

# Pharmacy Cost and Utilization in the Texas Workers' Compensation System



Workers' Compensation  
Research &  
Evaluation Group

# 2023

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- Insurance rates and rate-making procedures.
- Rehabilitation and reemployment of injured employees.
- Quality and cost of medical benefits.
- Employer participation in the workers' compensation system.
- Workplace health and safety issues.
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## Executive summary

The Texas Division of Workers' Compensation (DWC) adopted a pharmacy closed formulary for injured employees in the Texas workers' compensation system in 2011. The formulary applies to both network and non-network claims and intends to apply evidence-based medicine guidelines to ensure quality medical treatment for injured employees while controlling costs and unnecessary utilization. The formulary includes all FDA-approved drugs but excludes drugs with an "N" status (or not recommended) in Appendix A of DWC's adopted treatment guidelines, experimental and investigational drugs, and drugs created by compounding. Drugs excluded from the closed formulary require preauthorization. This report analyzes pharmacy costs and utilization in the Texas workers' compensation system using data before and after the formulary (2009-2022).

**Overall pharmacy service utilization decreased from 2009 to 2022.** The total number of pharmacy claims decreased 57% (from about 170,000 in 2009 to 73,000 in 2022), total number of prescriptions decreased 73% (from about 1.7 million to 442,000), and average number of prescriptions per claim decreased 38% from service year 2009 to 2022 (from about 10 to 6).

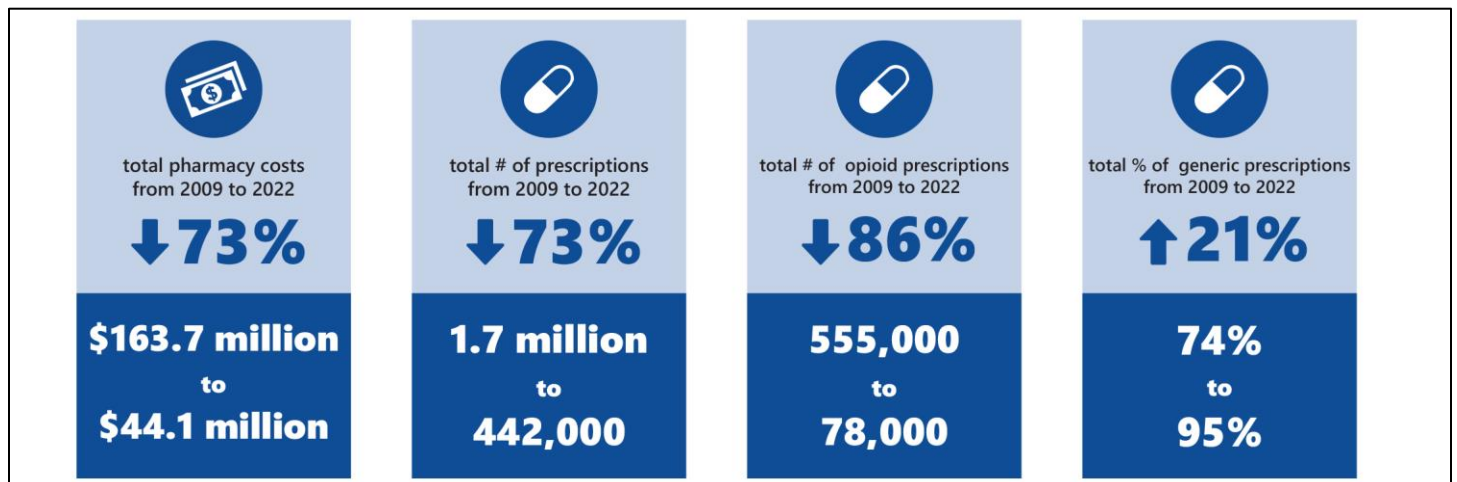
**Overall number of opioid prescriptions decreased from 2009 to 2022.** The number of opioid prescriptions decreased 86% from service year 2009 to 2022 (from about 555,000 to 78,000) and opioid N status drug prescriptions decreased 96% (from about 48,000 to 2,000).

**Overall pharmacy service costs decreased from 2009 to 2022.** The total pharmacy cost declined 73% (from about \$163.7 million in 2009 to \$44.1 million in 2022), and the average cost per claim declined 39% for claims in service year 2009 to 2022 (from \$1,022 to \$626). More cost reduction was observed in lost-time claims than in medical-only claims.

**Overall opioid prescription costs decreased from 2009 to 2022.** Opioid N status drug costs decreased 97% (from about \$18.1 million in service year 2009 to about \$603,000 in 2022), opioid non-N status drug costs declined 88% (from about \$30.8 million to \$3.6 million).

**Use of generic prescriptions instead of branded drugs increased from 2009 to 2022.** Despite the utilization of prescriptions decreasing, the percentage of generic prescriptions used instead of branded drugs increased from service years 2009 to 2022 (from 74% to 95%).

## Key findings



Note: Data represents service years. Injury year data also showed reductions.

## Introduction

Following the 78<sup>th</sup> Texas Legislature's adoption of House Bill 7, DWC adopted a pharmacy closed formulary for injured employees in the Texas workers' compensation system. The formulary took effect on Sept. 1, 2011, for new workers' compensation claims with injury dates on or after that date and on Sept. 1, 2013, for older (legacy) claims.

The formulary intends to reduce pharmacy costs and ensure quality care for injured employees by introducing a range of initiatives such as prior authorizations, step therapy, drug selection, and drug dispensing and utilization procedures. The formulary includes all FDA-approved drugs except experimental, investigational, compound, and N status drugs. Drugs excluded from the closed formulary require preauthorization.

The claims in this report represent the claims that actually received pharmacy services. This report analyzes pharmacy utilization and cost in the Texas workers' compensation system between 2009 and 2022 to capture data before and after the introduction of the formulary, including:

- Number of pharmacy claims and prescriptions.
- Prescription costs.
- Most frequently prescribed drugs before and after the formulary.
- Access to pharmacy services.

## Data and methods

This report uses DWC administrative data reported by insurance carriers as of June 2023 for claims with injury dates or service dates from January 2009 through December 2022. Data summaries in this report are presented by injury year and service year.

- **Injury year** – the calendar year in which the employee was injured. When data is presented by injury year, each claim is only counted once for the year the injury occurred, even if services are received in more than one year.
- **Service year** – the calendar year in which the injured employee received pharmacy services. When data is presented by service year, each claim is counted for every year services were received.

The payment data used in this report shows trends over time and patterns across claim and drug types. The claim, prescription, and cost data presented in this report (particularly for the recent few years' data) may change as insurance carriers report more data. The cost measures in this report were based on payments by insurance carriers. Similarly, the utilization measures in this report represent the amount and types of services that health care providers billed for an injured employee's claim, regardless of whether insurance carriers ended up paying for those services.

## Pharmacy service claims and prescriptions

### Overall pharmacy claims and prescriptions

Overall, pharmacy service claims decreased 53%, from 105,768 claims in injury year 2009 to 50,355 in 2022 (Table 1). These claims slightly increased from injury year 2009 to 2011, but then continuously decreased from 2011 through 2022. Similarly, pharmacy prescriptions declined 85%, from about one million in injury year 2009 to about 155,000 in 2022. In addition, the average number of prescriptions per claim followed a similar trend, reduced 68%, from 9.7 in injury year 2009 to 3.1 in 2022.

**Table 1: Number of pharmacy service claims and prescriptions by injury year**

Injury year	Prescriptions		Number of claims		Average prescriptions per claim	
	Number	Annual change	Number	Annual change	Number	Annual change
2009	1,021,742		105,768		9.7	
2010	1,001,078	-2%	108,960	3%	9.2	-5%
2011	929,273	-7%	108,369	-1%	8.6	-7%
2012	817,231	-12%	104,500	-4%	7.8	-9%
2013	779,311	-5%	99,135	-5%	7.9	1%
2014	722,352	-7%	95,744	-3%	7.5	-4%
2015	614,404	-15%	87,893	-8%	7.0	-7%
2016	534,373	-13%	85,457	-3%	6.3	-11%
2017	465,211	-13%	82,843	-3%	5.6	-10%
2018	420,892	-10%	82,030	-1%	5.1	-9%
2019	383,747	-9%	76,848	-6%	5.0	-3%
2020	252,486	-34%	53,859	-30%	4.7	-6%
2021	220,515	-13%	53,680	-<1%	4.1	-12%
2022	154,638	-30%	50,355	-6%	3.1	-25%

Source: Workers' Compensation Research and Evaluation Group, 2023.

Overall, pharmacy service claims declined 57%, from 169,474 in service year 2009 to 72,700 in 2022 (Table 2). Similarly, pharmacy prescriptions decreased by 73%, from about 1.7 million in service year 2009 to 442,118 in 2022. In addition, the average number of prescriptions per claim followed a similar trend, reduced from 9.8 in service year 2009 to 6.1 in 2022. These reduction trends were prevalent throughout the study years, except in 2020 for the average prescription per claim.

**Table 2: Number of pharmacy service claims and prescriptions by service year**

Service year	Prescriptions		Number of claims		Average prescriptions per claim	
	Number	Annual change	Number	Annual change	Number	Annual change
2009	1,664,246		169,474		9.8	
2010	1,602,677	-4%	166,456	-2%	9.6	-2%
2011	1,548,496	-3%	161,637	-3%	9.6	-1%
2012	1,395,563	-10%	154,872	-4%	9.0	-6%
2013	1,251,215	-10%	145,992	-6%	8.6	-5%
2014	1,143,981	-9%	138,646	-5%	8.3	-4%
2015	986,031	-14%	127,349	-8%	7.7	-6%
2016	909,110	-8%	122,098	-4%	7.5	-4%
2017	784,038	-14%	116,153	-5%	6.8	-9%
2018	712,641	-9%	111,906	-4%	6.4	-6%
2019	640,157	-10%	105,045	-6%	6.1	-4%
2020	528,147	-17%	79,516	-24%	6.6	9%
2021	481,334	-9%	75,083	-6%	6.4	-3%
2022	442,118	-8%	72,700	-3%	6.1	-5%

Source: Workers' Compensation Research and Evaluation Group, 2023.

### Lost-time and medical-only claims and prescriptions

Claims are classified as either medical-only or lost-time claims. Medical-only claims receive only medical benefits without any income benefits and lost-time claims receive medical and income benefits.

As expected, the average prescriptions per claim were consistently higher for lost-time claims than for medical-only claims for each injury year (Table 3). The average number of prescriptions per lost-time claim continuously decreased from 20.2 in injury year 2009 to 4.2 in 2022. Also, the average number of prescriptions per medical-only claim reduced from 3.4 in 2009 to 2.3 in 2022. The number and percentage of lost-time prescriptions declined over the injury years.

**Table 3: Medical-only and lost-time claims and prescriptions by injury year**

Injury year	Medical-only claims				Lost-time claims			
	# of claims	# of Rx	% of Rx	Average Rx per claim	# of claims	# of Rx	% of Rx	Average Rx per claim
2009	66,346	223,809	22%	3.4	39,422	797,933	78%	20.2
2010	66,914	223,120	22%	3.3	42,046	777,958	78%	18.5
2011	66,720	218,549	24%	3.3	41,649	710,724	76%	17.1
2012	64,833	196,603	24%	3.0	39,667	620,628	76%	15.6
2013	61,178	189,496	24%	3.1	37,957	589,815	76%	15.5
2014	58,312	177,932	25%	3.1	37,432	544,420	75%	14.5
2015	53,591	152,018	25%	2.8	34,302	462,386	75%	13.5
2016	52,396	141,423	26%	2.7	33,061	392,950	74%	11.9
2017	51,067	135,792	29%	2.7	31,776	329,419	71%	10.4
2018	49,905	125,615	30%	2.5	32,125	295,277	70%	9.2
2019	46,702	116,258	30%	2.5	30,146	267,489	70%	8.9
2020	30,595	72,980	29%	2.4	23,264	179,506	71%	7.7
2021	30,359	76,044	34%	2.5	23,321	144,471	66%	6.2
2022	29,992	68,718	44%	2.3	20,363	85,920	56%	4.2

Source: Workers' Compensation Research and Evaluation Group, 2023.



The average prescriptions per claim were consistently higher for lost-time claims than the medical-only claims for each service year (Table 4). The average number of prescriptions per lost-time claim reduced from 14.7 in service year 2009 to 8.9 in 2022. Similarly, the average number of prescriptions per medical-only claim decreased from 4.4 in 2009 to 2.7 in 2022. The number of prescriptions for lost-time claims decreased over the service years.

