 50 mg morphine milligram equivalents (MME), the dose for acute pain should generally be approximately 20 mg MME and not exceed 50 mg MME for an individual who is not currently taking an opioid."

Exhibit 7: Distribution of New Acute Opioid Patients by Maximum Daily MED – Workers’ Compensation

Year*	New Acute Patients	<20 MED	20-50 MED	>50 MED	Total
2017	47,343	20.9%	54.8%	24.2%	100%
2018	31,180	20.5%	56.6%	23.0%	100%
2019	24,177	19.9%	60.1%	20.0%	100%
2020	18,552	20.2%	61.1%	18.8%	100%
2021	21,065	18.8%	61.7%	19.5%	100%
2022	19,980	18.3%	65.2%	16.5%	100%
2023 (Jan-Nov)	19,743	17.6%	68.1%	14.3%	100%
Net Change	-27,600	-3.4%	13.3%	-9.9%	0%

* This column represents the year corresponding to the initial fill date of each acute patient. Patients with an initial fill day in December 2023 were excluded to ensure a full 29-day observation period for determining maximum medication dosage (MED) over their acute treatment phase. Note: Each year sums to 100% and the net change sums to 0%.

Exhibit 7 reveals that the proportion of new acute patients that exceeded 50 MEDs declined by 9.9 percentage points over the 7-year study period. The proportion within the recommended range of 20–50 MEDs increased by 13.3 percentage points, and the proportion falling below the 20 daily MEDs range decreased by 3.4 percentage points.

New Acute Patients - Duration of Opioid Use

The MTUS opioid guideline also recommends that opioid therapy for patients with acute severe pain be discontinued or tapered within 3 to 5 days. If a patient requires opioids for longer than 5 days, a plan for opioid cessation should be implemented, especially if use is beyond 2 weeks.²² Exhibit 8 shows the changes in the distribution of new acute opioid patients by duration (days’ supply) from 2017-2023.

Exhibit 8: Distribution of New Acute Opioid Patients by Duration of Use – Workers’ Compensation

Year	New Acute Patients	1-2 Days	3-5 Days	>5 Days	Total
2017	47,343	8.2%	28.3%	63.6%	100%
2018	31,180	9.3%	32.8%	58.0%	100%
2019	24,177	8.7%	35.8%	55.5%	100%
2020	18,552	7.2%	32.9%	59.9%	100%
2021	21,065	7.6%	32.3%	60.1%	100%
2022	19,980	8.6%	34.2%	57.2%	100%
2023 (Jan-Nov)	19,743	8.7%	35.9%	55.4%	100%
Net Change	-27,600	0.6%	7.6%	-8.2%	0%

Note: Each year sums to 100% and the total net change sums to 0%.

²² Evidence-Based Updates to the Medical Treatment Utilization Schedule (MTUS), *op. cit.*

As shown in Exhibit 8, the distribution of new acute opioid patients within the different prescription duration categories shifted between 2017 and 2023. The proportion of the new acute patients that exceeded a 5-day supply of opioids declined by 8.2 percentage points, while there was a 7.6 percentage point increase in the proportion receiving the recommended 3- to 5-days’ supply, and an increase of 0.6 percentage points in those falling below the 3-day threshold.

Chronic Patients - Distribution of Morphine Equivalent Dose (MED)

This analysis explored whether there have been changes over the study period in the proportion of chronic patients²³ whose daily MED exceeded critical thresholds for patients with chronic pain. To determine this, the chronic opioid patients were categorized into two groups: those with a daily MED of 1-50 and those with a daily MED over 50—ranges that align with the MTUS guideline, Maximum Daily Dose (4.4.3).^{24,25} The authors then calculated the percentage of the total days’ supply for each year dispensed to chronic opioid patients in each group and the change in the distribution from 2017-2023.

Exhibit 9: Distribution of Chronic Opioid Patient Days’ Supply by Daily MED – Workers’ Compensation Patients (2017–2023)

Year	Avg. Days’ Supply	Total Days’ Supply	1-50 MED	>50 MED	Total
2017	153	3,261,547	72.9%	27.1%	100%
2018	144	2,167,323	73.9%	26.1%	100%
2019	151	1,469,255	77.1%	22.9%	100%
2020	144	1,286,346	78.0%	22.0%	100%
2021	175	1,604,487	78.7%	21.3%	100%
2022	166	1,440,304	78.8%	21.2%	100%
2023	149	1,286,754	78.7%	21.3%	100%
Net Change	-4	-1,974,793	5.8%	-5.8%	0%

Note: Each year sums to 100% and the net change sums to 0%.

