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Report for submission to the governor and legislative committees

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Executive Summary

Using opioid settlement funds (Engrossed Substitute Senate Bill 5187, Chapter 475, Laws of 2023), the Washington State Department of Labor & Industries (L&I) contracted with the University of Washington to evaluate injured workers using chronic opioid therapy (COT) and to measure the impact of efforts to improve outcomes among this population.

This effort is intended to help address the tide of overprescribing and inappropriate transition from acute to chronic opioid use in Washington state through research and evaluation. It includes research to understand the risks and benefits of remaining on chronic opioids vs. tapering and to inform best practices for addressing the clinical needs of this population.

This is the second report from a multi-year effort. It focuses on treatment pathways of workers on chronic opioid therapy in the state fund workers' compensation population and reviews of the L&I modified chronic opioid therapy (mCOT) pilot.

Treatment pathways

Methods
This analysis relies on data from the Washington workers' compensation state fund program. State fund data includes employers whose workers' comp liability is insured by the state, representing roughly 75% of all Washington workers. For the analysis of treatment pathways among state fund workers receiving COT, the evaluation team defined five categories:

- Increasing dose (≥10% dose increase relative to prior calendar quarter);
- Stable dose (same dose or dose increased or decreased by <10% relative to prior quarter);
- Taper (≥10% dose decrease relative to prior quarter);
- Discontinuation (no opioids for at least the last 30 days of a quarter, or no prescription data); and
- Transition to medications for opioid use disorder (MOUD).

The evaluation team analyzed the treatment pathways for workers on chronic opioids, comparing one calendar quarter to the next.

Summary
- The number of workers receiving chronic opioids in a calendar quarter decreased substantially between 2018 and 2021.
- Among workers receiving opioids chronically, most had low to moderate doses. In the first quarter of 2018, 62% had less than 50 morphine equivalent daily dose (MEDD), 19% had 50-89 MEDD, 7% had 90-119 MEDD, and 12% had equal to or greater than 120 MEDD.

- Between 2018 and 2021, for most workers on chronic opioids (over 60%), the dose remained relatively stable (did not increase or decrease by more than 10%).
- In the first quarter of 2018, 7% discontinued opioids, 16% tapered the opioid dose, 60% were on a stable dose, 17% had an increased dose, and none transitioned to MOUD (in the available data).
- The percent in each treatment pathway remained relatively constant between 2018 and 2021.
- Opioid use disorder is not normally considered an industrial injury-related condition, so MOUD treatment was rarely billed and paid for under workers' compensation claims. Some workers may have received MOUD treatment outside of the workers' compensation system for opioid use disorders that started before the work injury.

mCOT analysis

L&I implemented the modified chronic opioid therapy (mCOT) pilot in April 2022. This state fund pilot focuses on assessing workers on chronic opioids to identify harms, barriers to recovery, and gaps in care, and offers available resources to treating providers to address the identified issues in a worker-centered way. The goal of mCOT is to reduce harms and improve care for workers who are on COT. The evaluation team reviewed the injured workers who were selected for the pilot.

Summary

- As of July 2024, the team has reviewed 65 workers on COT.
- The average age of workers was in the mid-fifties.
- On average, workers had three allowed conditions.
- About half of the workers have had a surgery or a planned surgery.
- Over 70% were on chronic opioids prior to injury.
- Most workers were on low or moderate doses of opioids (<50 MEDD).
- Claims managers attended the Opioid Review Team meetings for 62% of the cases.
- Vocational rehabilitation counselors (VRC) attended the ORT meetings 85% of the time for cases with a VRC.
- The most common issues identified were missing medical records from the claim file (80%), lack of documented opioid best practices (63%), and poor care coordination (32%).
- Provider contacts were planned for 65% of the cases, and provider contact was successful 93% of the time.
- Among the workers who had both follow-up reviews (at 6-8 weeks and 6 months after the initial review) or whose claims had closed, 16% had stopped their COT and 4% decreased their doses.

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 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, which may exceed 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 vs. 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 5187, Chapter 475 Laws of 2023) to evaluate patients who are 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) 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 to address the identified issues in a worker-centered way. 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 2024 report from a multi-biennial evaluation project. This report focuses on an analysis of treatment pathways among workers on chronic opioids and a review of the mCOT pilot.