Service year	Medical-only claims				Lost-time claims			
	# of claims	# of Rx	% of Rx	Average Rx per claim	# of claims	# of Rx	% of Rx	Average Rx per claim
2009	80,476	357,786	21%	4.4	88,998	1,306,460	79%	14.7
2010	77,598	315,476	20%	4.1	88,858	1,287,201	80%	14.5
2011	75,088	301,611	19%	4.0	86,549	1,246,885	81%	14.4
2012	72,823	268,791	19%	3.7	82,049	1,126,772	81%	13.7
2013	68,353	246,337	20%	3.6	77,639	1,004,878	80%	12.9
2014	64,257	217,507	19%	3.4	74,389	926,474	81%	12.5
2015	58,700	183,709	19%	3.1	68,649	802,322	81%	11.7
2016	56,929	169,470	19%	3.0	65,169	739,640	81%	11.3
2017	55,191	158,553	20%	2.9	60,962	625,485	80%	10.3
2018	53,554	144,314	20%	2.7	58,352	568,327	80%	9.7
2019	50,152	132,572	21%	2.6	54,893	507,585	79%	9.2
2020	33,852	89,426	17%	2.6	45,664	438,721	83%	9.6
2021	32,611	88,749	18%	2.7	42,472	392,585	82%	9.2
2022	33,150	89,081	20%	2.7	39,550	353,037	80%	8.9

Source: Workers' Compensation Research and Evaluation Group, 2023.

## Network and non-network claims and prescriptions

The average number of prescriptions per network claim decreased from 9.3 in injury year 2009 to 4.5 in 2020 and remained consistently lower than non-network claims (Table 5).

Injury year	Network claims					Non-network claims				
	# of claims	% of claim	# of Rx	% of Rx	Average Rx per claim	# of claims	% of claim	# of Rx	% of Rx	Average Rx per claim
2009	33,194	31%	307,309	30%	9.3	72,574	69%	714,433	70%	9.8
2010	38,628	35%	337,273	34%	8.7	70,332	65%	663,805	66%	9.4
2011	46,649	43%	376,875	41%	8.1	61,720	57%	552,398	59%	9.0
2012	46,266	44%	340,914	42%	7.4	58,234	56%	476,317	58%	8.2
2013	50,377	51%	371,799	48%	7.4	48,758	49%	407,512	52%	8.4
2014	49,468	52%	339,098	47%	6.9	46,276	48%	383,254	53%	8.3
2015	44,502	51%	285,885	47%	6.4	43,391	49%	328,519	53%	7.6
2016	45,857	54%	258,072	48%	5.6	39,600	46%	276,301	52%	7.0
2017	45,157	55%	239,625	52%	5.3	37,686	45%	225,586	48%	6.0
2018	43,070	53%	208,365	50%	4.8	38,960	47%	212,527	50%	5.5
2019	40,712	53%	188,400	49%	4.6	36,136	47%	195,347	51%	5.4
2020	27,860	52%	125,366	50%	4.5	25,999	48%	127,120	50%	4.9

Note: Network data for injury year 2021 and 2022 is not available yet and therefore not included in the table.

Source: Workers' Compensation Research and Evaluation Group, 2023.

The average number of prescriptions per claim remained consistently lower for network claims (4.8 – 6.3) than non-network claims (7.4 – 11.4) despite an overall decrease of average number of prescriptions per claim for both network and non-network claims throughout service years 2009 to 2020 (Table 6).

Table 6: Network claims and prescriptions by service year										
Service year	Network claims					Non-network claims				
	# of claims	% of claim	# of Rx	% of Rx	Average Rx per claim	# of claims	% of claim	# of Rx	% of Rx	Average Rx per claim
2009	40,641	24%	250,790	15%	6.2	128,833	76%	1,413,456	85%	11.0
2010	47,443	29%	298,686	19%	6.3	119,013	71%	1,303,991	81%	11.0
2011	56,960	35%	350,571	23%	6.2	104,677	65%	1,197,925	77%	11.4
2012	58,920	38%	356,243	26%	6.0	95,952	62%	1,039,320	74%	10.8
2013	62,062	43%	367,617	29%	5.9	83,930	57%	883,598	71%	10.5
2014	62,432	45%	378,756	33%	6.1	76,214	55%	765,225	67%	10.0
2015	57,331	45%	326,812	33%	5.7	70,018	55%	659,219	67%	9.4
2016	58,313	48%	313,723	35%	5.4	63,785	52%	595,387	65%	9.3
2017	57,289	49%	289,534	37%	5.1	58,864	51%	494,504	63%	8.4
2018	54,465	49%	268,656	38%	4.9	57,441	51%	443,985	62%	7.7
2019	51,521	49%	246,368	38%	4.8	53,524	51%	393,789	62%	7.4
2020	37,587	47%	196,228	37%	5.2	41,929	53%	331,919	63%	7.9

Note: Network data for injury year 2021 and 2022 is not available yet and therefore not included in the table.

Source: Workers' Compensation Research and Evaluation Group, 2023.

## N status drug and other drug claims and prescriptions

Overall, claims with N status drug prescriptions have drastically reduced since injury year 2012. Claims with at least one N status drug decreased 93%, from 22,124 claims in injury year 2009 to 1,639 in 2022 (Table 7). Also, N status drug prescriptions declined by 98%, from 108,527 injury year 2009 to 2,492 in 2022.

Table 7: N status drug claims by injury year						
Injury year	N status drug claims			Other drug claims		
	# of claims	% of claim	Number of Rx	# of claims	% of claim	Number of Rx
2009	22,124	21%	108,527	83,644	79%	913,215
2010	21,599	20%	91,101	87,361	80%	909,977
2011	16,321	15%	53,521	92,048	85%	875,752
2012	5,535	5%	15,891	98,965	95%	801,340
2013	3,656	4%	11,894	95,479	96%	767,417
2014	3,009	3%	9,103	92,735	97%	713,249
2015	2,574	3%	7,476	85,319	97%	606,928
2016	2,320	3%	6,447	83,137	97%	527,926
2017	1,911	2%	5,131	80,932	98%	460,080
2018	1,973	2%	5,467	80,057	98%	415,425
2019	2,490	3%	5,773	74,358	97%	377,974
2020	1,985	4%	4,099	51,874	96%	248,387
2021	2,093	4%	3,925	51,587	96%	216,590
2022	1,639	3%	2,492	48,716	97%	152,146

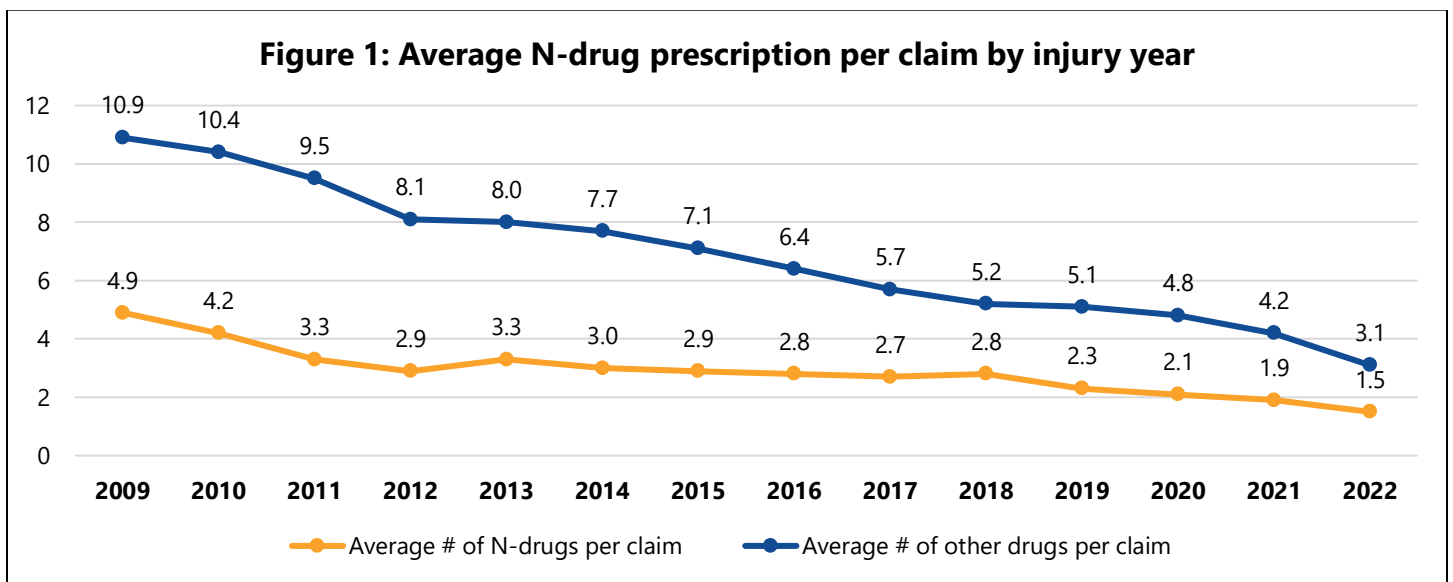
Source: Workers' Compensation Research and Evaluation Group, 2023.

Claims with at least one N status drug decreased 85%, from 53,327 in service year 2009 to 8,253 in 2022 (Table 8). Also, N status drug prescriptions reduced by 97%, from 287,935 in service year 2009 to 9,072 in 2022.

Table 8: N status drug claims by service year						
Service year	N status drug claims			Other drug claims		
	# of claims	% of claim	Number of Rx	# of claims	% of claim	Number of Rx
2009	53,327	31%	287,935	116,147	69%	1,376,311
2010	55,553	33%	273,028	110,903	67%	1,329,649
2011	49,638	31%	236,942	111,999	69%	1,311,554
2012	34,317	22%	154,353	120,555	78%	1,241,210
2013	26,241	18%	80,127	119,751	82%	1,171,088
2014	20,933	15%	26,852	117,713	85%	1,117,129
2015	17,598	14%	21,048	109,751	86%	964,983
2016	15,424	13%	17,454	106,674	87%	891,656
2017	13,197	11%	14,019	102,956	89%	770,019
2018	11,882	11%	11,873	100,024	89%	700,768
2019	11,624	11%	12,245	93,421	89%	627,912
2020	10,274	13%	10,741	69,242	87%	517,406
2021	9,472	13%	10,025	65,611	87%	471,309
2022	8,253	11%	9,072	64,447	89%	433,046

Source: Workers' Compensation Research and Evaluation Group, 2023.

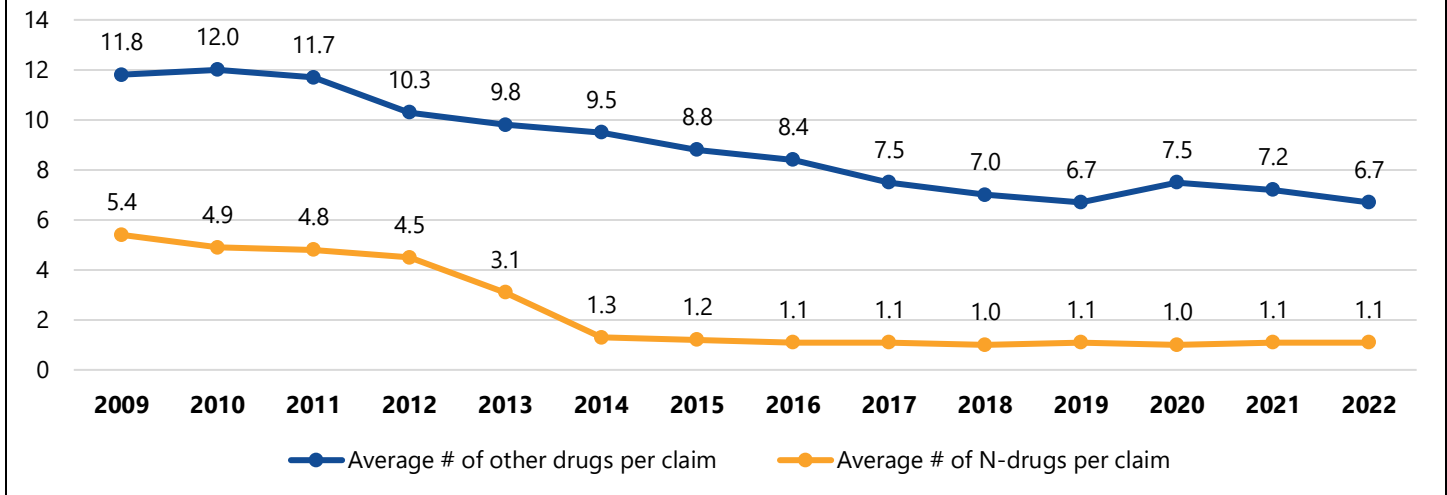
The average number of N status drug prescriptions per claim decreased 69%, from 4.9 in injury year 2009 to 1.5 in 2022 (Figure 1). Following this trend, the average number of other drug prescriptions per claim also reduced by 72%, from 10.9 in injury year 2009 to 3.1 in 2022.



Source: Workers' Compensation Research and Evaluation Group, 2023.

The average number of N status drug prescriptions per claim declined 80%, from 5.4 in service year 2009 to 1.1 in 2022 (Figure 2). Following this trend, the average number of other drug prescriptions per claim also reduced by 43%, from 11.8 in service year 2009 to 6.7 in 2022.

**Figure 2: Average N-drug prescription per claim by service year**



Source: Workers' Compensation Research and Evaluation Group, 2023.

While the number of N status drug prescriptions decreased over the injury years, the percentage of analgesics anti-inflammatory increased (16% in 2009 to 83% in 2022) and the percentages of the other four drug groups – analgesics-opioids, central nervous system drugs, musculoskeletal therapy agents, and others – decreased (Table 9).

