California Workers' Compensation Institute

Spotlight Report

Initial UR and IMR Prescription Drug Outcomes Under the California Workers' Comp Formulary

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July 2018

Background

In October 2015, Governor Brown signed AB 1124, legislation that mandated the adoption of an evidence-based formulary for medications prescribed in the California workers' compensation system and called on the DWC Administrative Director to incorporate the formulary into the workers' compensation Medical Treatment Utilization Schedule (MTUS). The intent of AB 1124 was two-fold:

1) to ensure that medications provided to injured workers meet evidence-based standards in regard to frequency, duration, strength, and appropriateness; and

2) to reduce delays and frictional costs associated with utilization review (UR) and independent medical review (IMR), as CWCI studies had documented that 43 percent of UR and 48 percent of IMR involved prescription drug disputes.[1, 2]

Following a series of public comment periods and hearings, the DWC issued a draft of its proposed formulary regulations, which included an MTUS Preferred Drug list. After receiving input from the community, the DWC made a number of revisions to the proposed regulations. The final formulary regulations,[3] adopted in December 2017 with a January 1, 2018 effective date, included the following:

- A modified list of MTUS Preferred Drugs, which were relabeled as "Exempt" drugs. The Exempt drug list included drugs that treating doctors would be allowed to prescribe without prospective review as long as the drug therapy is supported by the MTUS guidelines for the patient's condition and phase of recovery (acute vs. chronic).
- A list of "Non-Exempt" drugs that, along with "Not Listed" drugs, would be subject to prospective review prior to dispensing. All pharmaceutical requests, regardless of drug list category, are subject to retrospective UR.
- Rules that allowed treating physicians to prescribe a limited quantity of specified drugs (including narcotic pain medications) as Special Fills and Perioperative Fills.

[1] David, R., Ramirez, B., Swedlow, A. Medical Dispute Resolution: Utilization Review and Independent Medical Review In the California Workers' Compensation System. CWCI, January 2014.
[2] David, R., Young, B. California Workers' Compensation Independent Medical Review: 1st Quarter 2015 Outcomes. CWCI Spotlight Report, July 2015.
[3] MTUS Formulary, Filed With Secretary of State Dec. 7, 2017. Effective Jan. 1, 2018. https://www.dir.ca.gov/dwc/DWCPropRegs/MTUS-Formulary/MTUS-Formulary.htm

- Placeholder data fields within the Formulary Drug List that allowed for the future inclusion of helpful information on drug strength, formulation, and unique product identifier.

Objective

In the three years since Governor Brown signed AB 1124, there has been intense interest and debate over the formulary's development and implementation, and the impact that it will have on the California workers' compensation system. This report provides an initial look at the immediate, short-term impact that the formulary had on the UR and IMR dispute resolution process. Specifically, the study measures the pre- to post-formulary changes in:

- the percentage of all Utilization Reviews and all Independent Medical Reviews that involved prescription drug requests;
- the mix of pharmaceutical UR decisions involving Exempt, Non-Exempt, and Not Listed drugs and the UR approval, modification, and denial rates for each of these categories;
- the mix and approval rates for pharmaceutical IMR decisions involving Exempt, Non-Exempt, and Not Listed drugs;
- the proportion of Exempt drugs co-prescribed with Non-Exempt or Not Listed drugs that were reviewed by UR and IMR;
- the proportion of UR and IMR decisions involving opioid requests and the UR approval and IMR uphold rates for those requests.

Data & Methods

The authors used 2017 and 2018 UR and IMR decision data to measure the pre- and post-formulary outcomes for each metric, then calculated the relative change between the pre- and post-formulary results. A sample of UR decision data was available from January 2017 through May 2018 and IMR decision data was available from January 2017 through April 2018.

To ensure that all of the 2018 UR decisions in the study had been evaluated under the new formulary, the authors only included UR decision data for utilization reviews in which both the UR request and UR determination were made in the same year. Both the pre-formulary (2017) and the post-formulary (2018) UR decision data were adjusted to include only records that contained January – May pharmacy requests as well as UR decisions. These adjusted samples included a total of 78,902 UR records for 2017 and 68,741 UR records for 2018.

Each pharmaceutical within the UR record was cross-walked to a standardized drug ingredient name (*e.g.*, "Tylenol" was mapped to the drug ingredient "Acetaminophen"). The drug ingredient was then matched against a MediSpan[4] database to capture the associated therapeutic group (*e.g.*, "Acetaminophen" mapped to "Analgesics – Non-Narcotic"). Finally, the drug name was linked to the MTUS Drug Formulary to assign the relevant formulary classification category (*e.g.*, "Acetaminophen" mapped to "Exempt drug"). The IMR data development followed a similar process for all drug decisions requested and reviewed between January and April for both 2017 and 2018. This produced 27,809 IMR records for 2017 and 30,795 IMR records for 2018.