Exhibit 9 shows that for chronic opioid workers’ compensation patients, the proportion of total days’ supply with an MED greater than 50 decreased by 5.8 percentage points, from 27.1 percent in 2017 to 21.3 percent in 2023. This reduction was offset by a 5.8 percentage point increase in the proportion of days with a daily MED within the recommended range (1-50 MED).

²³ Chronic opioid patients are those who had more than 90 days’ supply of opioids prescribed in the previous 120 days.

²⁴ Opioid Guideline for Maximum Daily Dose (4.4.3), Evidence-Based Updates to the Medical Treatment Utilization Schedule (MTUS), Title 8, California Code of Regulations, Section 9792.24.4, Effective-March 27, 2024. <https://www.dir.ca.gov/dwc/DWCPropRegs/2023/MTUS-Evidence-Based-Update-December/Index.htm>, page 46.

²⁵ Guideline 4.4.3 includes: “The maximum daily oral dose of opioids recommended for patients with subacute and chronic pain based on risk of overdose/death is 50 mg MED” (Dunn et al., 2010; Bohnert et al., 2011). In cases with documented functional improvement occurring with use greater than 50 mg MED, subsequent doses up to 90 mg may be considered (Dowell D, 2016).”

PART 4: CHRONIC PATIENTS WITH OPIOID PRESCRIPTIONS COVERED BY WORKERS' COMPENSATION AND ONE OR MORE OTHER PAYER(S)

Part 2 and 3 of this report discussed the trends of reduced opioid utilization within the California workers' compensation system and focused on the strength of the daily morphine equivalent dose (MED) and the duration of opioid use. Part 4 explores whether the reduced utilization of opioids within workers' compensation was offset by increased use of opioids by workers' compensation patients in other payment systems. This analysis focuses on workers' compensation chronic opioid patients and their payment sources (Exhibit 10) and examines:

- How much of these patients' total opioid utilization was covered each year by each payer including the average number of:
 - Opioid prescriptions per patient (Exhibit 11) and
 - MED per day per patient (Exhibit 12)
- Opioid utilization of chronic patients whose prescriptions have one or more overlapping supply days per year that were covered by workers' compensation and at least one other payer (Exhibit 13). (Note that this study did not examine overlapping opioid prescriptions within a given payer, only between payers.)
 - Of these overlapping supply days, the study examined the number of consecutive supply days covered by both workers' compensation and one or more other payers (Exhibits 14 and 15).

Workers' Compensation Chronic Opioid Patients

Exhibit 10 shows the total number of workers' compensation chronic opioid patients who received opioid prescriptions, categorized by those who exclusively received prescriptions within the workers' compensation system and those who received prescriptions from both workers' compensation and other payers within the year.

Exhibit 10: Workers' Compensation (WC) Chronic Opioid Patients by Number of Payment Sources

Patient Population	2017	2018	2019	2020	2021	2022	2023	Net Change: 2017–2023
Total WC Chronic Patients	21,369	15,081	9,727	8,922	9,148	8,657	7,725	-13,644
WC Exclusively	27.9%	26.1%	26.6%	22.9%	35.6%	34.8%	31.3%	3.4%
WC and Other Payer(s)	72.1%	73.9%	73.4%	77.1%	64.4%	65.2%	68.7%	-3.4%
Total WC Chronic Patients	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%

Findings include:

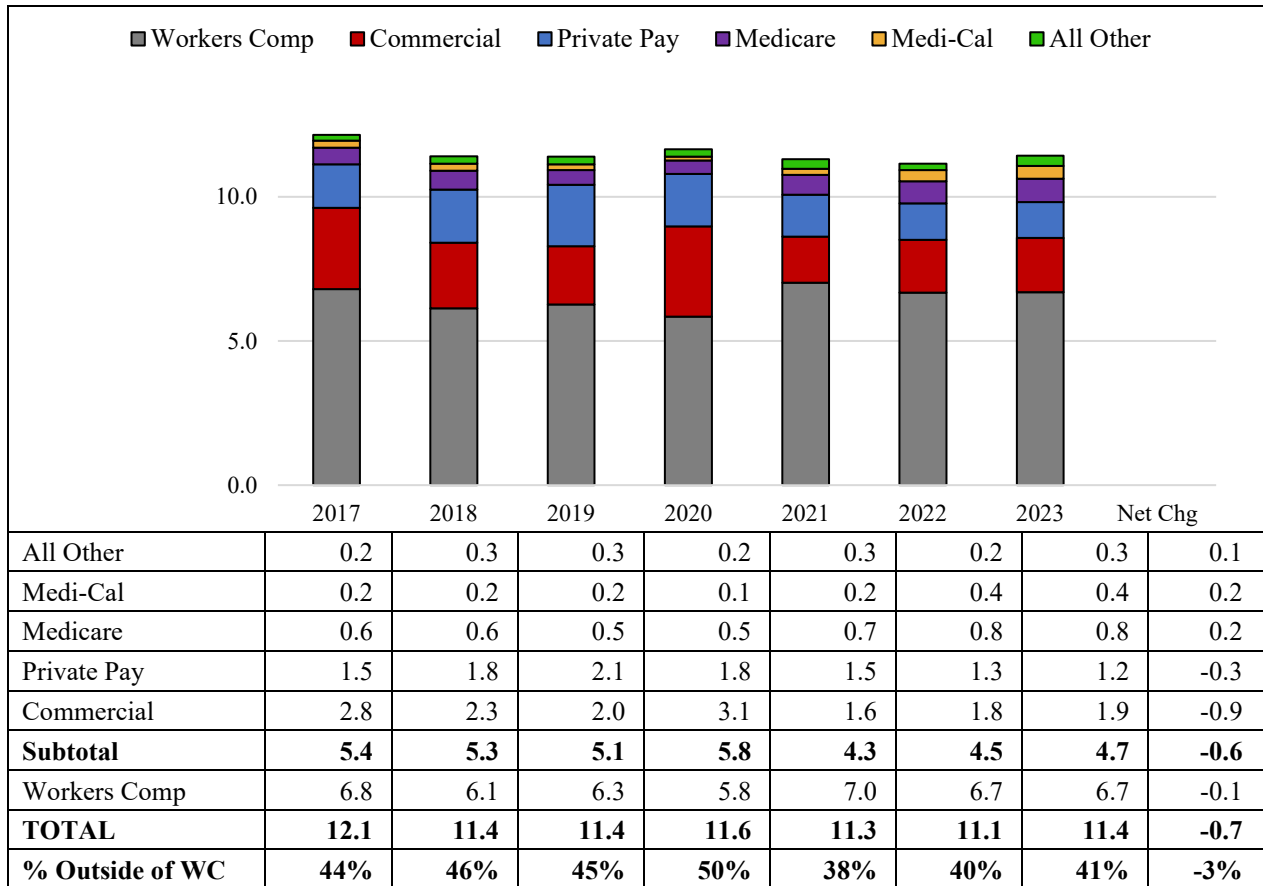
- The total number of workers' compensation chronic opioid patients decreased 63.8 percent (from 21,369 in 2017 to 7,725 in 2023).
- In all study years, most of the chronic opioid patients who received opioids from workers' compensation also received opioids from one or more other payers at some point during the same calendar year. This proportion declined from 72.1 percent in 2017 to 68.7 percent in 2023, a net decline of 3.4 percentage points.

- Note that the proportion of chronic opioid patients who received opioids from workers’ compensation and other payers increased to 77.1 percent in 2020, the first year of the COVID-19 pandemic, then dropped to 64.4 percent in 2021, before increasing to 65.2 percent in 2022 and 68.7 percent in 2023.
- In turn, the proportion of chronic opioid patients whose prescriptions were exclusively from the workers’ compensation system increased by 3.4 percentage points between 2017 and 2023 (from 27.9 percent to 31.3 percent).

Total Prescriptions from All Payers Per Workers’ Compensation Patient

Exhibit 4 showed the number of opioid prescriptions per patient by acuity level. Here we examine the utilization patterns of the chronic opioid patients to determine how many of their prescriptions were covered by workers' compensation versus other payment sources. Exhibit 11 shows how much each payer contributed to the average number of prescriptions per workers’ compensation chronic opioid patient during the seven-year study period.

Exhibit 11: Prescriptions Per Workers’ Compensation Chronic Opioid Patient by Payer and Year



Findings include:

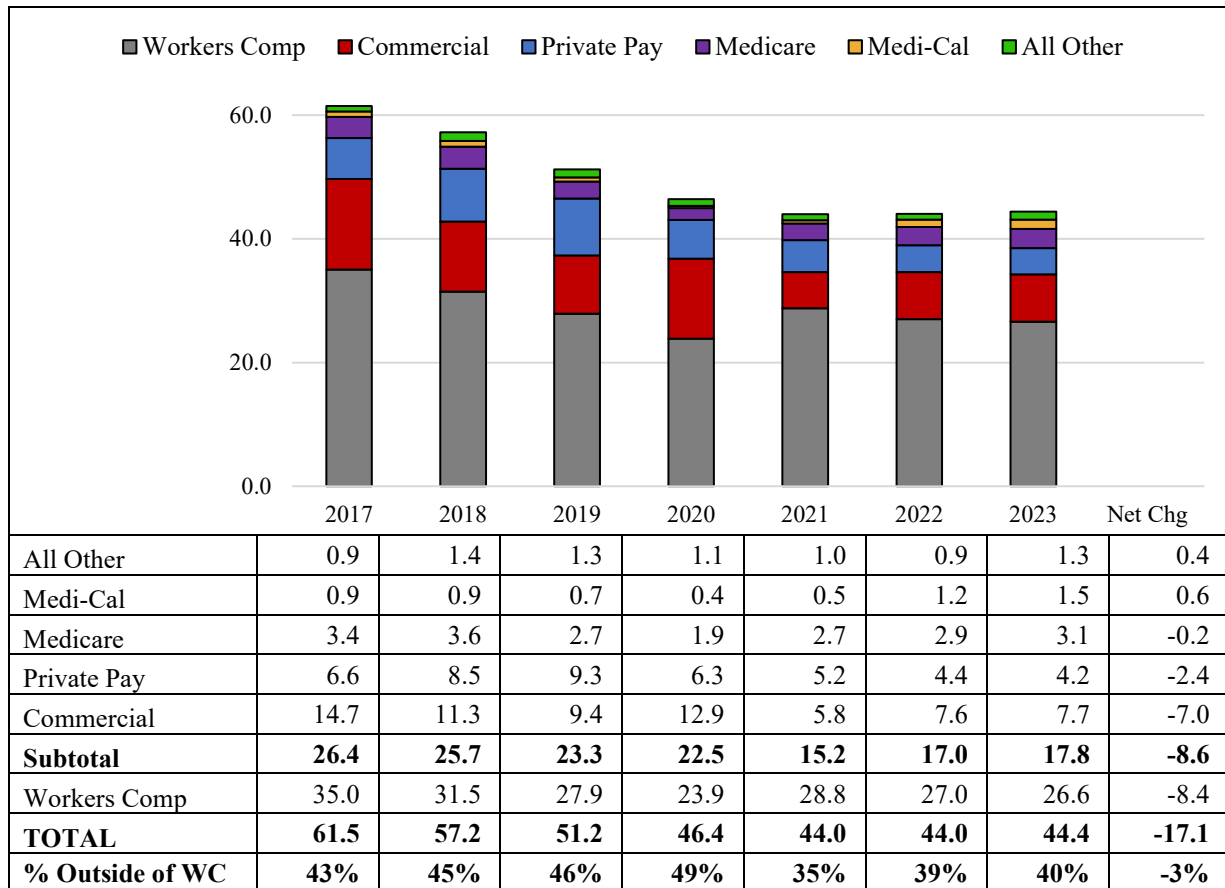
- The average number of opioid prescriptions per year from all payers for workers’ compensation chronic opioid patients declined from 12.1 prescriptions in 2017 to 11.4 prescriptions in 2023.

- The average number of opioid prescriptions paid by workers’ compensation per workers’ compensation chronic opioid patient declined from 6.8 prescriptions in 2017 to 6.7 prescriptions in 2023.
- In each year, workers’ compensation chronic opioid patients received 50 percent or more of their opioid prescriptions from the workers’ compensation system. However, they obtained a significant proportion of their opioid prescriptions outside of workers’ compensation. On average, each workers’ compensation chronic opioid patient received 5.4 prescriptions in 2017 and 4.7 prescriptions in 2023 from all non-workers’ compensation sources combined. It appears that the declines in opioid utilization within workers’ compensation were not offset by increases in utilization of opioids in other payer systems.
- The largest non-workers’ compensation source of opioid prescriptions was commercial payers. On average, commercial payers supplied each workers’ compensation chronic opioid patient 2.8 prescriptions in 2017 and 1.9 in 2023, a decline of 33.4 percent, or almost one prescription per patient per year.

Average Daily MED by Payer Per Workers’ Compensation Patient

Exhibit 12 displays the MEDs per day by payer for chronic opioid patients whose prescriptions were covered by workers’ compensation and one or more other payers.