**Table 9: N status drug prescriptions by drug group by injury year**

Injury year	Analgesics anti-inflammatory		Analgesics-opioids		Central nervous system drugs		Musculoskeletal therapy agents		Others	
	Number	%	Number	%	Number	%	Number	%	Number	%
2009	17,132	16%	14,441	13%	30,664	28%	27,339	25%	18,951	17%
2010	17,110	19%	12,198	13%	24,982	27%	20,549	23%	16,262	18%
2011	12,013	22%	8,429	16%	15,496	29%	9,208	17%	8,375	16%
2012	2,219	14%	3,748	24%	6,192	39%	1,332	8%	2,400	15%
2013	1,226	10%	3,112	26%	5,403	45%	615	5%	1,538	13%
2014	878	10%	2,122	23%	4,501	49%	393	4%	1,209	13%
2015	871	12%	1,710	23%	3,563	48%	390	5%	942	13%
2016	986	15%	1,382	21%	3,012	47%	318	5%	749	12%
2017	1,272	25%	810	16%	2,383	46%	214	4%	452	9%
2018	2,039	37%	755	14%	2,229	41%	110	2%	334	6%
2019	2,764	48%	558	10%	2,118	37%	103	2%	230	4%
2020	2,576	63%	403	10%	912	22%	44	1%	164	4%
2021	3,009	77%	252	6%	556	14%	40	1%	68	2%
2022	2,075	83%	119	5%	233	9%	29	1%	36	1%

Source: Workers' Compensation Research and Evaluation Group, 2023.

While the number of N status drug prescriptions decreased over the service years, the percentage of analgesics anti-inflammatory and analgesics-opioids increased, from 7% to 39% from 2009-2022 and 17% to 22% during the same period, respectively. However, the percentage of musculoskeletal therapy agents and others also decreased (Table 10).

**Table 10: N status drug prescriptions by drug group by service year**

Service year	Analgesics anti-inflammatory		Analgesics-opioids		Central nervous system drugs		Musculoskeletal therapy agents		Others	
	Number	%	Number	%	Number	%	Number	%	Number	%
2009	21,223	7%	48,442	17%	108,580	38%	65,732	23%	43,958	15%
2010	23,386	9%	48,056	18%	99,042	36%	57,398	21%	45,146	17%
2011	21,944	9%	44,552	19%	85,818	36%	43,785	18%	40,843	17%
2012	9,751	6%	31,952	21%	60,635	39%	23,791	15%	28,224	18%
2013	3,695	5%	20,162	25%	33,347	42%	9,479	12%	13,444	17%
2014	1,066	4%	9,007	34%	12,197	45%	1,475	5%	3,107	12%
2015	933	4%	7,029	33%	10,155	48%	1,028	5%	1,903	9%
2016	902	5%	5,455	31%	8,728	50%	836	5%	1,533	9%
2017	744	5%	4,797	34%	6,898	49%	493	4%	1,087	8%
2018	1,578	13%	3,379	28%	5,807	49%	359	3%	750	6%
2019	2,842	23%	3,182	26%	5,371	44%	234	2%	616	5%
2020	3,437	32%	2,539	24%	4,177	39%	137	1%	451	4%
2021	3,830	38%	2,142	21%	3,592	36%	134	1%	327	3%
2022	3,522	39%	1,958	22%	3,241	36%	123	1%	228	3%

Source: Workers' Compensation Research and Evaluation Group, 2023.

## Schedule-II drug and other drug claims and prescriptions

Schedule-II drugs are those with a high abuse risk due to their properties in causing severe psychological or physical dependence, but also have safe and accepted medical uses. Overall, claims with Schedule-II drug prescriptions have reduced since injury year 2012. Claims with at least one Schedule-II drug decreased 91%, from 41,075 in injury year 2009 to 3,492 in 2022 (Table 11). Also, the number of Schedule-II drug prescriptions declined by 98%, from 239,673 in 2009 to 5,850 in 2022.

**Table 11: Schedule-II drug claims by injury year**

Injury year	Schedule-II drug claims			Other drug claims		
	# of claims	% of claim	Number of Rx	# of claims	% of claim	Number of Rx
2009	41,075	39%	239,673	64,693	61%	782,069
2010	42,611	39%	231,440	66,349	61%	769,638
2011	44,822	41%	214,032	63,547	59%	715,241
2012	40,192	38%	172,765	64,308	62%	644,466
2013	35,916	36%	146,459	63,219	64%	632,852
2014	27,981	29%	100,511	67,763	71%	621,841
2015	13,257	15%	57,260	74,636	85%	557,144
2016	11,598	14%	43,605	73,859	86%	490,768
2017	10,331	12%	32,705	72,512	88%	432,506
2018	9,405	11%	26,257	72,625	89%	394,635
2019	7,949	10%	20,280	68,899	90%	363,467
2020	5,396	10%	13,347	48,463	90%	239,139
2021	4,734	9%	10,103	48,946	91%	210,412
2022	3,492	7%	5,850	46,863	93%	148,788

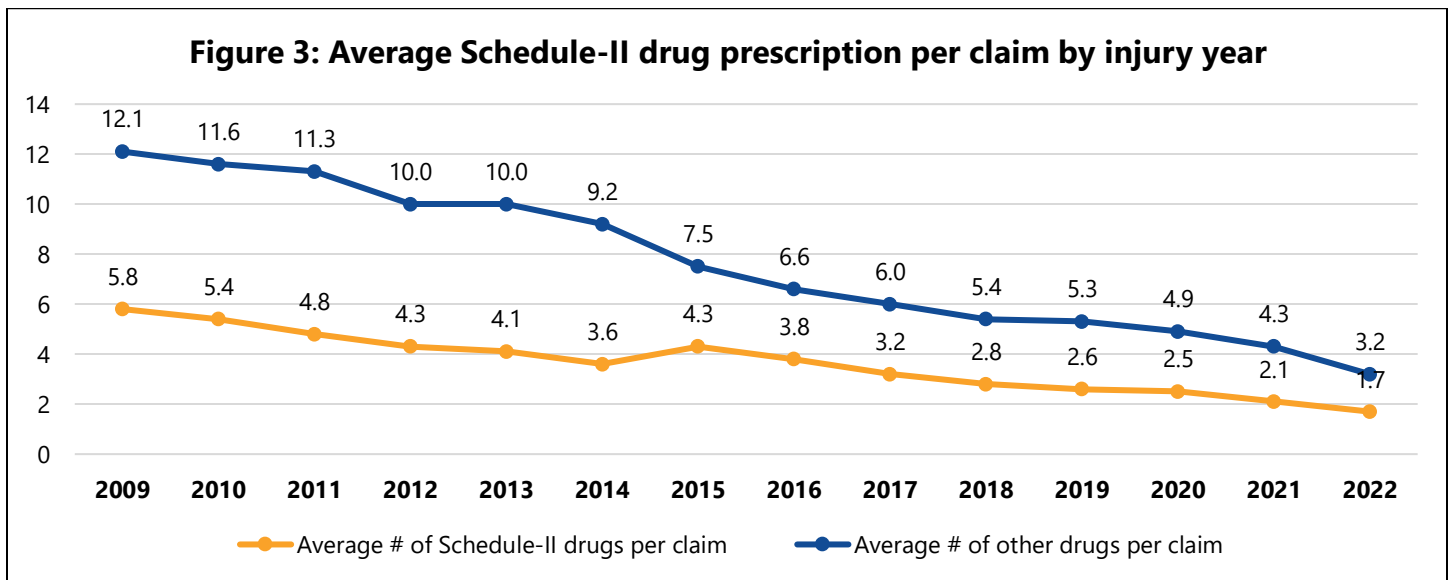
Source: Workers' Compensation Research and Evaluation Group, 2023.

Overall, the number of claims with at least one Schedule-II drug decreased 81%, from 80,637 in service year 2009 to 15,128 in 2022 (Table 12). Also, the number of Schedule-II drug prescriptions reduced by 88%, from 402,569 in service year 2009 to 46,475 in 2022.

Service year	Schedule-II drug claims			Other drug claims		
	# of claims	% of claim	Number of Rx	# of claims	% of claim	Number of Rx
2009	80,637	48%	402,569	88,837	52%	1,261,677
2010	84,615	51%	393,755	81,841	49%	1,208,922
2011	86,353	53%	392,591	75,284	47%	1,155,905
2012	80,130	52%	337,048	74,742	48%	1,058,515
2013	73,088	50%	289,715	72,904	50%	961,500
2014	62,587	45%	244,312	76,059	55%	899,669
2015	41,910	33%	149,932	85,439	67%	836,099
2016	36,156	30%	126,449	85,942	70%	782,661
2017	31,932	27%	109,223	84,221	73%	674,815
2018	28,305	25%	92,133	83,601	75%	620,508
2019	24,675	23%	75,224	80,370	77%	564,933
2020	20,007	25%	61,930	59,509	75%	466,217
2021	17,201	23%	53,100	57,882	77%	428,234
2022	15,128	21%	46,475	57,572	79%	395,643

Source: Workers' Compensation Research and Evaluation Group, 2023.

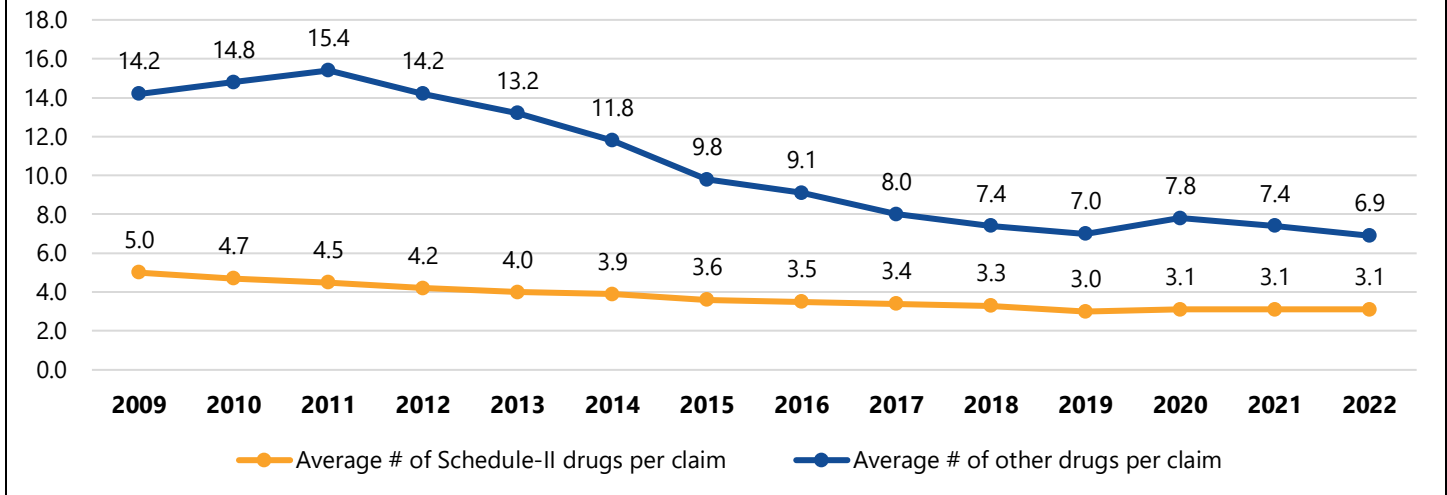
The average number of Schedule-II drug prescriptions per claim decreased 71%, from 5.8 in injury year 2009 to 1.7 in 2022 (Figure 3).



Source: Workers' Compensation Research and Evaluation Group, 2023.

The average number of Schedule-II drug prescriptions per claim declined by 38%, from 5.0 in service year 2009 to 3.1 in 2022 (Figure 4).

**Figure 4: Average Schedule-II drug prescription per claim by service year**



Source: Workers' Compensation Research and Evaluation Group, 2023.

### Claims and prescriptions by drug group

Following the overall trend of claim reduction each injury year, prescriptions from all drug groups decreased from 2009 to 2022 (Table 13). For instance, claims with at least one analgesics-opioid decreased 86%, from 58,946 claims in injury year 2009 to 8,249 in 2022, and claims with at least one central nervous system drug declined by 75%, from 10,492 to 2,743 claims during the same period. In line with the claim numbers, percentages of claims with analgesics-opioids and central nervous system drug prescriptions also decreased significantly over the years, from 56% to 16% from 2009 to 2022 and 10% to 5% during the same period, respectively.

**Table 13: Claims by drug group by injury year**

Injury year	Analgesics anti-inflammatory		Analgesics-opioids		Central nervous system drugs		Musculoskeletal therapy agents		Others	
	Number	%	Number	%	Number	%	Number	%	Number	%
2009	65,441	62%	58,946	56%	10,942	10%	36,464	34%	48,425	46%
2010	67,872	62%	60,223	55%	10,762	10%	38,464	35%	49,603	46%
2011	67,172	62%	61,217	56%	10,154	9%	37,623	35%	49,046	45%
2012	64,208	61%	58,010	56%	8,710	8%	35,582	34%	48,475	46%
2013	61,846	62%	54,185	55%	8,568	9%	33,641	34%	46,442	47%
2014	60,686	63%	51,045	53%	8,452	9%	33,961	35%	42,760	45%
2015	54,785	62%	42,680	49%	7,515	9%	31,843	36%	39,401	45%
2016	54,193	63%	39,406	46%	7,147	8%	31,102	36%	37,584	44%
2017	53,354	64%	34,476	42%	6,464	8%	30,053	36%	35,234	43%
2018	53,305	65%	29,891	36%	6,562	8%	30,466	37%	36,580	45%
2019	49,771	65%	24,011	31%	6,277	8%	28,733	37%	36,413	47%
2020	34,085	63%	14,463	27%	4,471	8%	20,278	38%	26,765	50%
2021	33,647	63%	11,235	21%	4,009	7%	19,501	36%	27,869	52%
2022	30,521	61%	8,249	16%	2,743	5%	15,036	30%	28,520	57%

Source: Workers' Compensation Research and Evaluation Group, 2023.