[4] MediSpan, April 26, 2018.

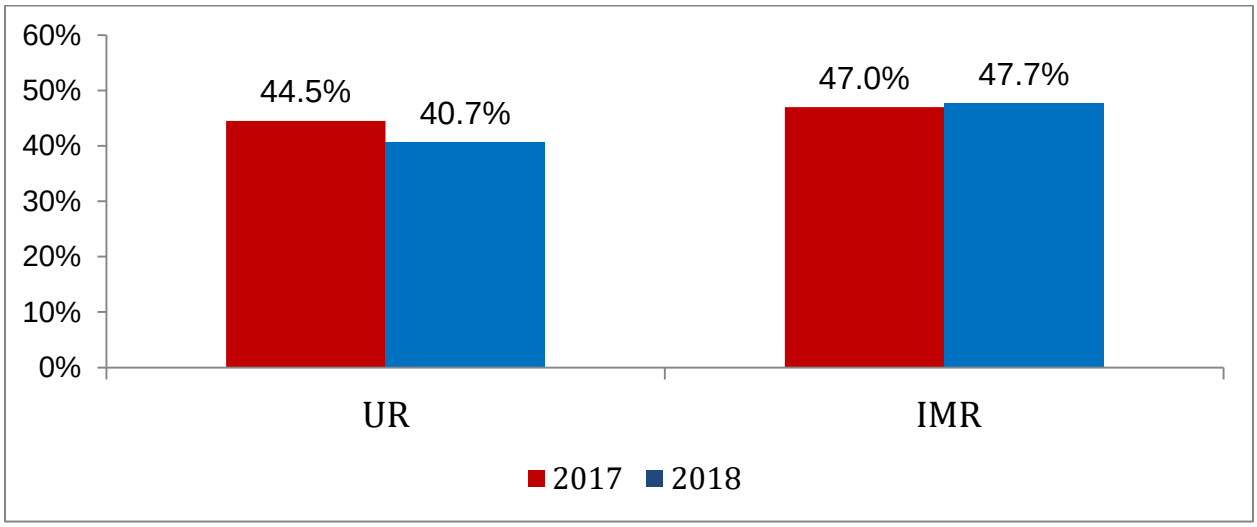
Results

Percent of UR & IMR Decisions Involving Prescription Drug Requests

In California workers' compensation, medical dispute resolution -- specifically UR and IMR -- may be conducted on treatment requests for medical services, pharmaceuticals, or durable medical equipment. Prior industry research has shown that requests for pharmaceuticals are the number one type of treatment request submitted for UR[5] and for IMR.[6]

Exhibit 1 shows the proportion of California workers' compensation UR and IMR decisions that involved prescription drug requests before and after the California Workers' Compensation Prescription Drug Formulary took effect on January 1, 2018.

Exhibit 1. Percent of UR & IMR Decisions Involving Pharmaceutical Requests Pre- vs. Post-Formulary Implementation



As noted above, 40.7 percent of all UR decisions in the first five months following the implementation of the formulary (January through May 2018) involved pharmaceutical requests, which was down from 44.5 percent of the UR decisions during that same period of 2017 (a relative decline of 8.5 percent). On the other hand, after the formulary took effect the proportion of IMR decisions involving pharmaceuticals showed almost no change, as prescription drug disputes accounted for 47.7 percent of the IMR decisions in the first four months of 2018 versus 47.0 percent during the comparable period of 2017, a relative increase of 1.5 percent.

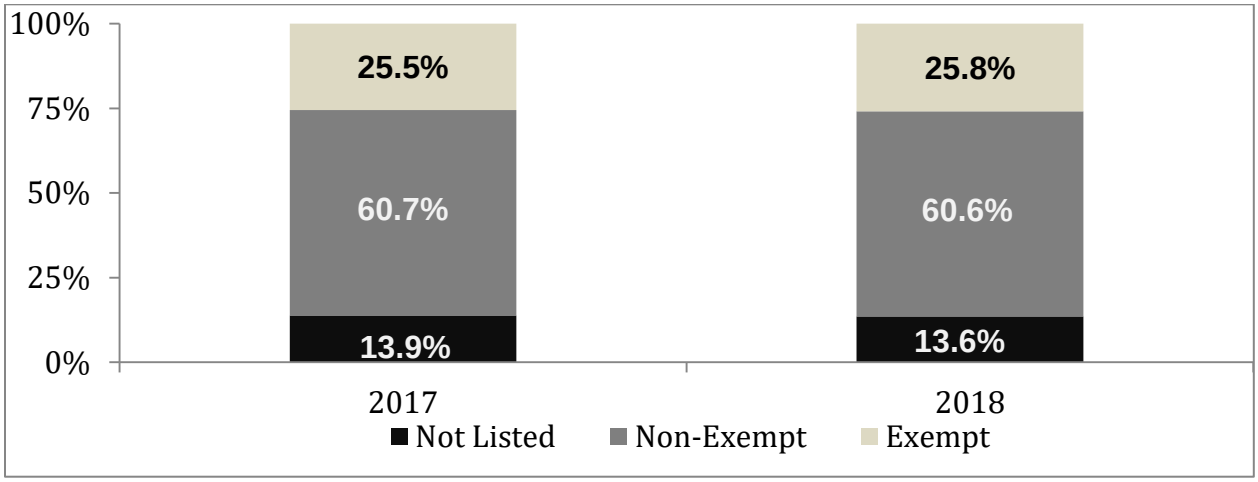
[5] David, R., Ramirez, B., Swedlow, A. Medical Dispute Resolution: Utilization Review and Independent Medical Review In the California Workers' Compensation System. CWCI, January 2014.