Exhibit 12: MED Per Workers’ Compensation Chronic Opioid Patient by Payer and Year



Findings include:

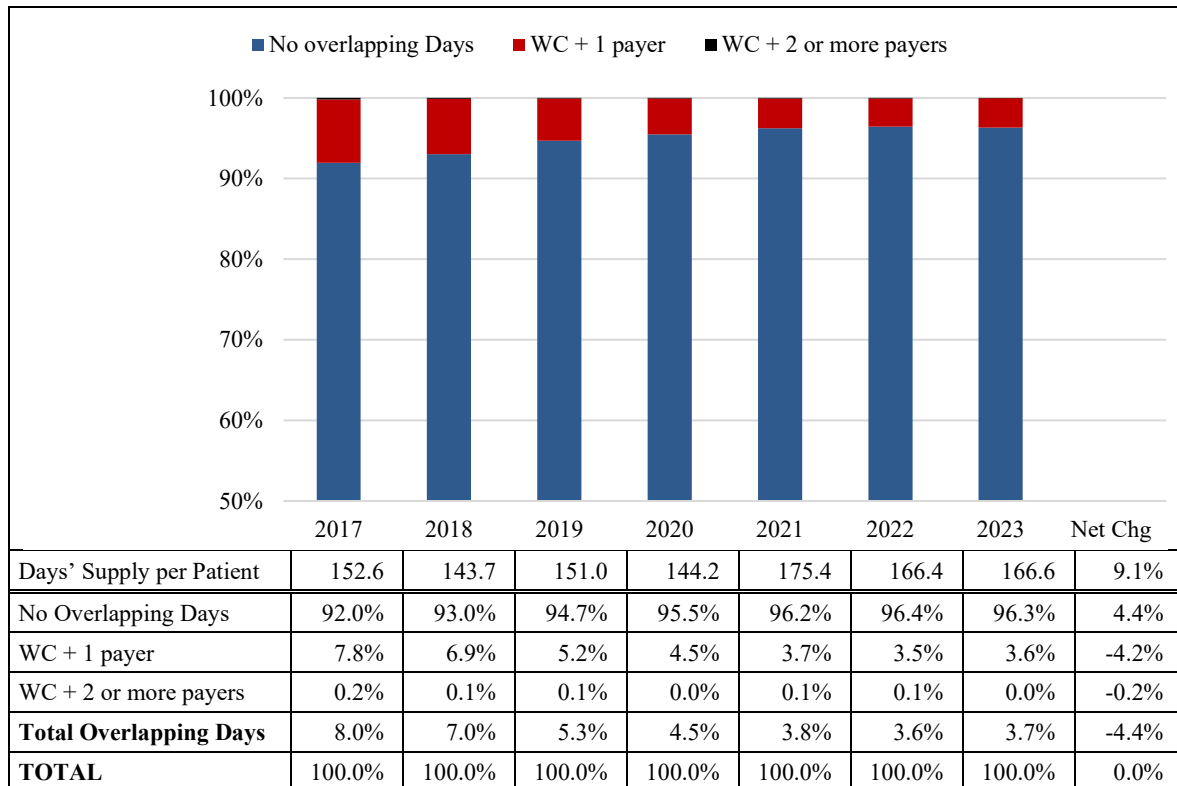
- The total MED for chronic opioid patients declined from 61.5 in 2017 to 44.4 in 2023.
- In 2017, workers’ compensation accounted for 35.0 of the 61.5 average daily MED prescribed to workers’ compensation chronic opioid patients per day. In 2023, workers’ compensation covered 26.6 of the 44.4 average daily MED prescribed to workers’ compensation chronic opioid patients.

These findings are similar to those of the previous analysis. The MED per chronic workers’ compensation patient declined in the workers’ compensation system and also outside of workers’ compensation. In sum, there is no indication that the declines in opioid utilization within the workers’ compensation were offset by increases in utilization of opioids in other payer systems.

Overlapping Prescriptions and Days’ Supply

This section explores overlapping prescriptions involving both workers’ compensation and other payers among chronic opioid patients. “Overlapping prescriptions” refers to situations where a patient receives two or more prescriptions, with some or all supply days also covered by different payers.²⁶ This analysis examines the frequency of this overlapping pattern. Exhibit 13 categorizes the total prescription supply days into three groups: no overlapping days, workers’ compensation plus one payer, and workers’ compensation plus two or more payers.

Exhibit 13: Distribution of Days’ Supply by Number of Payment Sources (2017–2023)



²⁶ It was assumed that each medication was taken according to the prescribed dosage, starting on the fill date and continuing for each consecutive day until the supply was used up.

