

# **University of Washington**

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Occupational Epidemiology and Health Outcomes Program

## **Report for submission to the governor and legislative committees**

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# **Injured workers with chronic opioids between 2019 and 2022**

## **Descriptive analysis**

## **Executive Summary**

Using opioid settlement funds (Engrossed Substitute Senate Bill 5092, Chapter 334, Laws of 2021), the Washington State Department of Labor & Industries (L&I) contracted with the University of Washington to evaluate injured workers using chronic opioid therapy and to measure the impact of efforts to improve outcomes in this population.

This is the initial report from a multi-year effort, and it focuses on baseline characteristics of chronic opioid therapy patients in the workers' compensation population.

## **Methods**

We used L&I claims data linked with Washington State Prescription Monitoring Program (PMP) data for analyses to identify a cohort of injured workers with an L&I claim who were receiving chronic opioids between 2019 and 2022.

We conducted a descriptive analysis of workers receiving opioids chronically between 2019 and 2022. We examined the year of injury, the age at injury, gender, nature of injury, body part injured, and claim status. We also examined prior opioid use (in the 3 months before injury), any opioid use in each time period, chronic use in relevant time periods, concurrent opioids and sedatives, and dose (mean, median, and categories of morphine equivalent daily dose [MEDD]).

## **Summary of results**

- Workers receiving chronic opioids tend to be in the older age groups.
- Most (75%) of the injured workers on chronic opioids between 2019 and 2022 were receiving any opioids and 55% were receiving opioids chronically (60+ days) in the 3 months before the work-related injury.
- On average, MEDD stayed relatively constant for workers with chronic opioids between 3 months and 2 years after injury among workers with 60+ days of opioids in each time period. Additional analysis of dosing patterns will be conducted.
- Most workers on chronic opioids are prescribed low to moderate doses: 2/3 of workers with prior opioids and 3/4 of workers with no prior opioids are prescribed low to moderate doses 9-12 months after injury. Workers who are receiving high doses are much more likely to have been receiving opioids prior to their workers' compensation claim.

## **Clinical needs**

- The 13-17% of workers with chronic opioids who also have concurrent sedatives (which may put the workers at higher risk of an overdose or other adverse event) may benefit from additional services.
- Although most workers on chronic opioids are prescribed low to moderate doses, workers on higher doses could be prioritized for additional services.
- Many injured workers on chronic opioids may have clinical needs that are related to prior injuries, conditions, and comorbidities that occurred before the workers' compensation claim for a work-related injury.

## Background

The United States is in the midst of an opioid misuse and overdose crisis involving both prescription and illicit opioids (notably, fentanyl). In response, Washington State has undertaken significant efforts to stem the tide of overprescribing and inappropriate transition from acute to chronic opioid use, including implementing opioid prescribing guidelines and rules. Although the Bree Collaborative released the *Long-Term Opioid Therapy Report and Recommendations* in May 2020, questions remain regarding how best to address the clinical needs of the approximately 130,000 Washingtonians who are already being maintained on long-term opioid therapy. The risks from opioid use are serious, including disability, opioid use disorder (addiction), overdose, and death. These patients, many of whom have been on opioids for years, are incredibly complex, often with multiple medical comorbidities, along with mental health and psychosocial needs. For primary care providers who are already overburdened, managing these patients is time-consuming and resource-intensive, often exceeding their capacity. In addition, providers are at the center of a difficult balance between reducing suffering from chronic pain and reducing harms associated with opioid use. Therefore, research is necessary to understand the risks and benefits of remaining on chronic opioids versus tapering and to inform best practices for addressing the clinical needs of this population.