[6] Bullis, R., David, R. Independent Medical Review Decisions, January 2014 – December 2017. CWCI Research Update, March 2018.

Distribution of Pharmaceutical UR Decisions by Formulary Drug Category

Exhibit 2 shows the adjusted change in the mix of pharmaceutical UR decisions under the formulary, with the results broken out by drug category (*i.e.*, whether the requested drug was Exempt, Non-Exempt, or Not Listed in the formulary).

Exhibit 2. Distribution of UR Pharmaceutical Decisions by Formulary Drug Category Pre- vs. Post-Formulary Implementation



The mix of pharmaceutical UR decisions by formulary drug category showed almost no change following the implementation of the formulary, as Exempt drugs went from 25.5 percent of the prescription drug UR decisions in the pre-formulary period to 25.8 percent in the post-formulary period, a relative increase of only 1.2 percent. Non-Exempt drugs also held steady, with an immaterial change from 60.7 percent of the pre-formulary pharmaceutical UR decisions to 60.6 percent after the formulary took effect, a relative decline of 0.2 percent. Requests for Not Listed drugs also showed an insignificant change, declining from 13.9 percent of the prescription drug UR decisions prior to the formulary to 13.6 percent after it took effect, a relative decline of 2.2 percent.

Pharmaceutical UR Approval, Modification, and Denial Rates by Formulary Drug Category

A medical service request that is submitted for utilization review may be approved, modified, or denied. Exhibit 3 shows the percentage of pharmaceutical requests within each formulary drug category that were approved, modified, or denied before and after implementation of the formulary.

Exhibit 3. UR Decision Rates: Pharmaceutical Decisions by Formulary Drug Category

		UR Rx Formulary Category			
	Year	Exempt	Non-Exempt	Not Listed	Total
UR Approval Rates	2017	88.9%	75.5%	73.5%	78.6%
	2018	88.7%	72.9%	77.3%	77.6%
	Relative Change	-0.2%	-3.4%	5.2%	-1.3%
UR Modified Rates	2017	1.0%	9.6%	4.9%	6.7%
	2018	1.5%	11.0%	5.8%	7.8%
	Relative Change	50.0%	14.6%	18.4%	16.4%
UR Denied Rates	2017	10.2%	14.9%	21.5%	14.6%
	2018	9.9%	16.1%	16.9%	14.6%
	Relative Change	-2.9%	8.1%	-21.4%	0.0%

UR approval rates for Exempt pharmaceutical requests showed little change after the formulary took effect, edging down from 88.9 percent to 88.7 percent, a relative decline of 0.2 percent, while the UR approval rate for Non-Exempt drugs fell from 75.5 percent to 72.9 percent, a relative decline of 3.4 percent. Meanwhile, the approval rate for Not Listed drug requests rose from 73.5 percent to 77.3 percent, a relative increase of 5.2 percent. The overall UR approval rate across all three prescription drug categories showed a marginal decline, falling from 78.6 percent prior to the implementation of the formulary to 77.6 percent in the first five months after it took effect, a relative decline of 1.3 percent.

Modified UR decisions on pharmaceuticals typically involve changes in the quantity of the drug or in the number of days the drug is to be supplied. After the formulary took effect in January 2018, the modification rate increased for all three drug categories, rising from 1.0 percent to 1.5 percent for exempt drugs, from 9.6 percent to 11.0 percent for non-exempt drugs, and from 4.9 percent to 5.8 percent for Not Listed drugs. Overall, the modification rate across all three drug categories went from 6.7 percent in the pre-formulary period to 7.8 percent in the post-formulary period, a relative increase of 16.4 percent.