Following the overall trend of claim reduction by service year, prescriptions from all drug groups decreased over the study period (Table 14). For instance, claims with at least one analgesics-opioid reduced by 82%, from

104,165 claims in service year 2009 to 18,549 in 2022, and claims with at least one central nervous system drug decreased 70%, from 34,482 to 10,456 claims during the same period. In line with the claim numbers, percentages of claims with analgesics-opioids and central nervous system drug prescriptions also decreased significantly from service years 2009 to 2022, from 61% to 26% and 20% to 14%, respectively.

<b>Table 14: Claims by drug group by service year</b>										
<b>Service year</b>	<b>Analgesics anti-inflammatory</b>		<b>Analgesics-opioids</b>		<b>Central nervous system drugs</b>		<b>Musculoskeletal therapy agents</b>		<b>Others</b>	
	<b>Number</b>	<b>%</b>	<b>Number</b>	<b>%</b>	<b>Number</b>	<b>%</b>	<b>Number</b>	<b>%</b>	<b>Number</b>	<b>%</b>
2009	94,235	56%	104,165	61%	34,482	20%	60,251	36%	73,091	43%
2010	93,242	56%	101,500	61%	32,407	19%	59,996	36%	70,939	43%
2011	90,905	56%	99,265	61%	30,212	19%	56,816	35%	68,456	42%
2012	87,112	56%	93,679	60%	27,272	18%	53,069	34%	67,778	44%
2013	82,932	57%	86,566	59%	25,292	17%	49,458	34%	66,216	45%
2014	80,604	58%	80,537	58%	23,301	17%	48,649	35%	56,574	41%
2015	72,700	57%	68,513	54%	21,215	17%	45,793	36%	51,916	41%
2016	71,146	58%	63,168	52%	19,994	16%	44,148	36%	49,619	41%
2017	68,794	59%	55,621	48%	18,626	16%	41,711	36%	43,955	38%
2018	67,216	60%	48,011	43%	17,417	16%	40,743	36%	44,462	40%
2019	62,890	60%	39,455	38%	16,572	16%	38,581	37%	46,243	44%
2020	45,890	58%	27,578	35%	13,010	16%	29,444	37%	38,134	48%
2021	43,048	57%	21,420	29%	11,676	16%	27,295	36%	38,395	51%
2022	40,636	56%	18,549	26%	10,456	14%	22,058	30%	42,260	58%

Source: Workers' Compensation Research and Evaluation Group, 2023.

The number of prescriptions for analgesics-opioids decreased 96%, from 343,919 in injury year 2009 to 15,010 in 2022. Similarly, the number of prescriptions for central nervous system drugs declined 95%, from 134,333 in 2009 to 6,578 in 2022 (Table 15). In line with the prescription numbers, percentages of analgesics-opioids and central nervous system drugs also decreased significantly from injury years 2009 to 2022, from 34% to 10% and 13% to 4%, respectively.

<b>Table 15: Prescriptions by drug group by injury year</b>										
<b>Injury year</b>	<b>Analgesics anti-inflammatory</b>		<b>Analgesics-opioids</b>		<b>Central nervous system drugs</b>		<b>Musculoskeletal therapy agents</b>		<b>Others</b>	
	<b>Number</b>	<b>%</b>	<b>Number</b>	<b>%</b>	<b>Number</b>	<b>%</b>	<b>Number</b>	<b>%</b>	<b>Number</b>	<b>%</b>
2009	200,602	20%	343,919	34%	134,333	13%	140,248	14%	202,640	20%
2010	206,201	21%	328,225	33%	125,744	13%	138,074	14%	202,834	20%
2011	195,823	21%	303,472	33%	109,999	12%	126,524	14%	193,455	21%
2012	176,848	22%	259,362	32%	91,139	11%	111,172	14%	178,710	22%
2013	170,920	22%	237,146	30%	86,327	11%	108,318	14%	176,600	23%
2014	161,669	22%	201,067	28%	77,651	11%	104,009	14%	177,956	25%
2015	143,613	23%	162,979	27%	66,455	11%	93,082	15%	148,275	24%
2016	134,492	25%	134,342	25%	59,449	11%	83,354	16%	122,736	23%
2017	129,477	28%	108,145	23%	49,197	11%	76,951	17%	101,441	22%
2018	120,815	29%	87,997	21%	43,750	10%	73,006	17%	95,324	23%
2019	112,076	29%	67,349	18%	37,785	10%	65,752	17%	100,785	26%
2020	74,232	29%	38,457	15%	23,963	9%	44,157	17%	71,677	28%
2021	70,105	32%	26,422	12%	15,880	7%	39,104	18%	69,004	31%
2022	52,178	34%	15,010	10%	6,578	4%	24,710	16%	56,162	36%

Source: Workers' Compensation Research and Evaluation Group, 2023.



The number of prescriptions for analgesics-opioids reduced by 86%, from 554,689 in service year 2009 to 77,781 in 2022, and prescriptions of central nervous system drugs decreased 80%, from 306,643 to 63,233 during the same period (Table 16). In line with the prescription numbers, percentages of analgesics-opioids also decreased significantly over the years, from 33% in service year 2009 to 18% in 2022.

Service year	Analgesics anti-inflammatory		Analgesics-opioids		Central nervous system drugs		Musculoskeletal therapy agents		Others	
	Number	%	Number	%	Number	%	Number	%	Number	%
2009	257,427	15%	554,689	33%	306,643	18%	225,228	14%	320,259	19%
2010	254,791	16%	534,447	33%	291,888	18%	217,421	14%	304,130	19%
2011	251,145	16%	510,896	33%	276,060	18%	202,091	13%	308,304	20%
2012	232,369	17%	448,603	32%	235,182	17%	174,324	12%	305,085	22%
2013	216,194	17%	395,547	32%	201,168	16%	156,795	13%	281,511	22%
2014	212,606	19%	361,283	32%	175,434	15%	152,960	13%	241,698	21%
2015	182,399	18%	288,520	29%	155,000	16%	137,014	14%	223,098	23%
2016	171,562	19%	254,774	28%	145,214	16%	127,541	14%	210,019	23%
2017	166,534	21%	220,705	28%	134,939	17%	117,783	15%	144,077	18%
2018	155,342	22%	183,746	26%	123,644	17%	109,355	15%	140,554	20%
2019	143,465	22%	152,299	24%	108,372	17%	101,004	16%	135,017	21%
2020	110,060	21%	115,711	22%	84,334	16%	82,036	16%	136,006	26%
2021	102,036	21%	92,821	19%	74,947	16%	70,917	15%	140,613	29%
2022	90,665	21%	77,781	18%	63,233	14%	53,585	12%	156,854	35%

Source: Workers' Compensation Research and Evaluation Group, 2023.

## Opioid prescriptions

The number of opioid prescriptions has decreased over the study years, with the annual reduction increasing after introducing the formulary (Table 17). The percentages of N status drugs and branded drugs among opioid prescriptions were much lower than those of other drugs and generic drugs, respectively.

Injury year	Drug status		Brand status		Network status		Total	
	N status drugs	Other drugs	Branded drugs	Generic drugs	Network	Non-network	# of Rx	Annual change
2009	14,441	329,478	15,083	328,836	109,185	234,734	343,919	
2010	12,198	316,027	10,655	317,570	115,745	212,480	328,225	-5%
2011	8,429	295,043	6,356	297,116	129,937	173,535	303,472	-8%
2012	3,748	255,614	2,705	256,657	112,992	146,370	259,362	-15%
2013	3,112	234,034	2,794	234,352	117,917	119,229	237,146	-9%
2014	2,122	198,945	2,307	198,760	98,846	102,221	201,067	-15%
2015	1,710	161,269	1,529	161,450	79,505	83,474	162,979	-19%
2016	1,382	132,960	720	133,622	67,806	66,536	134,342	-18%
2017	810	107,335	408	107,737	57,046	51,099	108,145	-20%
2018	755	87,242	293	87,704	44,012	43,985	87,997	-19%
2019	558	66,791	131	67,218	33,193	34,156	67,349	-23%
2020	403	38,054	100	38,357	19,441	19,016	38,457	-43%
2021	252	26,170	45	26,377			26,422	-31%
2022	119	14,891	14	14,996			15,010	-43%

Note: Network data for injury year 2021 and 2022 is not available yet and therefore not included in the table.

Source: Workers' Compensation Research and Evaluation Group, 2023.

The number of opioid prescriptions declined 86% over service years 2009 to 2022, with the annual reduction rate increasing after introducing the formulary (Table 18). The percentages of N status drugs and branded drugs among opioid prescriptions were much lower than those of other drugs and generic drugs, respectively. The percentage of opioid prescription in network is also lower than that of opioid prescription in non-network throughout the study period.

Service year	Drug status		Brand status		Network status		Total	
	N status drugs	Other drugs	Branded drugs	Generic drugs	Network	Non-network	# of Rx	Annual change
2009	48,442	506,247	58,302	496,387	88,110	466,579	554,689	
2010	48,056	486,391	48,766	485,681	104,436	430,011	534,447	-4%
2011	44,552	466,344	42,499	468,397	124,069	386,827	510,896	-4%
2012	31,952	416,651	30,028	418,575	123,096	325,507	448,603	-12%
2013	20,162	375,385	19,236	376,311	120,017	275,530	395,547	-12%
2014	9,007	352,276	10,572	350,711	120,443	240,840	361,283	-9%
2015	7,029	281,491	9,004	279,516	96,463	192,057	288,520	-20%
2016	5,455	249,319	5,626	249,148	88,749	166,025	254,774	-12%
2017	4,797	215,908	4,240	216,465	79,872	140,833	220,705	-13%
2018	3,379	180,367	3,241	180,505	65,026	118,720	183,746	-17%
2019	3,182	149,117	2,257	150,042	53,124	99,175	152,299	-17%
2020	2,539	113,172	1,585	114,126	37,877	77,834	115,711	-24%
2021	2,142	90,679	1,010	91,811			92,821	-20%
2022	1,958	75,823	900	76,881			77,781	-16%

Note: Network data for injury year 2021 and 2022 is not available yet and therefore not included in the table.

Source: Workers' Compensation Research and Evaluation Group, 2023.

## Generic and branded drug prescriptions

The percentage of generic drug prescriptions was consistently higher than that of branded drugs (Table 19). Despite the reduction of generic drug prescriptions over injury years 2009 to 2022, the percentage of such prescriptions increased 15%, from 82% in 2009 to 97% in 2022. On the other hand, both the number and percentage of prescriptions for branded drugs decreased throughout the study period.

**Table 19: Generic and branded drug prescriptions by injury year**

Injury year	Generic prescriptions		Branded prescriptions	
	Number	%	Number	%
2009	811,991	82%	182,098	18%
2010	827,523	85%	146,486	15%
2011	795,896	88%	107,691	12%
2012	715,656	90%	76,160	10%
2013	691,342	91%	65,985	9%
2014	637,180	90%	67,421	10%
2015	543,656	91%	54,910	9%
2016	477,834	92%	43,064	8%
2017	419,316	92%	35,114	8%
2018	381,438	94%	25,674	6%
2019	346,135	95%	17,891	5%
2020	222,534	96%	9,026	4%
2021	187,880	97%	6,428	3%
2022	124,315	97%	3,581	3%

Note: Brand status of some of the prescriptions was not reported and therefore has not been included in this table.

Source: Workers' Compensation Research and Evaluation Group, 2023.

Following the injury year trend, the number of generic and branded drug prescriptions by service year also decreased (Table 20). In addition, the percentage of generic drugs increased by 21%, from 74% in service year 2009 to 95% in 2022, while the percentage of branded drugs decreased by the same amount, from 26% to 5% during the same period.

**Table 20: Generic and branded drug prescriptions by service year**

Service year	Generic prescriptions		Branded prescriptions	
	Number	%	Number	%
2009	1,191,574	74%	421,109	26%
2010	1,187,446	76%	369,168	24%
2011	1,191,240	80%	305,226	20%
2012	1,106,107	83%	231,268	17%
2013	1,013,484	85%	182,195	15%
2014	984,715	87%	141,441	13%
2015	858,142	89%	107,782	11%
2016	786,286	88%	104,220	12%
2017	695,036	90%	81,485	10%
2018	636,645	90%	68,112	10%
2019	574,099	92%	47,406	8%
2020	459,416	95%	24,998	5%
2021	400,925	95%	19,794	5%
2022	337,544	95%	16,093	5%

Note: Brand status of some of the prescriptions was not reported and therefore has not been included in this table.

Source: Workers' Compensation Research and Evaluation Group, 2023.