The Department of Labor & Industries (L&I) was allotted opioid settlement funding (Engrossed Substitute Senate Bill 5092, Chapter 334, Laws of 2021) to evaluate patients who are maintained on chronic opioids in order to understand their clinical needs and evaluate potential interventions to improve care and reduce harms in this population. L&I contracted with the University of Washington's Occupational Epidemiology and Health Outcomes Program (in the Department of Environmental and Occupational Health Sciences) in order to evaluate the implementation of L&I's Modified Chronic Opioid Therapy (mCOT) pilot. This pilot focuses on assessing workers on chronic opioids to identify harms, barriers to recovery, and gaps in care and offer available resources to providers and workers to address the identified issues. The goal of mCOT is to reduce harms and improve care for workers who are on chronic opioid therapy. The University of Washington has also been contracted to evaluate the impact of the Bree Collaborative's *Long-Term Opioid Therapy Report and Recommendations*. This is the first biennial report from a multi-biennial evaluation project. This initial report focuses on baseline patient data, such as demographics, opioid dose and duration, and rate of concurrent sedative use. Subsequent reports will evaluate the impacts of efforts such as guidelines and the mCOT pilot.

## Methods

We used L&I claims data linked with Washington State Prescription Monitoring Program (PMP) data for analyses. The cohort included injured workers with an L&I claim who were receiving chronic opioids between 2019 and 2022. Chronic opioids were defined as receiving at least 60 days' supply of opioids during a 3-month period, determined using PMP dispensing data. The Washington State PMP began collecting opioid dispensing data in 2012. We therefore restricted this analysis to workers with injuries in 2012 or later so that PMP data was available for the duration of the workers' claims.

## Opioid Time Periods and Opioid Prescribing Metrics

We determined opioid use in the following time periods:

Table 1. Opioid time periods

Phase	Timing relative to date of injury
Prior	3 months before injury
Acute	0-6 weeks after injury
Subacute	6-12 weeks after injury
Chronic	3-6, 6-9, 9-12, 12-15, 15-18, 18-21, 21-24 months after injury

We calculated the following opioid metrics:

Table 2. Definition of opioid metrics

Metric	Definition
Any opioids	At least one day of opioids in the time period
Chronic opioids	60+ days of opioids within a 3-month time period
Concurrent opioids and sedatives	At least 1 day of overlap of opioids and sedatives
Morphine equivalent daily dose (MEDD)	Opioid dose on days that worker received opioids

## Analysis

We conducted a descriptive analysis of workers receiving opioids chronically between 2019 and 2022. We examined the year of injury, the age at injury, gender, nature of injury, body part injured, and claim status. We also examined prior opioid use (in the 3 months before injury), any opioid use in each time period, chronic use in relevant time periods, concurrent opioids and sedatives, and dose (mean, median, and categories of MEDD).

## Results

There were 8,123 workers receiving chronic opioids between 2019 and 2022. Demographic information and a description of injuries is shown in Table 3. About one quarter of workers were injured between 2012 and 2017 and 15-20% of workers were injured each year between 2018 and 2021. (There were fewer workers from 2022 [10%] because there has been less follow-up time for these workers.) The majority (72%) of workers with chronic opioid use were age 45 or older. Less than 10% of the workers with chronic opioids were age 34 or younger. About 39% of workers with chronic opioids were women and about 61% were men. Almost half (47%) of workers with chronic opioids had a sprain or strain, 7% had fractures, and 46% had other types of injuries. About one third (32%) had upper extremity injuries, 17% had lower extremity injuries, 21% had spine or neck injuries (this includes back injuries), and 31% had other or multiple body parts injured. Over one third of workers with chronic opioids had medical only claims (37%), 42% had temporary disability (time loss, kept on salary, or loss of earning power), and 21% had permanent disabilities (permanent partial disabilities or

total permanent disabilities). Among all workers' compensation claims, typically about 80% are medical only claims and about 20% have temporary or permanent disabilities.

Table 3. Demographics and description of injuries for workers receiving chronic opioids between 2019 and 2022 (N=8,123)

<b>Characteristic</b>	<b>N (%)</b>
Year of injury	
2012-2017	1,906 (23.5)
2018	1,275 (15.7)
2019	1,634 (20.1)
2020	1,278 (15.7)
2021	1,222 (15.0)
2022	808 (9.9)
Age at injury	
18-24	43 (0.5)
25-34	621 (7.6)
35-44	1,614 (19.9)
45-54	2,637 (32.5)
55-64	2,640 (32.5)
65+	568 (7.0)
Gender	
Women	3,138 (38.6)
Men	4,985 (61.4)
Nature of injury	
Fracture	556 (7.1)
Strain/sprain/tear	3,655 (46.7)
Other injuries	3,622 (46.3)
Body part (%)	
Lower extremity	1,322 (16.9)
Other/multiple	2,439 (31.1)
Spine/neck	1,608 (20.5)
Upper extremity	2,464 (31.5)
Claim status	
Medical only	3,027 (37.3)
TL/KOS/LEP	3,379 (41.6)
PPD/TPD	1,717 (21.1)