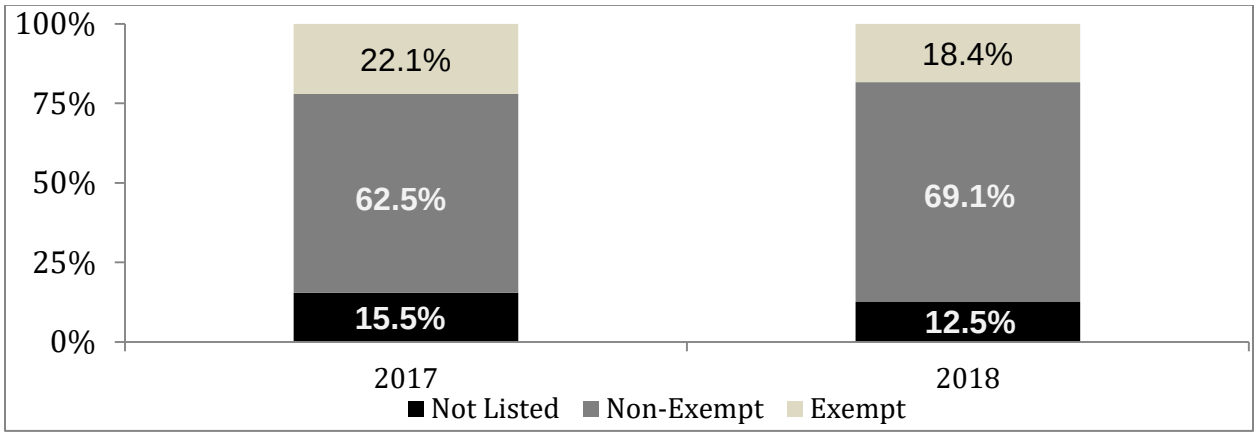
The combined approval and modification rates for UR decisions across all three formulary categories was unchanged, totaling 85.4 percent both before and after the formulary's implementation, so the overall UR denial rate for pharmaceutical requests was also unchanged at 14.6 percent.

The lists of the top 20 Exempt drugs, the top 20 Non-Exempt drugs, and the top 20 Not Listed drugs that underwent UR in the pre- and post-formulary periods, and the UR approval rates for those drugs, are in Appendices A, B, and C.

Distribution of Pharmaceutical IMR Decisions by Formulary Drug Category

Exhibit 4 displays the change in the mix of pharmaceutical IMR decisions following the implementation of the formulary. Once again, the results are broken out by the formulary drug category of the requested drug (Exempt, Non-Exempt, or Not Listed).

Exhibit 4. Distribution of IMR Pharmaceutical Decisions by Formulary Drug Category Pre- vs. Post-Formulary Implementation

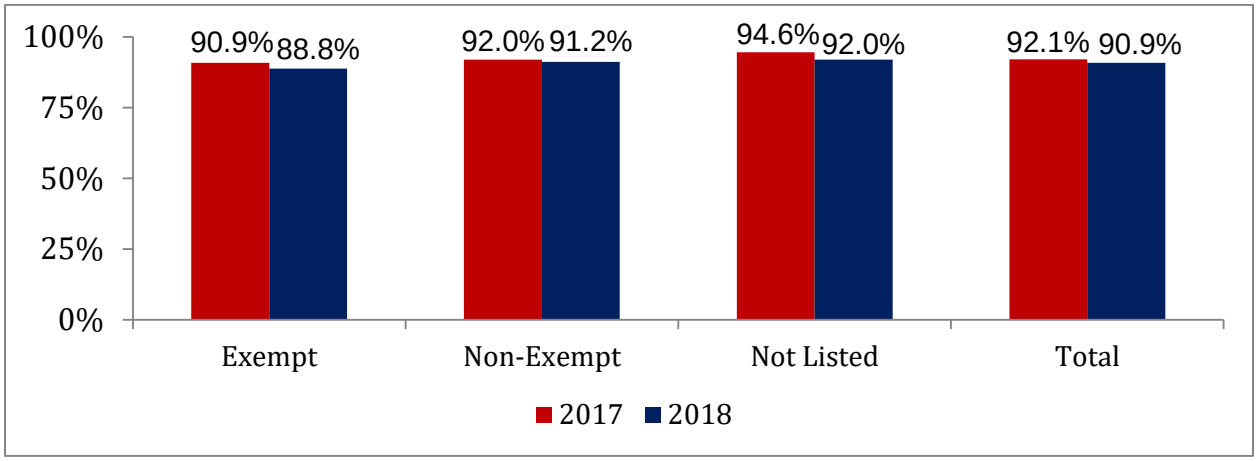


Decisions on exempt drugs declined from 22.1 percent of all pharmaceutical IMR decisions in the pre-formulary period to 18.4 percent during the post-formulary period, a relative decline of 16.7 percent, while decisions involving Not Listed drug requests showed a more dramatic drop, falling from 15.5 percent of the prescription drug IMR determinations before the formulary was implemented to 12.5 percent after it took effect, a relative decline of 19.4 percent. In contrast, Non-Exempt drugs increased from 62.5 percent of the pre-formulary IMR decisions to 69.1 percent in the post-formulary period, a relative increase of 10.7 percent.