Analysis of Treatment Pathways

Methods

The Bree Collaborative's Long-Term Opioid Therapy Report and Recommendations describe the following treatment pathways for patients on chronic opioids:

- Maintain and monitor;
- Taper or discontinue; and
- Transition to medications for opioid use disorder (MOUD).

As part of developing metrics to assess implementing the Bree report, the University of Washington analyzed treatment pathways for injured workers receiving chronic opioids. The evaluation team selected injured workers from the Washington state workers' compensation state fund system with at least one opioid prescription filled between Jan. 1, 2018, and Dec. 31, 2021. For this analysis, the team defined five categories of treatment pathways among workers receiving chronic opioid therapy:

- Increasing dose (≥10% dose increase relative to prior calendar quarter);
- Stable dose (same dose, or dose increased or decreased by <10% relative to prior quarter);
- Taper (≥10% dose decrease relative to prior quarter);
- Discontinuation (no opioids for at least the last 30 days of a quarter, or no prescription data); and
- Transition to MOUD.

Chronic opioid use was defined as receiving at least 60 days' supply of opioids in a calendar quarter. Non-chronic opioid use was defined as receiving between one and 59 days' supply of opioids in a calendar quarter. The average morphine equivalent daily dose (MEDD) was calculated for each day a worker received opioids in a quarter. If there were two or more prescriptions on a particular day, the MEDD for all prescriptions was combined. For each calendar quarter, opioid use for injured workers was categorized as:

- No opioids in calendar quarter;
- Non-chronic opioids 1-29 days in a calendar quarter;
- Non-chronic opioids 30-59 days in a calendar quarter;
- Chronic opioids <50 MEDD;
- Chronic opioids 50-89 MEDD;
- Chronic opioids 90-119 MEDD; and
- Chronic opioids ≥120 MEDD.

Currently, FDA-approved MOUD includes buprenorphine products (buprenorphine extended-release injection, buprenorphine/naloxone sublingual or buccal, buprenorphine sublingual),

naltrexone extended-release, and methadone. Capturing data on MOUD is complicated, as information may be available in various billing sources:

- Methadone, when used to treat opioid use disorder, is not collected by either prescription monitoring program (PMP) or L&I pharmacy billing data.
- Buprenorphine products are collected in the PMP and, if covered by L&I, will be included in the L&I pharmacy billing data.
- Naltrexone extended-release is not collected in either PMP or L&I pharmacy billing data but if covered by L&I, will be captured in the L&I medical billing data.

Unfortunately, buprenorphine products were not available in the PMP data that L&I supplied. Therefore, the evaluation team used L&I pharmacy billing data to assess for buprenorphine use. Billing data may underestimate the total amount of MOUD treatment.

The treatment pathways were analyzed from one calendar quarter to the next calendar quarter. For example, for workers with chronic opioids in the first quarter of 2018, opioid prescriptions were analyzed for the second quarter of 2018 to determine if the pattern of opioid prescription had changed. PMP data was used to determine changes in days' supply and doses of opioids. L&I pharmacy billing data was used to determine if a worker received MOUD.

Results

Among workers with at least one opioid prescription between 2018 and 2021, the percent of injured workers in each of the opioid dose and duration categories is shown in **Figure 1**. Roughly 25% of workers with at least one opioid prescription during the study period were prescribed chronic levels of opioids.

Figure 1. Percent with chronic, non-chronic, or no opioids among workers with at least one prescription, 2018-2021.