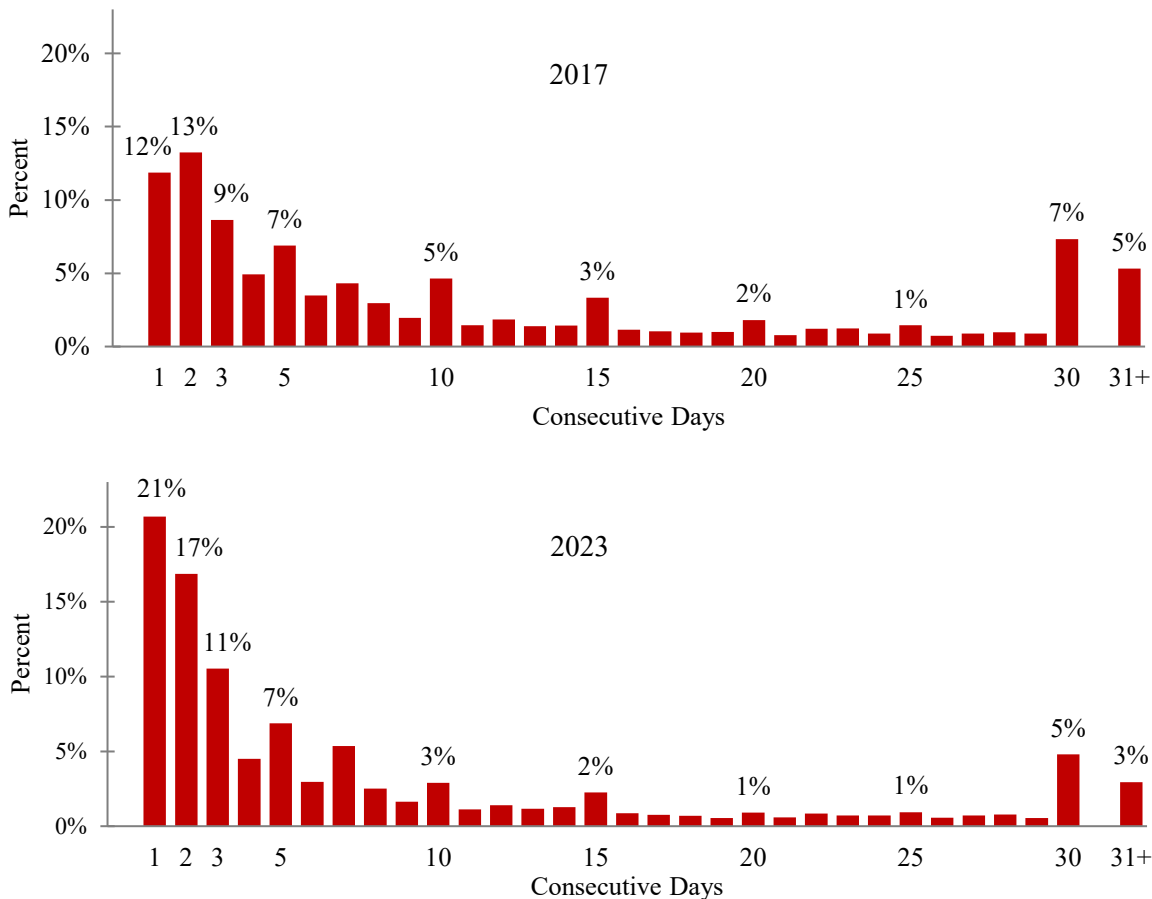
Findings include:

- Over the study period, the proportion of overlapping opioid days’ supply declined from 8.0 percent to 3.7 percent of the workers’ compensation chronic opioid patients.
 - Of the 152.6 average days’ supply per patient in 2017 (Exhibit 5), 12.2 days (8.0 percent) overlapped with days covered by one or more other payers.
 - Of the 166.6 average days’ supply per patient in 2023 (Exhibit 5), 6.1 days (3.7 percent) overlapped with days covered by one or more other payers.

Duration of Consecutive Days’ Supply Covered by Multiple Payers

To determine the extent to which the overlapping supply days lasted the authors examined the number of consecutive overlapping supply days per occurrence. Exhibit 14 displays the distribution of the durations of consecutive overlapping supply days in 2017 and 2023. As indicated in Exhibit 13, these days represented 8.0 percent of workers’ compensation chronic opioid patients’ total prescription supply days in 2017 and 3.7 percent in 2023.

Exhibit 14: Distribution of Consecutive Overlapping Supply Days: 2017 and 2023



Between 2017 and 2023, the distribution shifted to the left. This shift indicates that a higher proportion of instances of consecutive overlapping days’ supply involved fewer days, while a lower proportion involved more days.

- The proportion of instances of consecutive overlapping days’ supply in the 1 to 3-day range increased from just over one-third (33.7 percent) to nearly half (48.1 percent).
- The proportion of instances lasting 30 days decreased from 7.3 to 4.8 percent.
- The proportion of instances exceeding 30 days decreased from 5.3 to 2.9 percent.

These findings indicate that the reduction in opioid use within workers’ compensation was not accompanied by a rise in opioid use in other payer systems.

The shift in the distribution of consecutive overlapping days’ supply from 2017-2023 is displayed in Exhibit 15.