Change in Pharmaceutical IMR Uphold Rates by Formulary Drug Category

The IMR uphold rates for pharmaceuticals denied or modified in UR showed only minor changes under the formulary, as noted in Exhibit 5.

Exhibit 5. IMR Uphold Rates: Pharmaceutical Decisions by Formulary Drug Category Pre- vs. Post-Formulary Implementation



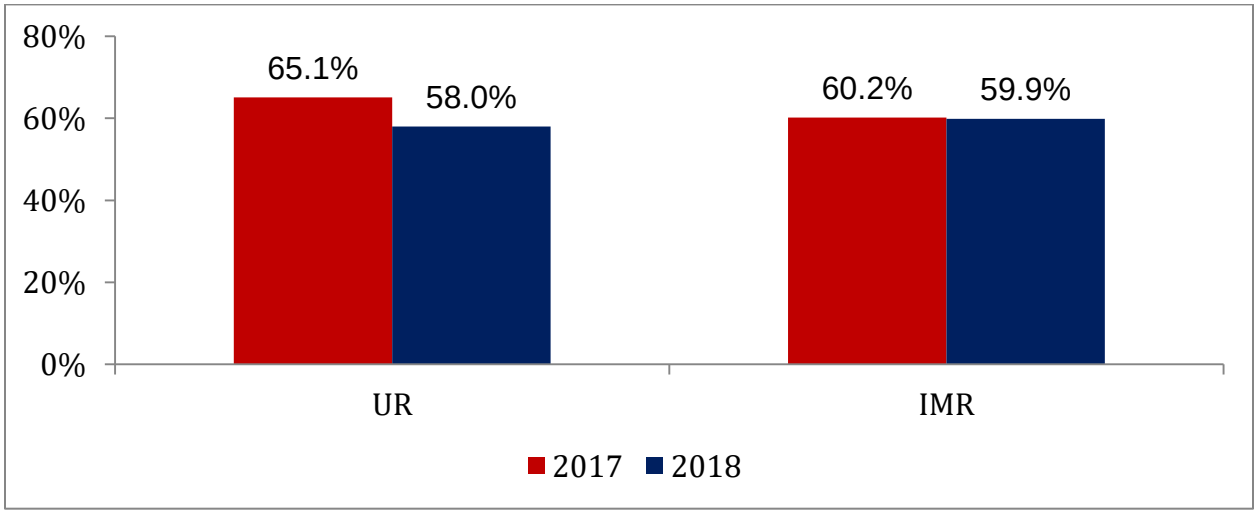
The uphold rate for IMRs involving Exempt drugs fell from 90.9 percent to 88.8 percent, a relative decline of 2.3 percent; the IMR uphold rate for Non-Exempt drugs edged down from 92.0 percent to 91.2 percent, a 0.9 percent relative decline; and the uphold rate for IMRs involving Not Listed drugs fell from 94.6 percent to 92.0 percent, a 2.7 percent relative decline. The overall IMR uphold rate across all three categories of drugs went from 92.1 percent in the pre-formulary period to 90.9 percent after the formulary was implemented, which works out to a relative decline of 1.3 percent in the uphold rate for all prescription drug after the formulary took effect.

Percent of Exempt Drug UR and IMR Decisions Involving Non-Exempt or Not Listed Drug Co-Prescriptions

Prior research on the proposed formulary regulations showed a complex relationship between combinations of drugs dispensed to injured workers, as 60 percent of Exempt drugs reviewed by IMR physicians were co-prescribed and requested with either a Non-Exempt or Not Listed drug.[7] Such co-prescriptions may not meet evidence-based medicine standards, especially if they can result in potentially hazardous drug interactions, which can further complicate attempts to facilitate approvals of Exempt pharmaceuticals.

Exhibit 6 shows the change in the proportion of Exempt drugs that were co-prescribed and requested with Non-Exempt or Not Listed drugs that underwent UR and IMR before and after the formulary took effect.

Exhibit 6. Percent of Exempt Drug UR and IMR Decisions Involving Co-Prescriptions Pre- vs. Post-Formulary Implementation



The UR sample indicates that co-prescribing has declined under the formulary, as the proportion of Exempt drugs co-prescribed and requested with Non-Exempt or Not Listed drugs fell from 65.1 percent in the pre-formulary period to 58.0 percent in the post-formulary period, a relative decline of 10.9 percent. The IMR data show only a marginal decline in co-prescribing, as the percentage of Exempt Drug IMR decisions that also involved a non-exempt or non-exempt drug only fell from 60.2 percent to 59.9 percent, a relative decline of 0.5 percent.