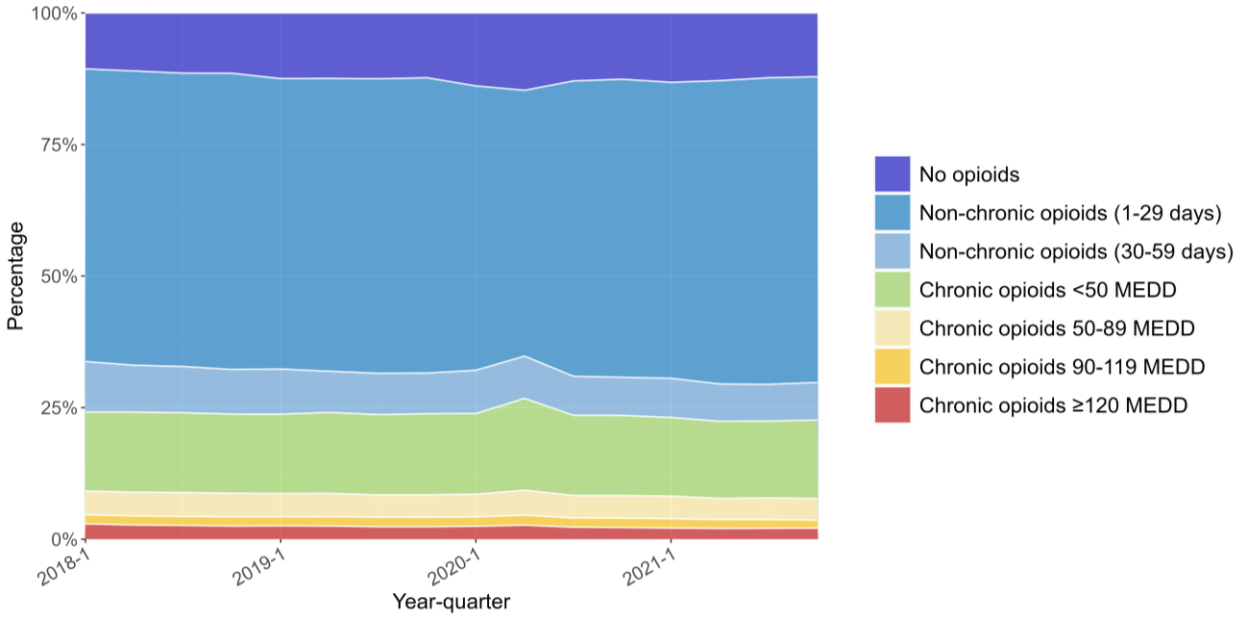


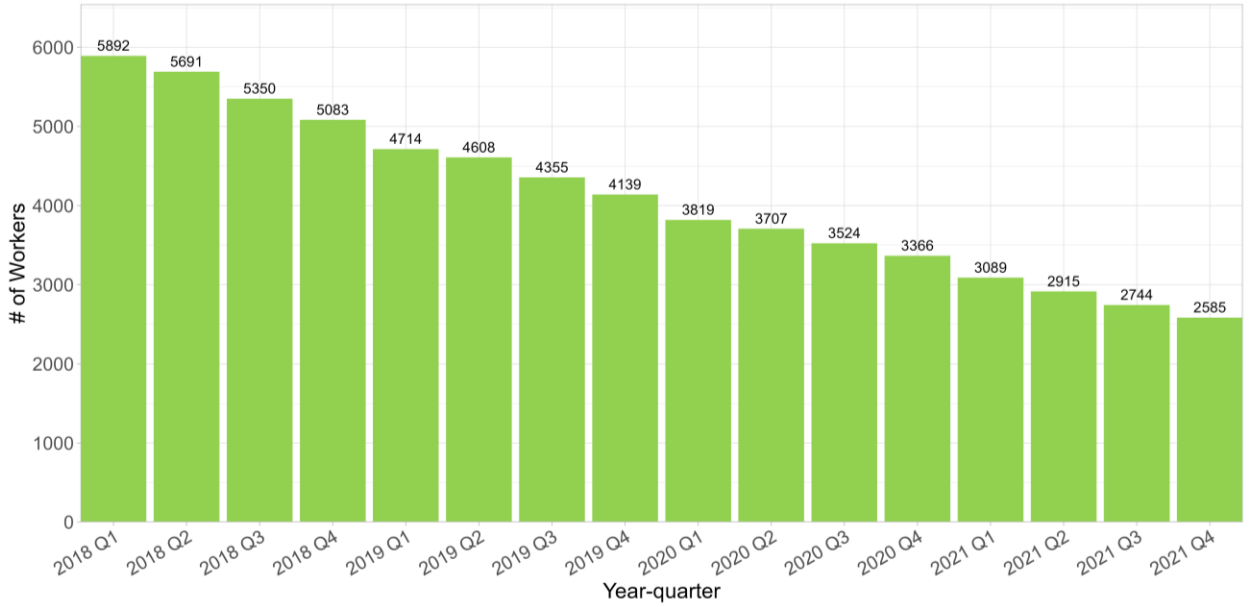
Table 1 shows the percent of workers in each opioid dose and duration category for the first quarter of 2018 (among workers with any opioids between 2018 and 2021). About two-thirds had non-chronic opioid use (66%); about one-quarter received chronic opioids (24%); and 11% did not receive any opioids.