Exhibit 15: Change in the Distribution of Consecutive Overlapping Days’ Supply (2017–2023)*

	2017	2018	2019	2020	2021	2022	2023	Net Change
Average	12.6	11.8	10.9	9.3	10.0	9.4	9.0	-3.6
Mode	2	2	1	1	1	1	1	-1
10th percentile	1	1	1	1	1	1	1	0
20th percentile	2	2	2	1	2	2	1	-1
30th percentile	3	3	2	2	2	2	2	-1
40th percentile	5	4	3	3	3	3	3	-2
50th percentile	7	6	5	4	4	4	4	-3
60th percentile	10	9	7	6	6	6	6	-4
70th percentile	15	14	12	9	10	9	8	-7
80th percentile	22	21	20	15	17	15	15	-7
90th percentile	30	30	30	27	29	27	26	-4

*The calculation of these metrics is based on the proportion (8.0 percent in 2017 and 3.7 percent in 2023) of days that were covered by one or more payers outside of workers’ compensation.

During the study period, the distribution of consecutive overlapping days’ supply shifted towards shorter periods of consecutive overlapping days:

- The average overlap period declined from 12.6 days in 2017 to 9.0 days in 2023.
- The median (50th percentile) was 7 days in 2017 and 4 days in 2023.
- The most common duration (mode) was 2 days in 2017 and 1 day in 2023.
- The 90th percentile was 30 days in 2017 and 26 days in 2023.

These findings also indicate that lower utilization of opioids within workers’ compensation was not offset by higher utilization of opioids in other payer systems.

DISCUSSION

Key Findings

This study revealed significant successes in California’s efforts to control what is commonly referred to as “the opioid epidemic.” This period began in the late 1990s, when trends in opioid prescribing seemed to be ever-accelerating. Much of this was driven by prescriptions for injuries and illnesses where opioids are not recommended in the clinical literature or evidence-based medicine guidelines. These successes include declining utilization of prescription opioids among both California’s workers’ compensation patients and the state’s population overall.

The number of workers’ compensation patients prescribed opioids declined at faster annual rates compared to the overall California population (Exhibit 3). The average daily morphine equivalent dose (MED) also decreased over the study period across all three categories of patient acuity, with the greatest decline observed in chronic patients (Exhibit 6). Additionally, over the study period, smaller proportions of new acute patients exceeded the recommended average daily MED (Exhibit 7) and days’ supply (Exhibit 8). For chronic patients, the proportion of days’ supply with an MED greater than 50 also decreased (Exhibit 9).

On the other hand, the study documented a concerning degree of overlapping utilization among workers’ compensation chronic opioid patients: that is, chronic workers’ compensation opioid patients were receiving prescriptions from other payer systems as well. In fact, within each calendar year, a large proportion of these patients (ranging from 64.4 to 77.1 percent) received prescriptions from other payers (Exhibit 10). While the majority of their prescriptions were paid for within the workers’ compensation system, a significant proportion of their prescriptions (41 percent in 2023) and average daily MED (40 percent in 2023) were covered by other payers (Exhibits 11 and 12). However, a relatively small and declining proportion of workers’ compensation opioid patients had overlapping supply days with prescriptions paid for by other payers. This proportion decreased from 8.0 percent in 2017 to 3.7 percent in 2023 (Exhibit 13). Thus, it appears that the declines in opioid utilization within California workers’ compensation were not offset by increases in utilization of opioids in other payer systems.

These findings underscore the importance of the legislative intent of SB 809 which required that physicians use CURES to monitor all prescriptions for controlled substances for each patient they serve. As noted, physicians are required to check CURES before prescribing a controlled substance and at least every six months thereafter if the patient remains on the medication. In some instances, more frequent review may be warranted.

Additionally, California mandates that dispensers enter prescription and patient information for opioid prescriptions into CURES within one working day of dispensing the drug. This requirement leaves a brief window of opportunity for those seeking to circumvent the system, potentially exploiting pharmacies with lax procedures.

Limitations

The data in the CURES system has limitations. Because the CURES data does not include a field for diagnosis code, it is not possible to exclude populations for which the CDC's recommended guidelines for opioid prescribing do not apply. These include patients with pain related to sickle cell disease or cancer, and patients receiving palliative or end-of-life care. If the diagnosis code were available, it would be possible to examine the medical conditions associated with different levels of opioid utilization and to control for these when comparing workers' compensation patients to those in other payer systems and to all California patients.