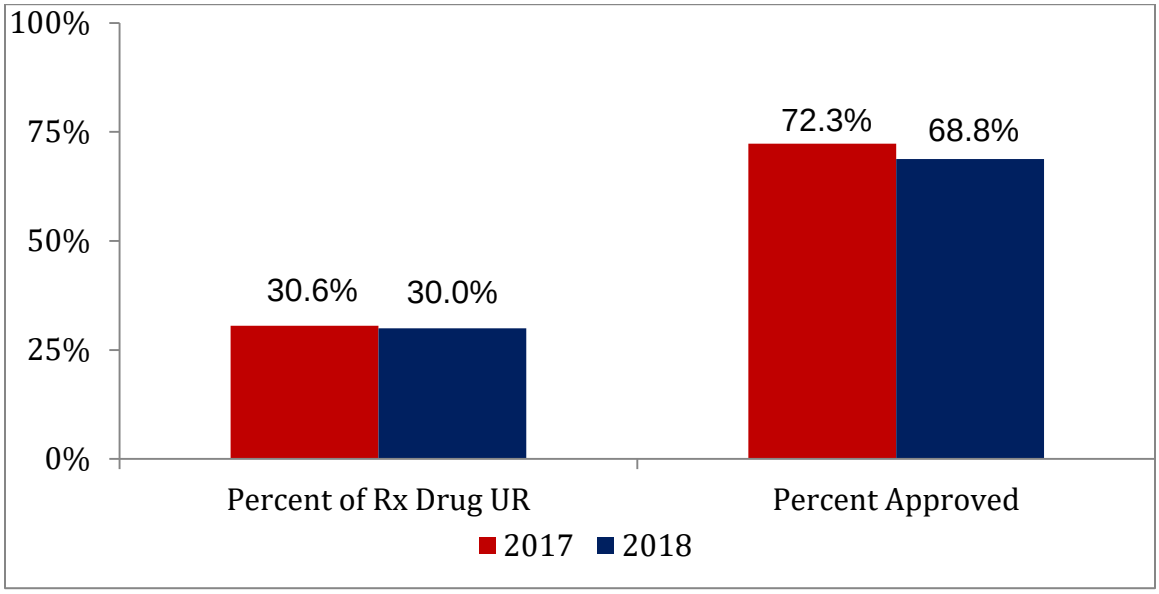
[7] Swedlow, A., Hayes, S., Bullis, R. California Workers' Compensation Formulary Part II: A Review of the July 2017 Proposed Formulary Drug List of Exempt and Non-Exempt Drugs. CWCI Spotlight Report, August 2017.

Percent of Pharmaceutical UR Involving Opioid Requests & UR Approval Rates

Research published earlier this year documented a steady decline in the volume of opioids dispensed to California injured workers.[8] This decline coincided with greater public awareness of the dangers of opioid use, the implementation of workers' compensation pain management guidelines, and increased vigilance in medical management.

Exhibit 7 shows the change in the proportion of prescription drug UR decisions that involved opioid requests since the implementation of the formulary, as well as the changes in the UR approval rate for the opioid requests.

Exhibit 7. % of Pharmaceutical UR Decisions Involving Opioids & UR Approval Rates, Pre- vs. Post-Formulary Implementation



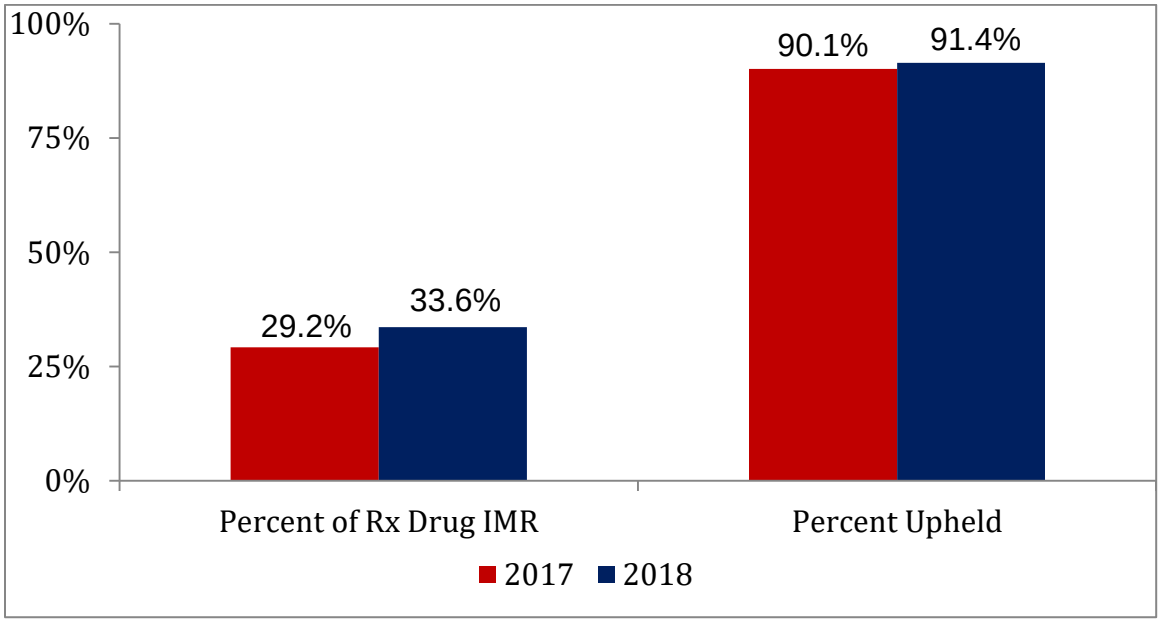
During the 2017 pre-formulary period, 30.6 percent of all pharmaceutical utilization reviews involved requests for opioids, and that rate has remained about the same, edging down to 30.0 percent in the first five months under the formulary, a relative decline of 2.0 percent. The UR approval rate for opioids showed a more significant drop after the formulary took effect, falling from 72.3 percent to 68.8 percent, a 5.1 percent relative decline.