Table 1. Percent with chronic, non-chronic, or no opioids in the first quarter of 2018 among workers with at least one prescription, 2018-2021.

2018 Q1	Percent
No opioids	11%
Non-chronic opioids (1-29 days)	56%
Non-chronic opioids (30-59 days)	10%
Chronic <50 MEDD	15%
Chronic 50-89 MEDD	4%
Chronic 90-119 MEDD	2%
Chronic ≥120 MEDD	3%

The number of workers receiving chronic opioids in a calendar quarter decreased substantially between 2018 and 2021 (**Figure 2**). In the first quarter of 2018, 5,892 injured workers met the definition for chronic opioids. By the fourth quarter of 2021, 2,585 met the definition for chronic opioids, a reduction of about 56%.

Figure 2. Number of workers with chronic opioids 2018-2021.



Among workers receiving opioids chronically, the percent in each dose category is shown in **Figure 3** and **Table 2**. In the first quarter of 2018; 62% had <50 MEDD; 19% had 50-89 MEDD; 7% had 90-119 MEDD; and 12% had ≥120 MEDD. From 2018 to 2021, the percent in the lowest-dose category increased slightly, and the percent in the highest category decreased slightly.

Figure 3. Dose categories among workers with chronic opioids.

Table 2. Dose categories among workers with chronic opioids.

Dose	First quarter 2018 percent	First quarter 2021 percent
<50 MEDD	62%	65%
50-89 MEDD	19%	19%
90-119 MEDD	7%	8%
≥120 MEDD	12%	9%

Trends in treatment pathways are shown in **Figure 4** and **Table 3**. In the first quarter of 2018, of workers with chronic opioids in the prior quarter; 7% discontinued opioids; 16% tapered the opioid dose; 60% were on a stable dose; 17% had an increased dose; and none transitioned to MOUD (in the available data). Measurement of MOUD will be discussed in more detail in the limitations. The percent in each treatment pathway remained relatively constant between 2018 and 2021.

Figure 4. Treatment pathways among workers with chronic opioids.

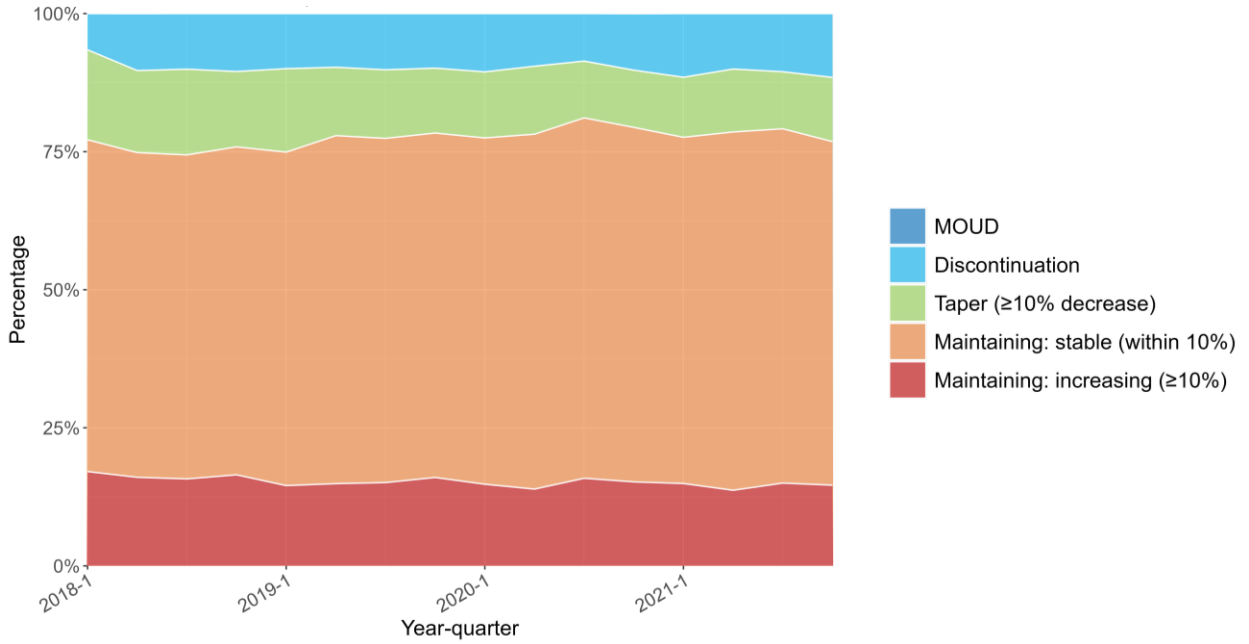


Table 3. Treatment pathways among workers with chronic opioids.