Measures of opioid prescribing are shown in Table 4. Three quarters (75%) of workers with chronic opioids 2019-2022 had at least some opioids in the 3 months before injury and 55% were receiving opioids chronically before injury. Among workers with chronic opioids, 88% received opioids in the acute period, 82% received opioids in the subacute periods and 61-78% received at least some opioids in the time periods between 3 months and 12 months after injury. About 15% of workers with chronic

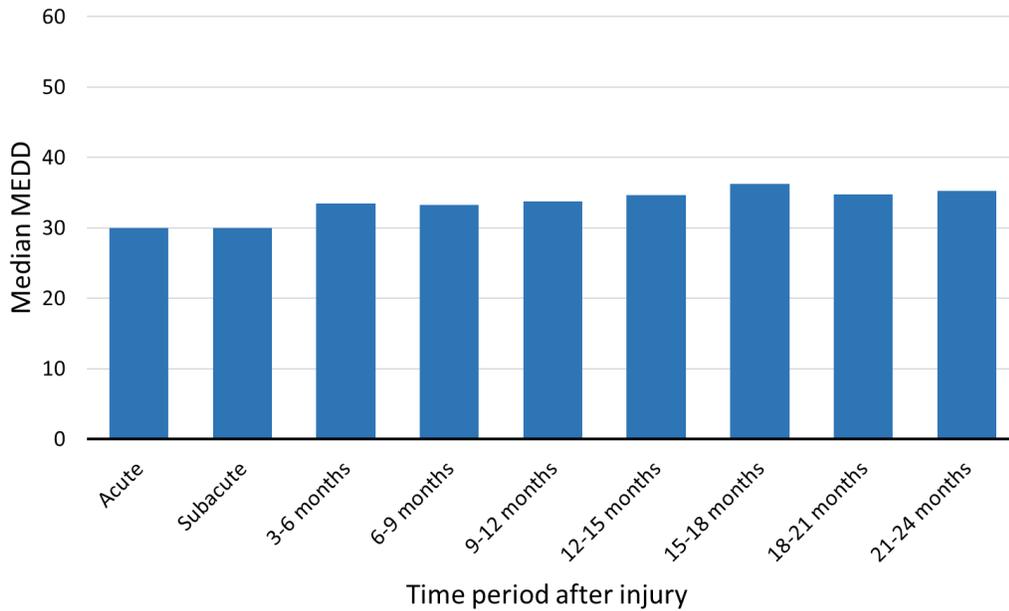
opioids received concurrent sedatives, which is higher than seen in workers with acute opioids in other analyses (1-6%) that are not included in this report.

Table 4. Opioid measures among workers with chronic opioids 2019-2022 (N=8,123)

Measure	N (%)
Prior opioid: Any in 3 months	6,084 (74.9)
Prior opioid: 60+ days in 3 months	4,474 (55.1)
Any days in acute	7,104 (87.5)
Any days in subacute	6,681 (82.2)
Any days in 3-6mos	6,300 (77.6)
Any days in 6-9mos	5,447 (67.1)
Any days in 9-12mos	4,953 (61.0)
>7 days in acute	6,410 (78.9)
>7 days in subacute	6,120 (75.3)
60+ days in 3-6mos	3,753 (46.2)
60+ days in 6-9mos	3,437 (42.3)
60+ days in 9-12mos	3,139 (38.6)
60+ days in 12-15mos	2,900 (35.7)
60+ days in 15-18mos	2,671 (32.9)
60+ days in 18-21mos	2,471 (30.4)
60+ days in 21-24mos	2,319 (28.5)
Concurrent in acute	1,349 (16.6)
Concurrent in subacute	1,234 (15.2)
Concurrent in 3-6mos	1,298 (16.0)
Concurrent in 6-9mos	1,126 (13.9)
Concurrent in 9-12mos	1,053 (13.0)