[8] Young, B., Hayes, S., Swedlow, A. California Workers' Compensation Prescription Drug Distributions & Opioid Trends. CWCI Research Update. March 2018.

Percent of Pharmaceutical IMR Involving Opioid Requests and IMR Uphold Rates

The IMR data, noted in Exhibit 8, shows that opioids accounted for an increased share of the prescription drug IMR decisions in the post-formulary period.

Exhibit 8. % of Pharmaceutical IMR Decisions Involving Opioids & IMR Uphold Rates, Pre- vs. Post-Formulary Implementation



Disputes involving modifications or denials of opioid requests rose from 29.2 percent of all pharmaceutical IMRs in the pre-formulary period to 33.6 percent in the post-formulary period, which is a relative increase of 15.1 percent. At the same time, the IMR uphold rate for opioid requests that had been modified or denied by UR rose slightly, climbing from 90.1 percent to 91.4 percent, a relative increase of 1.4 percent.

Summary/Conclusion

Few workers' compensation reform issues are as complicated and contentious as the consideration, design, and implementation of a drug formulary. The California experience involved a protracted series of tasks that required years of study and development, and several rounds of hearings and regulatory comment periods before the drug list and processes were finalized. Studies by CWCI,[9] WCRI,[10] and others made the case that a formulary could be a critical element in improving the quality of care for injured workers while controlling workers' compensation prescription drug costs. The California workers' compensation drug formulary is now a component of the largest workers' compensation pharmaceutical delivery system in the nation, and is subject to evidence-based treatment guidelines as well as a pharmacy fee schedule.

This analysis of changes in UR and IMR outcomes from the first few months in which system stakeholders were transitioning into the formulary provides only limited, preliminary insights, but it does reveal some encouraging signs. After the formulary took effect last January, prescription drug requests declined from 44.5 percent to 40.7 percent of all UR decisions in the study sample – a relative decline of 8.5 percent. At the same time, the UR approval rate for all prescription drug requests showed little change, falling from 78.6 percent to 77.6 percent (a relative decline of 1.3 percent compared to the pre-formulary period), though a closer look shows the change in the UR approval rate varied among the different formulary drug categories: for Exempt pharmaceutical requests the UR approval rate held steady; for Non-Exempt drug requests it declined 3.4 percent; and for Not Listed drugs it increased 5.2 percent. Notably, the slight decline in the UR approval rate for all pharmaceutical requests was offset by an increase in the UR modification rate, which rose from 6.7 to 7.8 percent, so the UR denial rate for prescription drug requests remained unchanged at 14.6 percent following the adoption of the formulary.

Although the preliminary data show that opioids continued to account for about 30 percent of all prescription drug requests submitted for UR in the post-formulary period, the UR approval rate for those requests declined by 5.1 percent. Furthermore, while challenges to UR denials and modifications of opioid requests increased from 29.2 percent to 33.6 percent of pharmaceutical IMRs under the formulary (+15.1 percent), the IMR uphold rate for disputed opioid requests edged up slightly from 90.1 percent to 91.4 percent. The initial UR outcomes also show that that the proportion of Exempt drugs co-prescribed and requested with Non-Exempt or Not Listed drugs fell from 65.1 percent of the pharmaceutical UR decisions in the pre-formulary period to 58.0 percent in the post-formulary period, a relative decline of 10.9 percent. However, the IMR data show only a marginal decline in co-prescribing, as the percentage of Exempt Drug IMR decisions that also involved a Non-Exempt or Not Listed drug only fell from 60.2 percent to 59.9 percent, a 0.5 percent relative decline.