Pathway	First quarter 2018 percent	First quarter 2021 percent
Discontinuation	7%	12%

Taper >10%	16%	11%
Maintain stable	60%	63%
Increasing >10%	17%	15%
MOUD	0%	0%

Conclusions

The evaluation team examined changes in opioid treatment pathways for workers with chronic opioids from one calendar quarter to the next between 2018 and 2021. In the first quarter of 2021, 12% of injured workers on chronic opioids had discontinued opioids, and 11% had their dose decreased by more than 10%. For most (63%) workers on chronic opioids, their dose remained stable (did not increase or decrease by more than 10%). Although L&I can temporarily cover MOUD as an aid to recovery, treatment was rarely billed to and paid for by L&I. Some workers may have received MOUD treatment outside the workers' compensation system for opioid use disorders that started before the work injury.

Limitations

One limitation of this analysis was that MOUD were not available in the PMP data that L&I supplied. The evaluation team was able to use L&I pharmacy billing data to assess MOUD, but billing data may underestimate the total amount of MOUD treatment. Additionally, methadone - when used to treat opioid use disorder - is not collected in PMP or L&I pharmacy billing data.

A second limitation is that the current analysis only examines changes from one calendar quarter to the next. It is difficult to assess the treatment pathways over a longer period of time because of the large number of variations in potential outcomes from quarter to quarter.

Analysis of L&I's mCOT Pilot

L&I launched the mCOT pilot in April 2022 for state fund claims. L&I had been hearing from clinical stakeholders - particularly primary care providers - that they were struggling with patients who were on COT for years. Patients on chronic opioids can be very time-intensive with complex medical and psychosocial comorbidities. L&I had also been hearing from providers that did not feel they had enough time or resources to manage these patients.

To help these providers, L&I created the mCOT pilot. The objectives of mCOT are to reduce harms and improve care for workers on COT and promote evidence-based treatment for chronic pain. Another goal is to review claims on chronic opioids to identify harms, barriers, gaps in care, or suboptimal treatment and then offer available resources to address the identified issue. L&I also wanted to provide resources and education to help busy providers manage workers on chronic opioids and increase field nurses' participation to address the opioid crisis.

L&I'S VISION IS TO ENSURE THAT WORKERS ON CHRONIC OPIOID THERAPY RECEIVE SAFE AND APPROPRIATE TREATMENT THAT IMPROVES THEIR HEALTH AND AVOIDS LONG-TERM DISABILITY, ALLOWING FOR A QUICKER RETURN TO WORK AND MORE PRODUCTIVE, FULFILLING LIVES.

mCOT structure

To accomplish these objectives, the mCOT pilot has three components: the Opioid Review Team (ORT); the involvement of field occupational nurse consultants (FONCs); and provider education.

The first component is the ORT, composed of members with various functional areas of expertise including the claims manager, FONC, vocational rehabilitation counselor (VRC), pharmacist, and physician. The team has been staffing claims of workers on COT to identify harms, barriers to recovery, gaps in care, and suboptimal treatment and then determining the appropriate resources that can help to address the identified issue(s) in a worker-centered way. The team develops a plan to engage the attending provider, prescriber, and worker to

participate in the treatment plan and authorize and coordinate services. The ORT is the hub of the pilot.

The second component is the FONCs that L&I employs throughout the state. FONCs play a critical role in the pilot. They conduct a comprehensive review of the claim file to understand treatment history, gaps in care and/or potential barriers or harm. They try to ascertain what has happened since the worker was put on opioids. The FONC presents the claim at an ORT meeting. Based on the ORT's recommendations, the FONC engages the provider in clinical pathways that support safe and effective pain treatment.

The third component is provider education. Staff identify potential training opportunities for providers, such as regional pain conferences where primary care providers have an opportunity to learn concepts that align with the pilot. The team develops educational offerings for providers as needed.