Future Research

Future research studies might address the following topics:

- **Impact of COVID-19 pandemic.** Why did the declining trend in acute opioid use level off so abruptly in 2019 and 2020? And, why did the days' supply of opioids for chronic workers' compensation patients increase by 20% in 2021? Were these trends related to the pandemic?
- **Variations by patient type.** Segmentation of the data by patient characteristics, such as payment method, provider specialty, age, gender, and geographic area, would allow for an analysis of variations in opioid prescribing across these characteristics.
- **Buprenorphine.** Given the increased use of buprenorphine, it would be valuable to understand the trends in its utilization across payers and to identify which payers are substituting buprenorphine for other opioids, and the extent to which it is being used to treat chronic or acute pain or to wean patients off of opioids through medically assisted treatment plans.

APPENDIX A

Data Dictionary: CURES De-identified Dataset	
Data Element	Description
patient_county	Patient Resident County Name
patient_state	Patient Resident State Name
patient_id	Unique ID
prescriber_id	Unique ID
pharmacy_id	Unique ID
patient_birth_year	Patient Birth Year
patient_gender	Patient Gender
patient_zip	Patient Resident Zip Code
prescriber_zip	Prescriber Zip Code
prescriber_county	Prescriber County
prescriber_state	Prescriber State
prescriber_specialty	Specialty of Prescriber
prescriber_board_cert_ind	Is the prescriber board certified?
LICENSE_BOARD_DESC	California Board that certified the prescriber.
LICENSE_TYPE_DESC	Prescribers license type
pharmacy_zip	Pharmacy Zip Code
pharmacy_county	Pharmacy County Name
pharmacy_state	Pharmacy State Name
product_name	Name of Medication
NDC	National Drug Code of Medication
drug_form	Prescribed Drug Form
strength	Medication Dosage
quantity	Prescribed Medication Amount
days_supply	Prescribed Medication Days Supply
date_filled	Date prescription was filled.
drx_refill_number	Prescribed Medication Fill Amount
drx_refill_authorized_number	Prescribed Medication Authorized Re-Fill Amount
payment_code	Code identifying the type of payment
	· 1- Private Pay (Cash, charge, Credit Card)
	· 2- Medicaid
	· 3- Medicare
	· 4- Commercial Insurance
	· 5- Military Installation and VA
	· 6 - Worker's Compensation
	· 7- Indian Nations
	· 99- Other

APPENDIX B

Appendix B1: Study Population’s Opioid Utilization – 2023

The table below displays the distribution of the opioid utilization by payer for 2023.

	Total	Workers' Comp.	Commercial	Private Pay	Medicare	Medi-Cal	All Other
Units:							
Prescriptions	14,130,623	93,152	4,245,555	2,327,362	4,220,271	1,852,573	1,391,710
Days' Supply	211,603,371	1,761,405	60,496,835	28,141,718	74,164,269	26,532,869	20,506,275
MMEs	8,967,613,965	64,809,737	2,753,553,626	1,178,768,210	3,091,222,080	948,410,539	930,849,772
Pct of Total:							
Prescriptions	100%	0.7%	30.0%	16.5%	29.9%	13.1%	9.8%
Days' Supply	100%	0.8%	28.6%	13.3%	35.0%	12.5%	9.7%
MMEs	100%	0.7%	30.7%	13.1%	34.5%	10.6%	10.4%

Appendix B2: Study Population’s Opioid Utilization by Patient Acuity – 2023

The table below displays the distribution of the study population by payer and opioid utilization for 2023.

	Workers' Comp	Commercial	Private Pay	Medicare	Medi-Cal	All Other
Patients						
Acute	62.4%	78.7%	80.4%	65.0%	81.5%	72.6%
Subacute	15.4%	7.6%	7.3%	11.6%	6.4%	10.5%
Chronic	22.2%	13.6%	12.3%	23.4%	12.1%	16.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Prescriptions						
Acute	31.3%	42.3%	52.2%	28.3%	45.0%	37.1%
Subacute	13.2%	10.2%	10.2%	11.4%	9.2%	12.6%
Chronic	55.5%	47.5%	37.6%	60.3%	45.8%	50.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Days' Supply						
Acute	11.2%	15.5%	22.1%	9.9%	15.1%	13.6%
Subacute	15.7%	11.4%	12.6%	11.4%	10.5%	12.5%
Chronic	73.1%	73.2%	65.2%	78.7%	74.5%	73.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
MMEs						
Acute	9.0%	10.9%	16.3%	6.5%	10.6%	10.6%
Subacute	8.2%	7.2%	8.9%	6.6%	7.0%	8.5%
Chronic	82.8%	81.9%	74.7%	86.9%	82.4%	80.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note that some patients received opioids from multiple payers and therefore were counted in more than one payer category. This is especially true of chronic patients because they are more likely to receive opioids from multiple payers (within the calendar year) than acute and subacute patients.

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California Workers' Compensation Institute

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