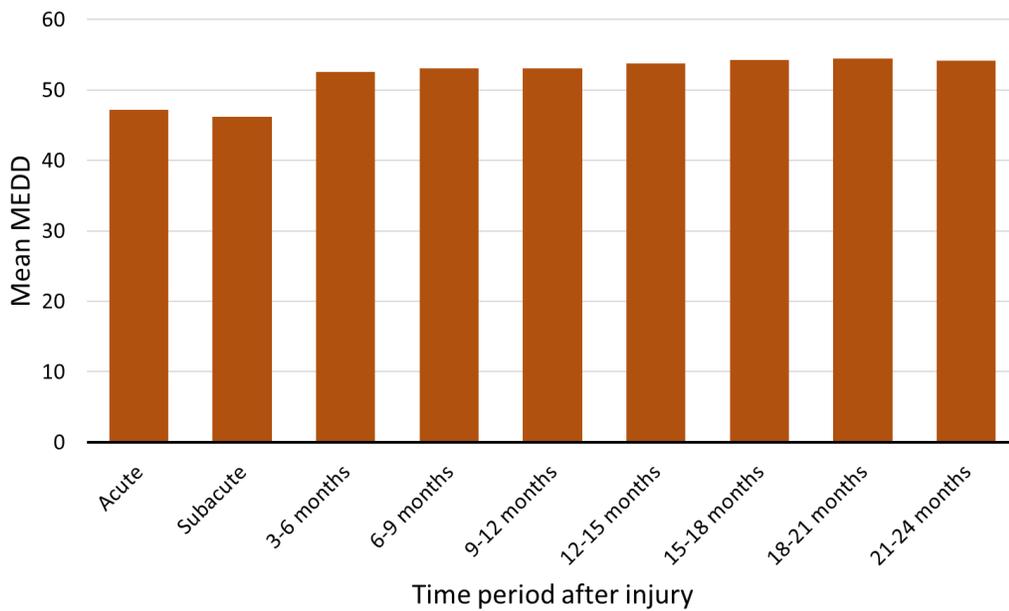
Morphine equivalent doses, or MED, represent the potency of an opioid formulation relative to morphine. Converting to MEDD allows comparison between different types of opioids which vary in strength. Morphine equivalent daily dose (MEDD) is a measure of a patient’s total MED intake in a day, and can be used to identify patients who may be at higher risk of overdose. While Washington State does not impose MEDD prescribing limits for chronic pain patients, there is a consultation requirement for patients receiving at least 120 MEDD (WAC 246-919-930). We calculated median and mean MEDD by time period after injury (Figures 1 and 2). Among workers with at least 7 days of opioids in the acute period, the median MEDD was 30 and the mean was 47. Doses were similar in the subacute period. Doses among workers with at least 60 days of opioids in each of the chronic periods were slightly higher than in the acute and subacute period and remained steady between 3 and 24 months.

Figure 1. Median MEDD\* by time period for workers with chronic opioids 2019-2022 (N=8,123)



\*MEDD was calculated in the acute and subacute period for workers with >7 days' supply of opioids and during the chronic periods for workers with 60+ days' supply

Figure 2. Mean MEDD\* by time period for workers with chronic opioids 2019-2022 (N=8,123)



\*MEDD was calculated in the acute and subacute period for workers with >7 days' supply of opioids and during the chronic periods for workers with 60+ days' supply

We examined opioid dose categories in the acute period (first 6 weeks after injury) among workers with chronic opioids (Table 5). Although most workers with opioids in the acute period have low to moderate doses (1-29 or 30-49 MEDD) over 10% of these workers had relatively high doses (above 90 MEDD). Dose categories differed based on whether workers were receiving opioids prior to injury or not. Most of the workers with high doses during the acute period were receiving opioids prior to injury.