Collaborative approach

Creating mCOT has been a team effort. A workgroup of medical specialists in the Office of the Medical Director, FONCs, regional leadership, claims managers, communications consultants, change management staff, and staff from the Lean Transformation Office met weekly for over a year to develop the policy, process, and support to conduct the pilot. Together they refined the criteria for identifying workers on COT to review. The workgroup developed a template checklist for claim review, a list of available regional resources, and the policy and process to support this work. They also identified FONCs' training needs and developed the training needed for FONCs to perform this work.

At the same time, the workgroup worked closely with the Lean Transformation Office, Office of Change Management, and the communication team to develop materials to ensure successful implementation of the mCOT pilot. This includes both internal and external communication. The workgroup has presented to L&I's Industrial Insurance Medical Advisory Committee, Industrial Insurance Chiropractic Advisory Committee, Advisory Committee on Healthcare Innovation and Evaluation, Vocational Recovery Advisory Committee, Vocational Service Specialist All-Staff, Claims All-Staff, and Self-Insured Colloquium. The workgroup conducted substantial internal communications to prepare for pilot implementation.

The workgroup also presented on the mCOT pilot externally at the 2023 International Association of Industrial Accident Boards and Commission annual meeting in Denver, Colorado and at the Washington Opioid Prevention Workgroup meeting in March 2024.

mCOT workflow process

The first step of the mCOT workflow process is to create a list of workers by region based on specific criteria. Because of limited resources to address all workers on chronic opioid therapy, the focus was narrowed to workers who have been on chronic opioid therapy (opioids for 60

days or longer in a quarter) and whose cases are currently open and were open when the opioid prescription was filled by the worker. Further, the workgroup wanted to concentrate on workers who are not represented by an attorney and those workers whose cases are a year or less in age from the date of injury.

The list is validated and an introductory letter is mailed to the providers of workers who have been identified as possible participants in the pilot. The validated list is delivered to the FONC in the appropriate region. Once the list is received, the FONC will pick and review a case and complete the Chronic Opioid Therapy Checklist. When the review is completed, the claim is staffed at the ORT, which assesses the worker's need by discussing any potential barriers, opioid-related harms, and gaps in care. The team then determines the appropriate resources to address the identified issue(s) and the best engagement strategy. Next, the FONC will contact the attending provider, prescriber, and/or surgeon (if needed) and offer resources and/or services identified by the ORT. The claims manager or FONC will authorize and coordinate services as needed.

The ORT meets bimonthly to review injured workers (i.e., cases) selected for assessment as part of the mCOT pilot. Each case undergoes an initial review by the ORT, as well as follow-up reviews at approximately 6 to 8 weeks and 6 months after the initial review. Follow-up reviews may not occur in some cases, such as if the case has closed before the follow-up period.

Tools and resources

In an effort to expand access to alternative therapies for chronic pain and make them readily available to reduce reliance on opioids, the workgroup developed a list of Non-Opioid Alternatives for Providers. This includes evidence-based, non-opioid pharmacologic and non-pharmacologic treatment alternatives for chronic pain. It also contains information and resources for substance use disorders. This is an easy-to-use handout with information on the department's coverage that helps FONCs interact with providers. The group also created an extensive list of regional resources the nurse can use to help providers and workers identify non-opioid treatments in their region. The list of resources enhances access to evidence-based, non-opioid alternatives and improves treatment of chronic non-cancer pain. Additionally, a flyer was created with more information about the pilot that FONCs can leave with the provider.

The workgroup also collaborated with Return-to-Work Partnerships at L&I to create a preparation guide that helps assigned VRCs prepare for the ORT meetings. To support the claim review process and ensure consistency among FONCs, the workgroup developed a Chronic Opioid Therapy Review Checklist. It collects information on workers' treatment history, opioid use, risk factors, and relevant co-morbid conditions. In addition, the checklist helps identify gaps in care, potential barriers, or harms. This tool is used to help facilitate discussion at ORT meetings.

The workgroup also created an introductory letter to providers. These are providers who have workers on chronic opioids and have been identified as possible pilot participants. The letter informs the provider of the mCOT pilot and introduces them to the respective FONC(s). It also describes mCOT as a resource for busy providers and explains how L&I can partner with them to improve the treatment of an injured worker's chronic pain. The purpose of this letter is to facilitate and enhance FONC outreach. The workgroup created an mCOT website with more details and resources.

