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BULLETIN

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The steep decline in the use of opioids in California workers' compensation over the past several years has led to a major shift in the types of drugs used to treat injured workers and a redistribution of prescription drug payments among major therapeutic drug groups, with nonsteroidal anti-inflammatories (NSAIDs), anticonvulsants, and dermatological drugs each accounting for an increased share of the prescriptions and of the total drug expenditures.

A new CWCI study profiles prescription drug utilization and payment trends in the California workers' compensation system in the wake of reforms dating back to the early 1990s, including the implementation of the Medical Treatment Utilization Schedule (MTUS) prescription drug formulary that took effect in 2018. The study focuses on three areas: changes in the types of drugs dispensed to injured workers and in the total drug spend among the top therapeutic drug groups over the past decade; changes in opioid utilization at 24 months post injury based on four different metrics, plus regional variations in the use and the Morphine Milligram Equivalents (MMEs) of opioids dispensed to injured workers from accident year (AY) 2007 through AY 2018; and a comparison of the pre- and post- formulary mix of prescriptions and payments among the formulary's Exempt, Non-Exempt, Not Listed; Special Fill, and Perioperative Drug categories.

The analyses of the prescription and payment distributions among the top drug categories are based on data from 5.85 million prescriptions dispensed to California injured workers from January 2011 through June 2020, with payments for those prescriptions totaling $623 million.

Top 10 Therapeutic Groups	Percentage of All Scripts										11-20 % Diff
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Anti-Inflammatory	17.1%	16.9%	17.1%	21.2%	24.8%	27.5%	28.9%	32.3%	35.6%	34.7%	102.9%
Opioid	31.0%	30.0%	29.1%	27.0%	24.0%	21.9%	19.3%	15.4%	12.1%	11.6%	-62.6%
Anticonvulsant	5.6%	5.8%	6.0%	6.2%	7.0%	7.9%	8.8%	9.8%	9.8%	10.7%	91.1%
Dermatological	5.5%	5.3%	5.5%	5.5%	4.4%	4.5%	5.0%	6.0%	7.4%	8.2%	49.1%
Antidepressant	6.1%	6.4%	6.6%	5.4%	5.6%	5.7%	5.9%	6.4%	6.2%	7.0%	14.8%
Musculoskeletal	9.5%	9.4%	9.5%	10.0%	10.3%	10.3%	10.1%	6.6%	6.1%	5.9%	-37.9%
Ulcer	6.7%	7.1%	7.3%	7.4%	7.0%	6.4%	6.1%	5.9%	5.7%	5.7%	-14.9%
Nonnarcotic Analgesic	0.7%	0.6%	0.6%	0.7%	0.8%	1.0%	1.1%	1.4%	1.6%	1.6%	128.6%
Cephalosporin	0.9%	0.8%	0.8%	0.9%	1.1%	1.2%	1.3%	1.6%	1.5%	1.2%	33.3%
Ophthalmic	0.5%	0.5%	0.5%	0.6%	0.7%	0.8%	1.0%	1.2%	1.1%	1.1%	120.0%

Top 10 therapeutic drug list based on 2020 volume

Opioids accounted for 11.6% of the prescriptions filled in the first half of 2020, down from 31.0% in 2011 – a relative decline of 62.6% during the study period. NSAIDs, often used as non-opioid alternatives to treat pain, surpassed opioids as the number one drug group in 2015, and in both 2019 and the first half of 2020 they accounted for more than a third of all prescriptions dispensed to injured workers, twice the proportion noted a decade earlier. As opioids' share of the prescriptions has decreased and NSAIDs' share has grown, the spread between these two drug groups has widened, so NSAIDs now account for three times as many workers' compensation prescriptions as opioids. Anticonvulsants, dermatological drugs, and antidepressants round out the top 5 drug groups. Musculoskeletal drugs (muscle relaxants), which were the third most heavily used workers' compensation drug group until the formulary took effect, saw their share of the prescriptions fall sharply beginning in 2018 as they are on the formulary's Non-Exempt drug list, which makes them subject to prospective utilization review (UR) unless prescribed for special fill or perioperative uses where the quantity of the drug that can be dispensed is limited.