Table 5. MEDD category in the acute phase (if days' supply was >7 days) for workers with chronic opioids 2019-2022 (N=6,332<sup>a</sup>)

MEDD in acute (>7 days)	Overall (6,332) N (%)	No prior opioid (767) N (%)	Prior opioid (5,565) N (%)
1-29	2,881 (45.5)	420 (54.8)	2,461 (44.2)
30-49	1,701 (26.9)	196 (25.6)	1,505 (27.0)
50-89	967 (15.3)	100 (13.0)	867 (15.6)
90-119	356 (5.6)	27 (3.5)	329 (5.9)
120+	427 (6.7)	24 (3.1)	403 (7.2)

<sup>a</sup>78 workers were excluded from this analysis because we were unable to calculate their MEDD.

There was a similar pattern for doses during the subacute period (Table 6).

Table 6. MEDD category in the subacute phase (if days' supply was >7 days) for workers with chronic opioids 2019-2022 (N=6,040<sup>a</sup>)

MEDD in subacute (> 7 days)	Overall (6,040) N (%)	No prior opioid (788) N (%)	Prior opioid (5,252) N (%)
1-29	2,802 (46.4)	454 (57.6)	2,348 (44.7)
30-49	1,568 (26.0)	175 (22.2)	1,393 (26.5)
50-89	917 (15.2)	110 (14.0)	807 (15.4)
90-119	361 (6.0)	28 (3.6)	333 (6.3)
120+	392 (6.5)	21 (2.7)	371 (7.1)

<sup>a</sup>80 workers were excluded from this analysis because we were unable to calculate their MEDD.

MEDD categories during the period 9-12 months after injury are shown in Table 7. Most workers with no prior opioids were receiving low to moderate doses (1-29 or 30-49 MEDD) 9-12 months after injury. Few workers with no prior opioids were receiving high doses (90+ MEDD) 9-12 months after injury. The percent of workers receiving high doses was substantially higher in workers who were receiving opioids prior to injury.

Table 7. MEDD category 9-12 months after injury (if 60+ days' supply) for workers with chronic opioids 2019-2022 (N=3,113<sup>a</sup>)

MEDD 9-12 months (60+ days)	Overall (3,113) N (%)	No prior opioid (453) N (%)	Prior opioid (2,660) N (%)
1-29	1,246 (40.0)	235 (51.9)	1,011 (38.0)
30-49	846 (27.2)	113 (24.9)	733 (27.6)
50-89	531 (17.1)	70 (15.5)	461 (17.3)
90-119	231 (7.4)	21 (4.6)	210 (7.9)
120+	259 (8.3)	14 (3.1)	245 (9.2)

<sup>a</sup>26 workers were excluded from this analysis because we were unable to calculate their MEDD.

## Summary points

- Workers receiving chronic opioids tend to be in the older age groups.
- Most (75%) of the injured workers on chronic opioids between 2019 and 2022 were receiving opioids in the 3 months prior to their injury and 55% were receiving opioids chronically before injury.
- On average, the morphine equivalent daily dose (MEDD) stayed relatively constant for workers with chronic opioids between 3 months and 2 years after injury (additional analysis will be conducted to assess dose trajectories of individuals).
- Most workers on chronic opioids are prescribed low to moderate doses: 2/3 of workers with prior opioids and 3/4 of workers with no prior opioids are prescribed low to moderate doses 9-12 months after injury. Workers who are receiving high doses are much more likely to have been receiving opioids prior to their workers' compensation claim.

## Clinical needs

- The 13-17% of workers with chronic opioids who also have concurrent sedatives (which may put the workers at higher risk of an overdose or other adverse event) may benefit from additional services.
- Although most workers on chronic opioids are prescribed low to moderate doses, workers on higher doses could be prioritized for additional services.
- Many injured workers on chronic opioids may have clinical needs that are related to prior injuries, conditions, and comorbidities.

## Next steps

The purpose of this initial report is to provide basic information on injured workers receiving chronic opioid therapy between 2019 and 2022, including demographics, opioid dose and duration, and rate of concurrent sedative use. Future reports will include an analysis of treatment pathways for patients on

chronic opioid therapy, metrics to assess implementation of the Bree Collaborative *Long-Term Opioid Therapy Report and Recommendations*, and an evaluation of potential interventions to improve care and reduce harms in this population.