The goal of the additional support for injured workers and providers is to reduce the risk of harm from opioid use and promote evidence-based treatments for chronic pain. The pilot also supports claims managers managing these complex claims while potentially decreasing overall long-term disability in the workers' compensation system.

Provider surveys

The University of Washington developed an online survey for providers in the previous biennium (recruitment began December 2022).

The survey remains open so that providers can give feedback about their interactions with the FONCs and the usefulness of the resources they have provided. So far, no providers have opened or completed the online survey. FONCs continue to distribute the survey recruitment information to providers with whom they interact. Suggestions have been given to L&I staff for identifying additional ways to increase provider participation.

mCOT analysis

The University of Washington reviewed 65 injured workers who have been reviewed by the ORT to date, using notes from the ORT and other information found in the claims. The evaluation team prepared descriptive information of these workers in the following areas: age; number of allowed conditions; presence of substance use disorder; previous mental health diagnoses; surgeries; medical complexity; use of opioids before injury; opioid dose and changes in dose; use of best practices by their provider; time loss status; and claim closure. Detailed results have been presented to L&I during monthly meetings. Highlights include:

Demographic and medical

- Average age of workers was in the mid-fifties.
- Workers had three allowed conditions on average.
- About half of the workers had surgery or had a planned surgery as part of their workers' compensation claim.
- Over 70% of the workers who were selected for the mCOT pilot were receiving an opioid prescription prior to their injury.
- Most workers who were selected for the mCOT pilot were on low or moderate doses of opioids (<50 MEDD).

Work status
At the time of the initial ORT review:

- About one third of the workers selected for the mCOT pilot had not received any time loss compensation.
- 48% of the workers selected for the mCOT pilot were working at the time of the initial team review.

Opioid-related issues
The following issues were identified by the opioid review team, with an average of six issues (range 1-11) identified per worker:

- 80% missing documents (e.g., visit notes or test results);
- 63% missing at least some opioid best practices;
- 51% high risk for using opioids;
- 40% lack of COT documentation;
- 32% lack of care coordination;
- 22% gaps in medical care or issues with treatment adherence;
- 12% slow recovery progression;
- 8% lack of a treatment plan; and
- 8% employer problems (e.g., contentious relationship).

Missing records
At least 52 (80%) of the 65 workers had a missing medical record. The types of missing records are shown in **Table 4**.

Table 4. Types of missing records.

	# Claims		# Claims
Opioid records	26	PT or OT notes	5
Unspecified medical visit record	16	Specialist visit note	5
Initial visit notes (e.g., ER)	11	Behavioral health notes	3
Post-op visit notes	8	Pre-op visit notes	3
MRI or x-ray reports	7	Surgery notes	3
Operative, pre-op visit notes	9		

Claims manager and vocational rehabilitation counselor involvement

- Claims managers attended the ORT meetings for 62% of the cases.
- For cases involving a vocational rehabilitation counselor, a VRC attended the ORT meetings 85% of the time.

Provider engagement

- Provider contacts were planned for 65% of the cases.
- Provider contact was successful 93% of the time it was attempted.

Table 6. Provider contacts.

Opioid review team spreadsheets	July 2024 spreadsheet
Reviews conducted	65
Provider contacts planned	
Yes	42 (65%)
Maybe	6 (9%)
No	17 (26%)
Provider contacts attempted	43
Provider contacts successful	40 (93%)

Changes in opioid dose

- Opioid dose decreased in 4% of the cases and opioids stopped in 16% of the 49 cases whose claims either closed or had been reviewed at both 6-8 weeks and 6 months after the initial reviews.

Conclusions

The L&I mCOT project has reviewed 65 workers on chronic opioid therapy. The opioid review team has reached out to providers in about two-thirds of the cases with resources that may benefit the care of the injured worker. Most (93%) of the provider contacts were successful. The ORT process may benefit the worker, the provider, and L&I staff. It has been useful for the claims managers to participate in ORT meetings to hear the importance of medical decision-making and how it matters when medical records are missing from the claim file. Although most (over 70%) of the workers were receiving opioids prior to the injury, the opioid dose decreased for 4% of workers, and opioids stopped for 16% of workers after the opioid review team process. In addition to potentially influencing opioid use or opioid dose, the ORT process has also been improving coordination of care for injured workers.