## Prescription dispense duration after injury date

The percentage of prescriptions dispensed within six months of injury has consistently increased (Table 21). After introducing the formulary, 50% or more of prescriptions were dispensed within six months of injury.

Table 21: Prescription dispense duration by injury year					
Injury year	# of Rx	Rx dispensed w/in 6 months of injury	Rx dispensed between 6 months and 1 year of injury	Rx dispensed between 1 year and 2 years of injury	Rx dispensed after 2 years of injury
2009	1,021,742	42%	13%	16%	29%
2010	1,001,078	45%	13%	16%	27%
2011	929,273	47%	13%	15%	25%
2012	817,231	50%	13%	15%	22%
2013	779,311	50%	13%	15%	22%
2014	722,352	52%	13%	15%	19%
2015	614,404	53%	14%	15%	18%
2016	534,373	56%	14%	14%	16%
2017	465,211	59%	13%	14%	14%
2018	420,892	61%	13%	14%	12%
2019	383,747	63%	13%	14%	10%
2020	252,486	65%	15%	16%	4%
2021	220,515	75%	16%		
2022	154,638	94%			

Note: Data for injury year 2021 and 2022 is not available yet for some categories and therefore not included in the table.

Source: Workers' Compensation Research and Evaluation Group, 2023.

## Pharmacy service costs

### Overall prescription costs

Overall, prescription costs decreased 90%, from about \$83.4 million in injury year 2009 to about \$8.3 million in 2022 (Table 22). The prescription costs for each injury year continued to decline throughout the study period. Similarly, the average cost per claim decreased 79%, from \$815 in injury year 2009 to \$170 in 2022. Following a similar trend, the average prescription cost decreased 36%, from \$91 in injury year 2009 to \$58 in 2022. These reduction trends in average cost were mostly prevalent over the study years, though there were some fluctuations and increases in between.

**Table 22: Overall prescription cost by injury year**

Injury year	Total amount (thousand)	Average cost per Rx	Average cost per claim
2009	\$83,409	\$91	\$815
2010	\$79,654	\$87	\$753
2011	\$71,123	\$84	\$675
2012	\$62,250	\$84	\$612
2013	\$59,346	\$85	\$616
2014	\$57,106	\$91	\$619
2015	\$50,228	\$96	\$592
2016	\$41,507	\$89	\$501
2017	\$32,399	\$79	\$404
2018	\$31,112	\$82	\$394
2019	\$26,697	\$77	\$361
2020	\$17,493	\$76	\$335
2021	\$14,304	\$72	\$277
2022	\$8,283	\$58	\$170

Source: Workers' Compensation Research and Evaluation Group, 2023.

Overall, prescription costs declined 73%, from about \$163.7 million in service year 2009 and continued to decrease throughout the study period to about \$44.1 million in 2022 (Table 23). Similarly, the average cost per claim decreased by 39%, from \$1,022 in service year 2009 to \$626 in service year 2022. However, the average prescription cost fluctuated (including a 9% increase in 2015 and a 5% increase in 2016) but eventually remained almost the same in service years 2009 and 2022.

**Table 23: Overall prescription cost by service year**

Service year	Total amount (thousand)	Average cost per Rx	Average cost per claim
2009	\$163,703	\$109	\$1,022
2010	\$160,730	\$109	\$1,002
2011	\$154,350	\$108	\$984
2012	\$140,644	\$109	\$934
2013	\$127,082	\$111	\$898
2014	\$112,211	\$110	\$843
2015	\$105,171	\$120	\$856
2016	\$99,966	\$126	\$847
2017	\$78,527	\$112	\$698
2018	\$71,728	\$112	\$663
2019	\$64,437	\$110	\$637
2020	\$53,890	\$110	\$698
2021	\$48,169	\$109	\$664
2022	\$44,094	\$108	\$626

Source: Workers' Compensation Research and Evaluation Group, 2023.

## Prescription cost for medical-only and lost-time claims

As expected, lost-time claims consistently made up a larger percentage of total prescription costs than medical-only claims (Table 24). Both medical-only and lost-time claims show a reduction in total cost (except in a few instances for medical-only claims) from injury years 2009 to 2022. The average cost per claim for lost-time claims declined 88%, from \$1,822 for claims in injury year 2009 to \$227 in 2022. Following the same trend, the average cost per claim for medical-only claims decreased 34%, from \$198 for claims in injury year 2009 to \$130 in 2022. Average cost per prescription fluctuated during the study years (including an increase of 6% in 2014 and 5% in 2015), but ultimately reduced from injury year 2009 to 2022.

**Table 24: Prescription cost for medical-only claims and lost-time claims by injury year**

Injury year	Medical-only claims				Lost-time claims			
	Total amount (thousand)	% of total amount	Average cost per Rx	Average cost per claim	Total amount (thousand)	% of total amount	Average cost per Rx	Average cost per claim
2009	\$12,573	15%	\$63	\$198	\$70,835	85%	\$98	\$1,822
2010	\$12,381	16%	\$61	\$193	\$67,273	84%	\$95	\$1,618
2011	\$11,063	16%	\$56	\$172	\$60,059	84%	\$93	\$1,458
2012	\$9,262	15%	\$52	\$148	\$52,989	85%	\$94	\$1,351
2013	\$9,149	15%	\$54	\$156	\$50,197	85%	\$95	\$1,340
2014	\$9,137	16%	\$59	\$165	\$47,970	84%	\$101	\$1,304
2015	\$8,184	16%	\$63	\$160	\$42,044	84%	\$106	\$1,246
2016	\$8,234	20%	\$66	\$164	\$33,272	80%	\$97	\$1,021
2017	\$7,054	22%	\$61	\$144	\$25,345	78%	\$87	\$807
2018	\$6,574	21%	\$60	\$139	\$24,538	79%	\$91	\$775
2019	\$6,668	25%	\$65	\$151	\$20,029	75%	\$82	\$675
2020	\$4,538	26%	\$69	\$155	\$12,954	74%	\$78	\$564
2021	\$4,424	31%	\$67	\$154	\$9,881	69%	\$75	\$431
2022	\$3,728	45%	\$60	\$130	\$4,555	55%	\$57	\$227

Source: Workers' Compensation Research and Evaluation Group, 2023.

Both medical-only and lost-time claims show a reduction in cost annually from service years 2009 to 2022 (Table 25). The average cost per claim for lost-time claims decreased by 38%, from \$1,573 in service year 2009 to \$975 in 2022, and the average cost per claim for medical-only claims decreased by 50%, from \$394 in service year 2009 to \$197 in 2022. However, the average cost per prescription fluctuated during the study years, but ultimately reduced from service year 2009 to 2022 for medical-only claims but not for lost-time claims.

**Table 25: Prescription cost for medical-only claims and lost-time claims by service year**

Service year	Medical-only claims				Lost-time claims			
	Total amount (thousand)	% of total amount	Average cost per Rx	Average cost per claim	Total amount (thousand)	% of total amount	Average cost per Rx	Average cost per claim
2009	\$29,433	18%	\$92	\$394	\$134,270	82%	\$114	\$1,573
2010	\$25,180	16%	\$87	\$341	\$135,550	84%	\$115	\$1,565
2011	\$23,260	15%	\$84	\$324	\$131,090	85%	\$113	\$1,542
2012	\$19,784	14%	\$80	\$283	\$120,860	86%	\$115	\$1,499
2013	\$18,412	14%	\$82	\$282	\$108,670	86%	\$118	\$1,428
2014	\$14,926	13%	\$78	\$246	\$97,285	87%	\$118	\$1,343
2015	\$13,400	13%	\$84	\$240	\$91,771	87%	\$128	\$1,366
2016	\$12,610	13%	\$85	\$232	\$87,356	87%	\$135	\$1,371
2017	\$10,574	13%	\$77	\$201	\$67,953	87%	\$121	\$1,134
2018	\$9,554	13%	\$75	\$188	\$62,173	87%	\$121	\$1,084
2019	\$8,966	14%	\$77	\$189	\$55,471	86%	\$118	\$1,030
2020	\$6,886	13%	\$85	\$213	\$47,003	87%	\$115	\$1,047
2021	\$6,323	13%	\$81	\$205	\$41,846	87%	\$115	\$1,004
2022	\$6,222	14%	\$78	\$197	\$37,872	86%	\$115	\$975

Source: Workers' Compensation Research and Evaluation Group, 2023.

### Prescription cost for network and non-network claims

The formulary applies to both network and non-network claims. Networks manage claims according to their own treatment guidelines, and non-network claims follow the Official Disability Guidelines. As the percentage of network pharmacy claims increased from 31% to 52% from injury year 2009 to 2020, the percentage of total payment for those claims also increased from 26% in 2009 to 43% in 2020 (Table 26). The average cost per prescription and the average cost per claim remained lower for network claims than non-network claims for each injury year. Network and non-network claims showed a reduction in cost after the introduction of the formulary (except in 2013 for network claims) each injury year. The average cost per claim for network claims also decreased by 59%, from \$676 in injury year 2009 to \$275 in 2020. Similarly, non-network claims costs decreased by 55%, from \$879 in injury year 2009 to \$399 in 2020. Following the trend, the average cost per prescription also reduced for claims in injury year 2009 to 2020, though there were some fluctuations and increases in between.

**Table 26: Prescription cost for network and non-network claims by injury year**

Injury year	Network claims					Non-network claims				
	Total amount (thousand)	% of total amount	% of network claim	Average cost per prescription	Average cost per claim	Total amount (thousand)	% of total amount	% of non-network claim	Average cost per prescription	Average cost per claim
2009	\$21,771	26%	31%	\$78	\$676	\$61,637	74%	69%	\$96	\$879
2010	\$24,183	30%	36%	\$78	\$643	\$55,471	70%	64%	\$92	\$813
2011	\$25,576	36%	43%	\$73	\$562	\$45,547	64%	57%	\$92	\$762
2012	\$22,146	36%	45%	\$71	\$489	\$40,105	64%	55%	\$94	\$711
2013	\$24,223	41%	51%	\$72	\$492	\$35,123	59%	49%	\$98	\$746
2014	\$22,992	40%	52%	\$76	\$479	\$34,114	60%	48%	\$104	\$772
2015	\$19,313	38%	51%	\$77	\$445	\$30,916	62%	49%	\$113	\$746
2016	\$17,041	41%	54%	\$73	\$381	\$24,466	59%	46%	\$105	\$643
2017	\$14,381	44%	55%	\$67	\$327	\$18,018	56%	45%	\$93	\$497
2018	\$12,579	40%	53%	\$66	\$302	\$18,533	60%	47%	\$99	\$495
2019	\$10,637	40%	53%	\$62	\$270	\$16,060	60%	47%	\$93	\$464
2020	\$7,475	43%	52%	\$64	\$275	\$10,017	57%	48%	\$88	\$399

Note: Network data for injury year 2021 and 2022 is not available yet and therefore not included in the table.

Source: Workers' Compensation Research and Evaluation Group, 2023.

As the percentage of network pharmacy claims increased from 24% to 47% from service year 2009 to 2020, the percentage of total payment for those claims also increased from 10% in 2009 to 28% in 2020 (Table 27). The average cost per prescription and the average cost per claim remained lower for network claims than non-network claims for each service year.

**Table 27: Prescription cost for network and non-network claims by service year**

Service year	Network claims					Non-network claims				
	Total amount (thousand)	% of total amount	% of network claim	Average cost per prescription	Average cost per claim	Total amount (thousand)	% of total amount	% of non-network claim	Average cost per prescription	Average cost per claim
2009	\$16,301	10%	24%	\$71	\$416	\$147,402	90%	76%	\$116	\$1,219
2010	\$19,848	12%	29%	\$73	\$430	\$140,882	88%	71%	\$117	\$1,234
2011	\$22,852	15%	35%	\$70	\$411	\$131,497	85%	65%	\$119	\$1,298
2012	\$24,221	17%	38%	\$73	\$420	\$116,423	83%	62%	\$121	\$1,253
2013	\$23,973	19%	43%	\$72	\$396	\$103,108	81%	57%	\$127	\$1,274
2014	\$25,535	23%	45%	\$75	\$423	\$86,677	77%	55%	\$128	\$1,191
2015	\$24,080	23%	45%	\$83	\$431	\$81,091	77%	55%	\$139	\$1,208
2016	\$24,960	25%	48%	\$89	\$440	\$75,006	75%	52%	\$145	\$1,224
2017	\$20,573	26%	50%	\$79	\$369	\$57,955	74%	50%	\$132	\$1,021
2018	\$18,956	26%	49%	\$78	\$360	\$52,772	74%	51%	\$133	\$952
2019	\$18,244	28%	49%	\$81	\$366	\$46,193	72%	51%	\$129	\$898
2020	\$15,170	28%	47%	\$83	\$414	\$38,719	72%	53%	\$126	\$955

Note: Network data for service year 2021 and 2022 is not available yet and therefore not included in the table.

Source: Workers' Compensation Research and Evaluation Group, 2023.

## Prescription cost for N status drugs and other drugs

Overall, N status drug prescription costs decreased by 99%, from about \$14.5 million for claims in injury year 2009 to about \$105,000 in 2022 (Table 28). Also, the percentage of N status drug payments declined from 17% in 2009 to 1% in 2022. In addition, the average cost per N status drug prescription decreased by 66%, from



\$152 in injury year 2009 to \$51 in 2022. A similar trend in declining costs for total payment and average cost per prescription was observed for other drugs.