Total payments for a drug group depend on several factors besides the volume of prescriptions, including the allowable fees under the pharmacy fee schedule, average quantities and dosages, the mode of delivery, and the availability of generics. While opioids still rank second in their share of the workers' compensation prescriptions, the study shows their share of the prescription payments has dropped from 30.7% in 2011 to 7.0% in the first half of 2020, so they now rank fourth in terms of total drug spend, behind NSAIDs (23.5%), dermatological drugs (14.1%), and anticonvulsants (13.1%). NSAIDs have seen the biggest increase in their share of the total drug spend since the formulary took effect, as their share rose from 14.2% to 23.5% in less than two years, a relative increase of 65.5%, even though ibuprofen and naproxen, two inexpensive NSAIDs, account for two-thirds of all NSAID prescriptions. A closer look shows much of the recent growth in NSAID payments has been driven by 2 low-volume, extremely high-priced NSAIDs -- fenoprofen calcium and ketoprofen, both of which are used to treat arthritis and pain. Both of these drugs are on the formulary's "Exempt" drug list and are not subject to prospective UR, and neither is in the national Medicaid database, so they have no Federal Upper Limit (FUL) -- a maximum fee allowed under Medicaid, which is also a price control in the Medi-Cal and the California workers' compensation pharmacy fee schedules. Instead, these drugs, like other drugs not listed in the Medi-Cal fee schedule, are paid at 83% of their average wholesale price set by the drug manufacturers.

The combined effect of the Exempt status of these drugs and the lack of an FUL is evident in the payment data. For example, the average payment for a fenoprofen calcium prescription rose from $201 in 2016 to $1,479 in the first half of 2020 (+636%), which drove its share of the NSAID payments from 0.1% in 2016 to 25.5% in the first half of 2020, when it surpassed naproxen as the number one NSAID in terms of total drug spend, even though it represented only 1.0% of NSAID prescriptions. The data also reveal that average payments for generic fenoprofen calcium were much higher than for the brand versions of the drug, underscoring that generic availability alone does not necessarily reduce the total amount paid for a drug. Meanwhile, the average paid per ketoprofen prescription rose from $99 in 2016 to $1,097 in the first half of 2020 – a 10-fold increase that resulted in ketoprofen becoming the third most costly NSAID in California workers' compensation, consuming 14.7% of all NSAID dollars in the first half of 2020, even though it only represented 0.8% of NSAID prescriptions. These examples show that while a high proportion of low-priced drugs like naproxen and ibuprofen in a drug group can have a moderating effect on that group's share of the total drug spend, the presence of low-volume but extremely high-priced drugs that are exempt from prospective UR and that lack price controls has the opposite effect and can drive up payments for the drug group, just as has happened with the NSAIDs.

The study's analysis of opioid use shows the percentage of claims that involved opioids within 24 months post-injury was fairly stable from AY 2007-2014, but then fell to a 9-year low in AY 2015 and continued to decline over the next three years. The decline in opioid prescriptions per user began earlier, as that metric remained within a narrow range from AY 2007-AY 2012, but then dropped steadily over a 6-year span beginning in AY 2013. Two other measures of opioid use, MMEs per prescription and MMEs per user, both peaked in 2008 and both have had a nearly unbroken string of declines ever since. The regional breakdown shows opioid utilization and MME volume are highest in rural regions, and lowest in urban and suburban areas, which may reflect differences in the types of work, types of injuries, as well as access to medical care.

Reviewing the mix of drugs by formulary category, the study found that since the formulary took effect, Exempt drugs, which are not subject to prospective UR, have increased steadily, climbing to 45% of the prescriptions in the first half of 2020, up from 33% in 2016; Non-Exempt drugs, which are subject to prospective UR, fell from 52% to 40%; and Not Listed drugs, after increasing in 2018, declined back down to 15% of the prescriptions in the first half of 2020, the same share as in 2016. The mix of prescription drug payments also shifted between 2016 and the first half of 2020, as Exempt drugs increased from 23% of the payments to 25%; Non-Exempt drugs fell from 46% of the payments to 32%; and Not Listed drugs increased from 31% of the total drug spend to 43%.

A Research Update report on the study is available for $22 here. CWCI members also can log onto www.cwci.org to access CWCI's prescription drug app and a new app with prescription data broken out by formulary category.

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