Table 28: Prescription costs for N status drugs and other drugs by injury year						
Injury year	N status drugs			Other drugs		
	Total amount (thousand)	% of total amount	Average cost per prescription	Total amount (thousand)	% of total amount	Average cost per prescription
2009	\$14,467	17%	\$152	\$68,942	83%	\$83
2010	\$11,722	15%	\$145	\$67,932	85%	\$82
2011	\$6,153	9%	\$130	\$64,969	91%	\$81
2012	\$1,540	2%	\$121	\$60,711	98%	\$84
2013	\$1,200	2%	\$126	\$58,146	98%	\$85
2014	\$905	2%	\$124	\$56,202	98%	\$90
2015	\$1,047	2%	\$178	\$49,182	98%	\$95
2016	\$692	2%	\$127	\$40,814	98%	\$89
2017	\$433	1%	\$98	\$31,965	99%	\$79
2018	\$389	1%	\$82	\$30,723	99%	\$82
2019	\$408	2%	\$84	\$26,289	98%	\$77
2020	\$224	1%	\$63	\$17,269	99%	\$76
2021	\$193	1%	\$60	\$14,112	99%	\$72
2022	\$105	1%	\$51	\$8,178	99%	\$58

Source: Workers' Compensation Research and Evaluation Group, 2023.

Like injury year data, N status drug prescription costs declined by 97%, from about \$48.7 million in service year 2009 to about \$1.2 million in 2022 (Table 29). Also, the percentage of N status drug payments decreased from 30% in service year 2009 to 3% in 2022. A similar trend in decreasing cost of total payment was observed for other drugs. Though the reduction in payment for N status drugs and other drugs started in 2010, it has been especially apparent after introducing the formulary.

Table 29: Prescription costs for N status drugs and other drugs by service year						
Service year	N status drugs			Other drugs		
	Total amount (thousand)	% of total amount	Average cost per prescription	Total amount (thousand)	% of total amount	Average cost per prescription
2009	\$48,655	30%	\$187	\$115,048	70%	\$93
2010	\$48,293	30%	\$194	\$112,437	70%	\$92
2011	\$42,975	28%	\$198	\$111,375	72%	\$92
2012	\$29,280	21%	\$205	\$111,363	79%	\$97
2013	\$16,265	13%	\$220	\$110,817	87%	\$103
2014	\$5,433	5%	\$237	\$106,778	95%	\$107
2015	\$4,423	4%	\$240	\$100,748	96%	\$118
2016	\$3,735	4%	\$245	\$96,231	96%	\$123
2017	\$3,002	4%	\$237	\$75,525	96%	\$110
2018	\$2,265	3%	\$213	\$69,463	97%	\$110
2019	\$1,897	3%	\$173	\$62,540	97%	\$109
2020	\$1,595	3%	\$162	\$52,294	97%	\$109
2021	\$1,447	3%	\$163	\$46,722	97%	\$108
2022	\$1,245	3%	\$154	\$42,849	97%	\$107

Source: Workers' Compensation Research and Evaluation Group, 2023.

## Prescription cost for Schedule-II drugs and other drugs

Overall, Schedule-II drug prescription costs decreased by 99%, from about \$11.6 million for claims in injury year 2009 to about \$130,000 for claims in 2022 (Table 30). Also, the percentage of Schedule-II drug payments decreased from 14% for claims in injury year 2009 to 2% in 2022. In addition, the average cost per Schedule-II drug prescription also decreased by 56%, from \$52 in injury year 2009 to \$23 in 2022. Other drugs followed a similar trend in decreasing costs for total payment and average cost per prescription.

Table 30: Prescription cost for Schedule-II drugs and other drugs by injury year						
Injury year	Schedule-II drugs			Other drugs		
	Total amount (thousand)	% of total amount	Average cost per prescription	Total amount (thousand)	% of total amount	Average cost per prescription
2009	\$11,577	14%	\$52	\$71,832	86%	\$103
2010	\$10,063	13%	\$46	\$69,590	87%	\$100
2011	\$8,824	12%	\$43	\$62,299	88%	\$97
2012	\$6,492	10%	\$40	\$55,758	90%	\$97
2013	\$6,065	10%	\$44	\$53,281	90%	\$95
2014	\$4,581	8%	\$48	\$52,526	92%	\$98
2015	\$3,372	7%	\$62	\$46,856	93%	\$100
2016	\$2,324	6%	\$56	\$39,182	94%	\$92
2017	\$1,521	5%	\$49	\$30,878	95%	\$82
2018	\$1,106	4%	\$44	\$30,006	96%	\$85
2019	\$720	3%	\$37	\$25,977	97%	\$80
2020	\$411	2%	\$32	\$17,081	98%	\$78
2021	\$274	2%	\$28	\$14,031	98%	\$75
2022	\$130	2%	\$23	\$8,152	98%	\$60

Source: Workers' Compensation Research and Evaluation Group, 2023.

Overall, Schedule-II drug prescription costs declined by 93%, from about \$37.9 million in service year 2009 to about \$2.8 million in 2022 (Table 31). Also, the percentage of Schedule-II drug payments decreased from 23% in service year 2009 to 6% in 2022. Other drugs followed a similar trend in the decreasing cost for total payment.

**Table 31: Prescription cost for Schedule-II drugs and other drugs by service year**

Service year	Schedule-II drugs			Other drugs		
	Total amount (thousand)	% of total amount	Average cost per prescription	Total amount (thousand)	% of total amount	Average cost per prescription
2009	\$37,882	23%	\$102	\$125,820	77%	\$111
2010	\$36,644	23%	\$99	\$124,086	77%	\$113
2011	\$34,456	22%	\$93	\$119,894	78%	\$113
2012	\$28,599	20%	\$89	\$112,044	80%	\$115
2013	\$23,174	18%	\$84	\$103,908	82%	\$119
2014	\$18,475	16%	\$81	\$93,737	84%	\$119
2015	\$16,741	16%	\$116	\$88,430	84%	\$121
2016	\$12,779	13%	\$105	\$87,188	87%	\$129
2017	\$10,288	13%	\$98	\$68,239	87%	\$115
2018	\$7,953	11%	\$89	\$63,775	89%	\$116
2019	\$5,809	9%	\$80	\$58,628	91%	\$114
2020	\$4,400	8%	\$73	\$49,489	92%	\$115
2021	\$3,469	7%	\$67	\$44,699	93%	\$115
2022	\$2,799	6%	\$62	\$41,295	94%	\$114

Source: Workers' Compensation Research and Evaluation Group, 2023.

### Prescription cost for different pharmacy drug groups

Following the overall trend in payment reduction for claims by injury year, payments made for all drug groups, including N status drugs and other drugs, decreased over time (Table 32). For instance, payments for N status drug analgesics-opioids were reduced by 99%, from about \$2.6 million in injury year 2009 to about \$12,000 in 2022. Also, payments for other drug analgesics-opioids decreased by 98%, from about \$14.6 million in injury year 2009 to about \$279,000 in 2022. In line with the total payment, the average cost per prescription for analgesics anti-inflammatory, analgesics-opioids, central nervous system drugs, and musculoskeletal therapy agents for both N status drugs and other drugs decreased significantly for claims in injury year 2009 to 2022.

**Table 32: Prescription cost by pharmacy drug group and N status drug status by injury year**

Injury year	Analgesics anti-inflammatory		Analgesics-opioids		Central nervous system drugs		Musculoskeletal therapy agents		Others	
	Total amount (thousand)	Average cost per Rx	Total amount (thousand)	Average cost per Rx	Total amount (thousand)	Average cost per Rx	Total amount (thousand)	Average cost per Rx	Total amount (thousand)	Average cost per Rx
<b>N status drugs</b>										
2009	\$2,049	\$131	\$2,644	\$200	\$2,323	\$91	\$2,974	\$121	\$4,478	\$276
2010	\$2,176	\$139	\$1,972	\$172	\$1,802	\$86	\$2,016	\$107	\$3,756	\$267
2011	\$1,210	\$112	\$1,531	\$195	\$1,102	\$84	\$653	\$78	\$1,658	\$228
2012	\$118	\$69	\$575	\$170	\$473	\$103	\$42	\$39	\$332	\$170
2013	\$39	\$47	\$602	\$211	\$354	\$86	\$29	\$63	\$177	\$138
2014	\$32	\$47	\$432	\$223	\$312	\$92	\$12	\$42	\$117	\$120
2015	\$27	\$39	\$569	\$364	\$288	\$109	\$20	\$75	\$142	\$195
2016	\$41	\$50	\$277	\$212	\$197	\$83	\$24	\$87	\$153	\$239
2017	\$53	\$47	\$138	\$179	\$157	\$81	\$12	\$64	\$74	\$197
2018	\$91	\$51	\$104	\$141	\$133	\$72	\$5	\$59	\$56	\$211
2019	\$121	\$51	\$87	\$165	\$153	\$89	\$3	\$34	\$44	\$258
2020	\$106	\$47	\$48	\$128	\$42	\$55	\$1	\$27	\$26	\$224
2021	\$115	\$47	\$38	\$154	\$33	\$71	\$1	\$26	\$6	\$122
2022	\$80	\$47	\$12	\$102	\$10	\$58	<\$1	\$22	\$2	\$70
<b>Other drugs</b>										
2009	\$13,743	\$82	\$14,573	\$48	\$15,749	\$169	\$8,162	\$80	\$16,715	\$106
2010	\$13,679	\$78	\$13,261	\$45	\$15,471	\$170	\$7,752	\$71	\$17,768	\$110
2011	\$12,907	\$76	\$11,509	\$41	\$15,022	\$175	\$7,005	\$65	\$18,526	\$118
2012	\$11,628	\$72	\$9,543	\$40	\$13,478	\$175	\$6,371	\$63	\$19,691	\$135
2013	\$10,962	\$71	\$8,781	\$40	\$12,452	\$170	\$5,798	\$59	\$20,152	\$142
2014	\$10,139	\$70	\$7,601	\$41	\$11,380	\$174	\$5,623	\$61	\$21,458	\$159
2015	\$9,383	\$74	\$5,943	\$40	\$9,777	\$174	\$5,222	\$64	\$18,857	\$178
2016	\$8,936	\$74	\$4,769	\$39	\$8,108	\$163	\$4,705	\$63	\$14,296	\$155
2017	\$7,962	\$69	\$3,372	\$34	\$5,850	\$141	\$3,869	\$57	\$10,912	\$136
2018	\$6,884	\$63	\$2,523	\$31	\$5,045	\$136	\$3,354	\$51	\$12,917	\$160
2019	\$6,189	\$62	\$1,695	\$27	\$3,586	\$112	\$2,825	\$47	\$11,995	\$139
2020	\$4,069	\$61	\$933	\$26	\$1,933	\$94	\$1,798	\$44	\$8,536	\$135
2021	\$3,540	\$58	\$566	\$23	\$1,147	\$84	\$1,223	\$35	\$7,636	\$126
2022	\$2,279	\$49	\$279	\$20	\$365	\$64	\$630	\$28	\$4,626	\$91

Source: Workers' Compensation Research and Evaluation Group, 2023.

Following the overall trend of payment reduction for claims by service year, payments made for all drug groups, including N status drugs and other drugs, decreased over time (Table 33). For instance, payments for N status drug analgesics-opioids decreased by 97%, from about \$18.1 million in service year 2009 to about \$603,000 in 2022. Payments for other drugs analgesics-opioids decreased 88%, from about \$30.8 million in service year 2009 to about \$3.6 million in 2022. In line with the total payment, the average pay per prescription for analgesics anti-inflammatory, analgesics-opioids, and musculoskeletal therapy agents for both N status drugs and other drugs reduced from service years 2009 to 2022.

**Table 33: Prescription cost by pharmacy drug group and N status drug status by service year**

Service year	Analgesics anti-inflammatory		Analgesics-opioids		Central nervous system drug		Musculoskeletal therapy agents		Others	
	Total amount (thousand)	Average cost per Rx	Total amount (thousand)	Average cost per Rx	Total amount (thousand)	Average cost per Rx	Total amount (thousand)	Average cost per Rx	Total amount (thousand)	Average cost per Rx
<b>N status drugs</b>										
2009	\$2,206	\$116	\$18,136	\$397	\$10,908	\$112	\$6,232	\$104	\$11,173	\$288
2010	\$3,029	\$143	\$17,424	\$381	\$10,076	\$113	\$5,804	\$110	\$11,959	\$299
2011	\$2,913	\$146	\$16,412	\$387	\$8,474	\$109	\$3,895	\$96	\$11,281	\$310
2012	\$1,484	\$172	\$11,626	\$380	\$6,191	\$111	\$1,855	\$83	\$8,124	\$315
2013	\$458	\$145	\$7,114	\$371	\$3,573	\$118	\$898	\$101	\$4,221	\$342
2014	\$43	\$55	\$3,092	\$381	\$1,434	\$141	\$133	\$110	\$731	\$279
2015	\$36	\$48	\$2,627	\$396	\$1,200	\$141	\$84	\$100	\$475	\$290
2016	\$34	\$47	\$2,177	\$425	\$1,007	\$137	\$81	\$113	\$437	\$335
2017	\$27	\$41	\$1,770	\$388	\$822	\$134	\$49	\$113	\$335	\$379
2018	\$66	\$49	\$1,238	\$382	\$685	\$135	\$41	\$129	\$236	\$353
2019	\$130	\$52	\$987	\$319	\$586	\$127	\$18	\$86	\$176	\$349
2020	\$153	\$50	\$732	\$296	\$553	\$147	\$12	\$94	\$146	\$376
2021	\$155	\$49	\$683	\$323	\$466	\$147	\$12	\$101	\$131	\$495
2022	\$146	\$50	\$603	\$315	\$367	\$126	\$10	\$97	\$119	\$583
<b>Other drugs</b>										
2009	\$18,847	\$88	\$30,807	\$66	\$27,282	\$151	\$14,082	\$97	\$24,035	\$101
2010	\$18,561	\$87	\$28,998	\$64	\$27,055	\$153	\$13,137	\$89	\$24,689	\$106
2011	\$18,157	\$85	\$26,726	\$61	\$27,914	\$159	\$11,787	\$80	\$26,788	\$111
2012	\$18,417	\$89	\$24,510	\$62	\$27,595	\$170	\$10,438	\$74	\$30,406	\$124
2013	\$17,333	\$88	\$22,048	\$62	\$28,429	\$182	\$9,308	\$68	\$33,703	\$147
2014	\$17,687	\$93	\$20,716	\$63	\$27,908	\$188	\$9,724	\$71	\$30,744	\$160
2015	\$14,068	\$86	\$19,712	\$74	\$26,815	\$198	\$9,674	\$79	\$30,479	\$181
2016	\$14,065	\$91	\$15,825	\$67	\$26,421	\$207	\$9,238	\$81	\$30,682	\$207
2017	\$11,824	\$80	\$13,109	\$65	\$25,648	\$216	\$7,850	\$75	\$17,095	\$152
2018	\$10,666	\$76	\$10,310	\$60	\$23,787	\$218	\$6,605	\$67	\$18,095	\$165
2019	\$9,513	\$74	\$7,645	\$54	\$17,889	\$188	\$6,289	\$68	\$21,204	\$183
2020	\$7,520	\$76	\$5,852	\$54	\$10,196	\$136	\$5,242	\$69	\$23,485	\$193
2021	\$6,569	\$73	\$4,525	\$52	\$8,907	\$134	\$3,861	\$60	\$22,860	\$181
2022	\$5,372	\$67	\$3,617	\$50	\$7,185	\$129	\$2,471	\$50	\$24,204	\$171

Source: Workers' Compensation Research and Evaluation Group, 2023.

### Prescription cost for opioids

The total cost of opioid prescriptions has decreased, with significantly reduced annual costs after introducing the formulary (Table 34). The percentages of N status drugs and branded drugs among opioid prescription costs were much lower than those of other drugs and generic drugs, respectively. The total cost of opioid prescriptions and the average cost per prescription is lower for network claims than for non-network claims.

**Table 34: Prescription cost for opioid by drug status, drug type, and claim's network status by injury year**

Injury year	Drug status				Drug type				Network status			
	N status drug		Other drug		Branded drug		Generic drug		Network		Non-network	
	Total amount (thousand)	Cost per Rx	Total amount (thousand)	Cost per Rx	Total amount (thousand)	Cost per Rx	Total amount (thousand)	Cost per Rx	Total amount (thousand)	Cost per Rx	Total amount (thousand)	Cost per Rx
2009	\$2,644	\$200	\$14,573	\$48	\$3,597	\$266	\$13,619	\$45	\$4,725	\$46	\$12,491	\$58
2010	\$1,972	\$172	\$13,261	\$45	\$2,613	\$267	\$12,620	\$42	\$4,910	\$45	\$10,324	\$52
2011	\$1,531	\$195	\$11,509	\$41	\$1,733	\$299	\$11,307	\$40	\$5,026	\$41	\$8,015	\$49
2012	\$575	\$170	\$9,543	\$40	\$623	\$272	\$9,495	\$39	\$3,846	\$36	\$6,272	\$46
2013	\$602	\$211	\$8,781	\$40	\$621	\$248	\$8,761	\$40	\$3,979	\$36	\$5,403	\$49
2014	\$432	\$223	\$7,602	\$41	\$519	\$259	\$7,515	\$41	\$3,386	\$36	\$4,648	\$50
2015	\$569	\$364	\$5,943	\$40	\$585	\$452	\$5,927	\$40	\$2,837	\$38	\$3,675	\$49
2016	\$277	\$212	\$4,769	\$39	\$255	\$391	\$4,791	\$39	\$2,175	\$34	\$2,871	\$47
2017	\$138	\$179	\$3,372	\$34	\$143	\$412	\$3,367	\$34	\$1,592	\$30	\$1,918	\$41
2018	\$104	\$141	\$2,523	\$31	\$96	\$364	\$2,531	\$31	\$1,165	\$28	\$1,461	\$36
2019	\$87	\$165	\$1,695	\$27	\$54	\$487	\$1,727	\$28	\$736	\$24	\$1,046	\$33
2020	\$48	\$128	\$933	\$26	\$44	\$564	\$938	\$26	\$430	\$23	\$552	\$31
2021	\$38	\$154	\$566	\$23	\$17	\$389	\$587	\$24				
2022	\$12	\$102	\$279	\$20	\$3	\$216	\$287	\$20				

Note: Network data for injury year 2021 and 2022 is not available yet and therefore not included in the table.

Source: Workers' Compensation Research and Evaluation Group, 2023.

The percentages of N status drugs and branded drugs among opioid prescription costs were much lower than those of other drugs and generic drugs, respectively (Table 35). The total cost of opioid prescriptions and the average cost per prescription is lower for network claims than for non-network claims.

**Table 35: Prescription cost for opioid by drug status, drug type, and claim's network status by service year**

Service year	Drug status				Drug type				Network status			
	N status drug		Other drug		Branded drug		Generic drug		Network		Non-network	
	Total amount (thousand)	Cost per Rx	Total amount (thousand)	Cost per Rx	Total amount (thousand)	Cost per Rx	Total amount (thousand)	Cost per Rx	Total amount (thousand)	Cost per Rx	Total amount (thousand)	Cost per Rx
2009	\$18,136	\$397	\$30,807	\$66	\$21,305	\$392	\$27,638	\$61	\$3,938	\$48	\$45,006	\$105
2010	\$17,424	\$381	\$28,998	\$64	\$20,217	\$441	\$26,206	\$58	\$4,581	\$47	\$41,842	\$104
2011	\$16,412	\$387	\$26,726	\$61	\$18,663	\$463	\$24,474	\$55	\$5,511	\$47	\$37,627	\$103
2012	\$11,626	\$380	\$24,510	\$62	\$13,987	\$488	\$22,149	\$56	\$5,496	\$47	\$30,640	\$99
2013	\$7,114	\$371	\$22,048	\$62	\$9,491	\$521	\$19,672	\$55	\$4,779	\$42	\$24,383	\$94
2014	\$3,092	\$381	\$20,716	\$63	\$4,746	\$498	\$19,062	\$59	\$4,627	\$41	\$19,182	\$86
2015	\$2,627	\$396	\$19,712	\$74	\$4,559	\$551	\$17,779	\$67	\$4,169	\$46	\$18,169	\$100
2016	\$2,177	\$425	\$15,825	\$67	\$3,328	\$636	\$14,674	\$62	\$3,717	\$44	\$14,285	\$91
2017	\$1,770	\$388	\$13,109	\$65	\$2,571	\$644	\$12,307	\$60	\$3,236	\$43	\$11,642	\$88
2018	\$1,238	\$382	\$10,310	\$60	\$2,138	\$697	\$9,410	\$55	\$2,477	\$40	\$9,071	\$81
2019	\$987	\$319	\$7,645	\$54	\$1,472	\$673	\$7,160	\$50	\$1,994	\$40	\$6,638	\$70
2020	\$732	\$296	\$5,852	\$54	\$1,047	\$695	\$5,537	\$51	\$1,460	\$40	\$5,124	\$69
2021	\$683	\$323	\$4,525	\$52	\$776	\$809	\$4,431	\$50				
2022	\$603	\$315	\$3,617	\$50	\$697	\$812	\$3,523	\$48				

Note: Network data for injury year 2021 and 2022 is not available yet and therefore not included in the table.

Source: Workers' Compensation Research and Evaluation Group, 2023.

## Prescription cost for branded and generic drugs

Overall, the branded drug prescription cost declined 97%, from about \$34.3 million in injury year 2009 to about \$1.2 million in 2022 (Table 36). Also, the percentage of branded drug payments decreased from 43% in injury year 2009 to 19% in 2022. Generic drug prescriptions followed a similar trend in decreasing total payment.

Injury year	Generic drugs			Branded drugs		
	Total amount (thousand)	% of total amount	Average cost per Rx	Total amount (thousand)	% of total amount	Average cost per Rx
2009	\$45,955	57%	\$62	\$34,326	43%	\$214
2010	\$47,005	61%	\$62	\$29,440	39%	\$225
2011	\$44,991	66%	\$62	\$22,808	34%	\$237
2012	\$41,564	71%	\$64	\$17,297	29%	\$262
2013	\$40,379	71%	\$65	\$16,302	29%	\$291
2014	\$38,672	71%	\$69	\$15,557	29%	\$281
2015	\$33,572	70%	\$71	\$14,434	30%	\$342
2016	\$29,867	75%	\$71	\$9,960	25%	\$285
2017	\$23,702	77%	\$64	\$6,977	23%	\$236
2018	\$21,170	74%	\$61	\$7,341	26%	\$334
2019	\$18,548	79%	\$59	\$4,951	21%	\$322
2020	\$11,156	76%	\$54	\$3,545	24%	\$455
2021	\$8,752	79%	\$52	\$2,387	21%	\$436
2022	\$4,975	81%	\$43	\$1,178	19%	\$369

Note: Brand status of some of the prescriptions was not reported and therefore their information has not been included in this table.

Source: Workers' Compensation Research and Evaluation Group, 2023.

Overall, the branded drug prescription cost declined 90%, from about \$86.5 million in service year 2009 to about \$8.3 million in 2022 (Table 37). Also, the percentage of branded drug payments reduced from 55% in service year 2009 to 27% in 2022. Generic drug prescriptions saw a decrease in total payment.

Service year	Generic drugs			Branded drugs		
	Total amount (thousand)	% of total amount	Average cost per Rx	Total amount (thousand)	% of total amount	Average cost per Rx
2009	\$71,876	45%	\$67	\$86,542	55%	\$228
2010	\$73,756	48%	\$67	\$81,484	52%	\$242
2011	\$74,367	50%	\$67	\$73,230	50%	\$261
2012	\$72,660	55%	\$71	\$59,355	45%	\$277
2013	\$68,833	58%	\$74	\$50,527	42%	\$304
2014	\$71,512	66%	\$81	\$37,513	34%	\$302
2015	\$69,293	68%	\$90	\$32,992	32%	\$355
2016	\$63,993	65%	\$91	\$34,304	35%	\$406
2017	\$51,689	66%	\$83	\$26,479	34%	\$363
2018	\$45,311	63%	\$79	\$26,197	37%	\$438
2019	\$41,170	68%	\$78	\$19,090	32%	\$456
2020	\$33,449	75%	\$78	\$11,015	25%	\$495
2021	\$27,552	74%	\$75	\$9,657	26%	\$549
2022	\$22,371	73%	\$71	\$8,291	27%	\$575

Note: Brand status of some of the prescriptions was not reported and therefore their information has not been included in this table.

Source: Workers' Compensation Research and Evaluation Group, 2023.

## Prescription cost by duration of prescription dispensed after injury date

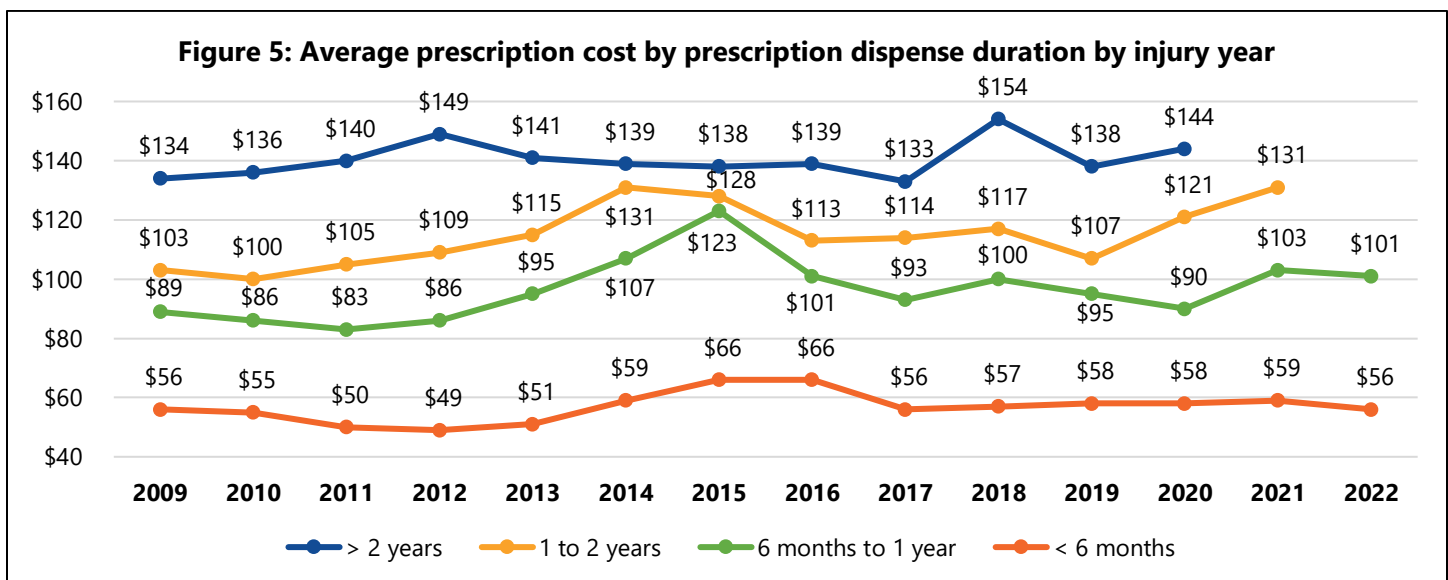
While higher proportions of prescription payments were made for claims over two years since injury from injury years 2009 to 2013, a higher proportion of payments were made for claims less than six months since the injury after injury year 2013 (Table 38).

Injury year	<6 months		6 months to 1 year		1 to 2 years		>2 years	
	Total amount (thousand)	% of total amount	Total amount (thousand)	% of total amount	Total amount (thousand)	% of total amount	Total amount (thousand)	% of total amount
2009	\$22,151	27%	\$10,327	12%	\$14,535	17%	\$36,395	44%
2010	\$22,839	29%	\$10,096	13%	\$13,926	17%	\$32,791	41%
2011	\$20,526	29%	\$9,044	13%	\$12,778	18%	\$28,774	40%
2012	\$18,558	30%	\$8,084	13%	\$11,247	18%	\$24,361	39%
2013	\$18,230	31%	\$8,722	15%	\$11,270	19%	\$21,123	36%
2014	\$19,841	35%	\$8,544	15%	\$11,643	20%	\$17,078	30%
2015	\$18,694	37%	\$8,779	17%	\$9,681	19%	\$13,072	26%
2016	\$17,617	42%	\$6,210	15%	\$7,229	17%	\$10,446	25%
2017	\$13,706	42%	\$4,925	15%	\$6,082	19%	\$7,682	24%
2018	\$13,277	43%	\$4,816	15%	\$6,099	20%	\$6,917	22%
2019	\$12,703	48%	\$4,292	16%	\$5,183	19%	\$4,517	17%
2020	\$8,853	51%	\$3,058	17%	\$4,169	24%	\$1,409	8%
2021	\$8,710	61%	\$3,217	22%	\$2,377	17%		
2022	\$7,415	90%	\$868	10%				

Note: Data for years 2021 and 2022 is not available yet for some categories and therefore not included in this table.

Source: Workers' Compensation Research and Evaluation Group, 2023.

As expected, the average cost of prescriptions is higher for claims that received pharmacy services for a longer duration (Figure 5).



Source: Workers' Compensation Research and Evaluation Group, 2023.



## Most frequently prescribed drugs before and after the formulary

### Most frequently prescribed drugs in the service year 2010 and 2022

The 10 most frequently prescribed drugs make up nearly half (48%) of the prescriptions dispensed before and after the introduction of the formulary (Table 39). While six of those drugs were common before and after the formulary (bold text in Table 39), the other four changed. For instance, Lyrica, Celebrex, Carisoprodol, and Propoxyphene Napsylate and Acetaminophen, which were in the top 10 list in 2009, were replaced by Meloxicam, Methocarbamol, Acetaminophen/Codeine, and Duloxetine HCL in 2022.

Table 39: Ten most frequently prescribed drugs in service years 2010 and 2022						
Rank	Service year 2010			Service year 2022		
	Drug name	Drug group	% of drugs	Drug name	Drug group	% of drugs
1	<b>Hydrocodone/ Acetaminophen</b>	Analgesics - Opioid	19%	<b>Hydrocodone/ Acetaminophen</b>	Analgesics - Opioid	8%
2	<b>Cyclobenzaprine Hydrochloride</b>	Musculoskeletal Therapy Agents	5%	<b>Gabapentin</b>	Anticonvulsants	7%
3	<b>Tramadol HCL</b>	Analgesics - Opioid	4%	<b>Ibuprofen</b>	Analgesics - Anti- inflammatory	6%
4	<b>Ibuprofen</b>	Analgesics - Anti- inflammatory	3%	<b>Cyclobenzaprine Hydrochloride</b>	Musculoskeletal Therapy Agents	6%
5	Lyrica	Anticonvulsants	3%	Meloxicam	Analgesics - Anti- inflammatory	6%
6	<b>Naproxen</b>	Analgesics - Anti- inflammatory	3%	<b>Naproxen</b>	Analgesics - Anti- inflammatory	4%
7	Celebrex	Analgesics - Anti- inflammatory	3%	<b>Tramadol HCL</b>	Analgesics - Opioid	4%
8	<b>Gabapentin</b>	Anticonvulsants	3%	Methocarbamol	Musculoskeletal Therapy Agents	3%
9	Carisoprodol	Musculoskeletal Therapy Agents	3%	Acetaminophen/ Codeine	Analgesics - Opioid	2%
10	Propoxyphene Napsylate and Acetaminophen	Analgesics - Opioid	2%	Duloxetine HCL	Antidepressants	2%

Source: Workers' Compensation Research and Evaluation Group, 2023.

## Most frequently prescribed opioids in the service year 2010 and 2022

The 10 most frequently prescribed opioids make up over three-quarters of opioid prescriptions (86%) dispensed before the formulary and nearly all the prescriptions (97%) dispensed after the formulary (Table 40). While six of those drugs were common before and after the formulary (bold text in Table 40), the other four changed.

Table 40: Ten most frequently prescribed opioids in service years 2010 and 2022						
Rank	Service year 2010			Service year 2022		
	Drug name	Drug group	% of drugs	Drug name	Drug group	% of drugs
1	<b>Hydrocodone/ Acetaminophen</b>	Analgesics - Opioid	58%	<b>Hydrocodone/ Acetaminophen</b>	Analgesics - Opioid	47%
2	<b>Tramadol HCL</b>	Analgesics - Opioid	11%	<b>Tramadol HCL</b>	Analgesics - Opioid	22%
3	Propoxyphene Napsylate and Acetaminophen	Analgesics - Opioid	7%	<b>Acetaminophen/ Codeine</b>	Analgesics - Opioid	14%
4	<b>Tramadol Hydrochloride/ AC</b>	Analgesics - Opioid	3%	<b>Oxycodone/ Acetaminophen</b>	Analgesics - Opioid	5%
5	Oxycontin	Analgesics - Opioid	2%	Oxycodone HCL	Analgesics - Opioid	3%
6	<b>Tramadol HCL ER</b>	Analgesics - Opioid	1%	<b>Tramadol HCL ER</b>	Analgesics - Opioid	2%
7	Fentanyl	Analgesics - Opioid	1%	<b>Tramadol Hydrochloride/AC</b>	Analgesics - Opioid	1%
8	<b>Acetaminophen/ Codeine</b>	Analgesics - Opioid	1%	Hydromorphone HCL	Analgesics - Opioid	1%
9	<b>Oxycodone/ Acetaminophen</b>	Analgesics - Opioid	1%	Morphine Sulfate ER	Analgesics - Opioid	1%
10	Hydrocodone/ Ibuprofen	Analgesics - Opioid	1%	Hydrocodone Bitartrate/ AC	Analgesics - Opioid	1%

Source: Workers' Compensation Research and Evaluation Group, 2023.

## Most frequently prescribed N status drugs in the service year 2010 and 2022

The 10 most frequently prescribed N status drugs make up more than half of the N status drug prescriptions (56%) dispensed before the formulary and over three-quarters of the prescriptions (81%) dispensed after the formulary (Table 41). While three of those drugs were common before and after the formulary (bold text in Table 41), the other seven changed.

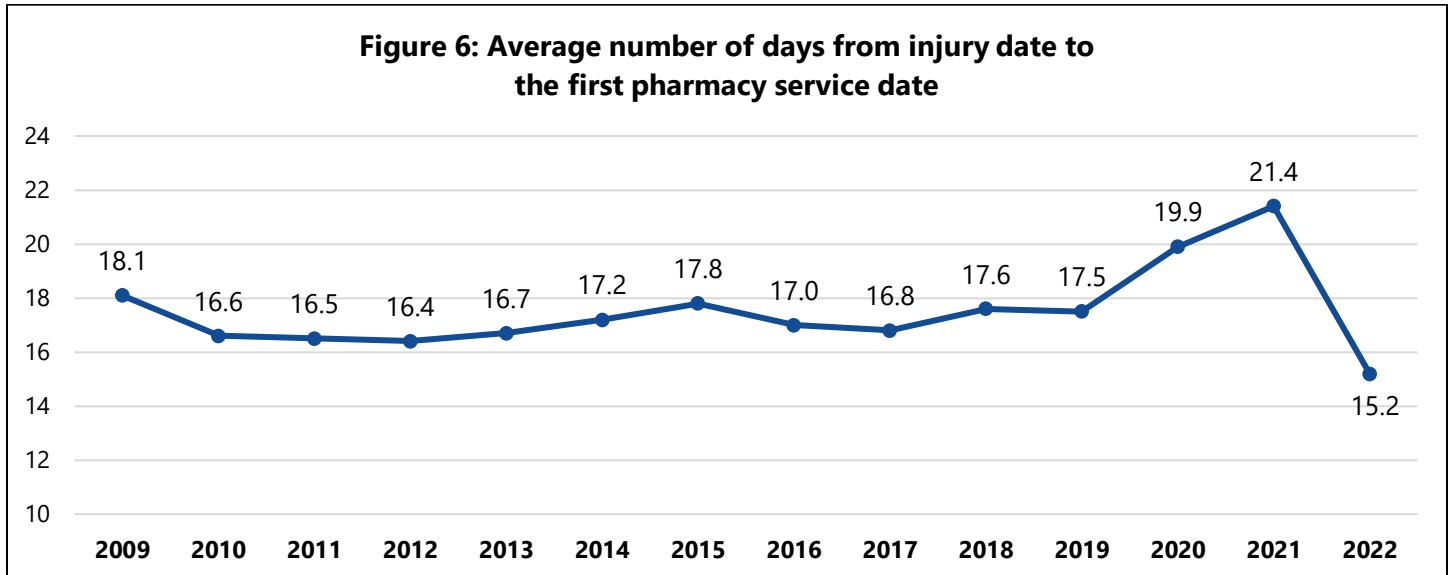
**Table 41: Ten most frequently prescribed N status drugs in service years 2010 and 2022**

Rank	Service year 2010			Service year 2022		
	Drug name	N status drug group	% of drugs	Drug name	N status drug group	% of drugs
1	Carisoprodol	Musculoskeletal Therapy Agents	15%	Diclofenac Sodium Dr	Analgesics - Anti-inflammatory	34%
2	Lidoderm	Dermatologicals	8%	Oxycodone/Acetaminophen	Analgesics - Opioid	14%
3	Alprazolam	Antianxiety Agents	5%	Sertraline HCL	Antidepressants	10%
4	Ambien CR		5%	Ketorolac Tromethamine	Analgesics - Anti-inflammatory	4%
5	<b>Oxycontin</b>	Analgesics - Opioid	5%	Topiramate	Anticonvulsants	4%
6	<b>Diazepam</b>	Antianxiety Agents	4%	<b>Oxycontin</b>	Analgesics - Opioid	4%
7	Amrix	Musculoskeletal Therapy Agents	4%	<b>Diazepam</b>	Antianxiety Agents	3%
8	<b>Clonazepam</b>	Anticonvulsants	4%	Fluoxetine HCL	Antidepressants	3%
9	Nexium	Ulcer Drugs/Antispasmodics/Anticholinergics	3%	Citalopram Hydrobromide	Antidepressants	3%
10	Flector	Dermatologicals	3%	<b>Clonazepam</b>	Anticonvulsants	2%

Source: Workers' Compensation Research and Evaluation Group, 2023.

## Access to pharmacy services

On average, injured employees received pharmacy services for the first time in the third week post-injury. The average number of days from the injury date to the first pharmacy service date per claim was between 16-18 days before the COVID-19 pandemic (Figure 6). During the pandemic, particularly in 2020 and 2021, the average number of days to access pharmacy services increased to 20-21 days.



Source: Workers' Compensation Research and Evaluation Group, 2023.

## Concluding remarks

The intent of introducing the formulary in 2011 was to reduce costs and control unnecessary utilization of prescriptions. This report presents information about the utilization and cost of pharmacy services in the Texas workers' compensation system before and after the closed formulary. The data in this report shows a trend of solid reductions in the utilization and cost of pharmacy services (in both injury years and service years), which were pronounced after the implementation of the formulary. Drugs excluded from the formulary that require pre-authorization, like N status drugs, also show reductions in cost and utilization.



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