There are other encouraging outcomes outside of the formulary. David (2018) found a 17 percent reduction in the average amount paid per prescription due in large part to changes in the

[9] Swedlow, A. and Hayes, S. "Are Formularies a Viable Solution to Controlling Prescription Drug Utilization and Cost in California Workers' Compensation." CWCI Report to the Industry. October 2014.
[10] Thumala, V. and Liu, T. Impact of a Texas-Like Formulary in Other States. June 2014.

Medi-Cal fee schedule, which is the basis of the California workers' compensation pharmacy fee schedule.[11] More time is needed to fully evaluate the formulary's effect on prescribing patterns as well as other aspects of the formulary regulations that could further reduce UR and IMR disputes, including SB 1160's 30-day pass-through provision.

In the meantime, the DWC has announced the formation of the Pharmacy and Therapeutics (P&T) Committee, an advisory body of California-licensed medical doctors and pharmacists that will consult with the Administrative Director on updates to the formulary.[12] This committee will be in a position to provide direction on future modifications of the formulary, and provide input on the use of specific medications based on drug strength, formulation, and unique product identifier. Such modifications carry significant potential to fulfill the legislative and regulatory intent of improving the quality of care, reducing frictional costs, and optimizing pharmaceutical utilization and expense. These and other issues will be considered when the authors take an expanded look at first-year formulary outcomes in 2019.

[11] David, R. Research Update, A Report to the CWCI Annual Meeting. CWCI March 2018.
[12] DWC Announces Formation of Pharmacy and Therapeutics Advisory Committee. DWC Newsline No. 2018-6, July 12, 2018.

Appendix A. Top 20 Exempt Drugs Undergoing UR, Pre- vs. Post-Formulary

Top 20 Exempt Drugs	Percent of Exempt Drug UR			UR Approval Rates	
	Jan – April 2017	Jan – April 2018		Jan – April 2017	Jan – April 2018
Ibuprofen	19.7%	22.3%		96.4%	96.9%
Naproxen	15.7%	15.2%		95.4%	93.9%
Omeprazole	12.5%	10.3%		86.9%	90.4%
Celecoxib	10.0%	7.5%		88.1%	89.4%
Meloxicam	5.0%	7.2%		96.1%	95.0%
Diclofenac Sodium (Topical)	6.4%	6.6%		85.7%	81.1%
Acetaminophen	5.3%	6.4%		81.3%	74.3%
Diclofenac	3.1%	4.8%		87.3%	82.0%
Pantoprazole Sodium	4.3%	2.6%		76.4%	77.7%
Cephalexin	1.7%	2.5%		48.9%	39.8%
Nabumetone	1.7%	2.3%		98.4%	94.7%
Famotidine	1.8%	1.9%		90.5%	89.9%
Ranitidine HCl	3.1%	1.9%		58.3%	87.2%
Esomeprazole Magnesium	1.1%	1.2%		95.1%	89.6%
Lansoprazole	0.7%	1.2%		87.4%	85.4%
Etodolac	0.7%	1.1%		95.2%	90.3%
Ketoprofen	2.4%	0.9%		95.2%	95.6%
Aspirin	0.7%	0.8%		87.8%	83.0%
Dexlansoprazole	0.4%	0.5%		92.5%	92.3%
Rabeprazole Sodium	1.1%	0.4%		91.9%	80.6%
Sub-Total	97.7%	97.5%		89.1%	88.9%

Appendix B. Top 20 Non-Exempt Drugs Undergoing UR, Pre- vs. Post-Formulary

Top 20 Non-Exempt Drugs	Percent of Non-Exempt Drug UR			UR Approval Rates	
	Jan – April 2017	Jan – April 2018		Jan – April 2017	Jan – April 2018
Hydrocodone-Acetaminophen	23.2%	24.0%		75.2%	70.8%
Gabapentin	11.5%	12.6%		90.6%	92.6%
Tramadol HCl	9.0%	8.0%		71.9%	67.8%
Oxycodone w/ Acetaminophen	4.3%	4.7%		74.0%	72.6%
Cyclobenzaprine HCl	5.7%	4.5%		57.2%	55.1%
Pregabalin	3.5%	4.3%		93.9%	92.0%
Duloxetine HCl	3.5%	4.0%		93.2%	89.3%
Oxycodone HCl	3.7%	3.7%		61.9%	61.9%
Lidocaine	3.2%	3.0%		77.7%	56.7%
Tizanidine HCl	2.2%	2.4%		72.7%	56.7%
Morphine Sulfate	2.4%	2.4%		67.4%	66.4%
Trazodone HCl	1.6%	1.8%		85.1%	82.9%
Amitriptyline HCl	1.4%	1.7%		92.2%	94.3%
Buprenorphine	1.5%	1.6%		76.7%	75.9%
Bupropion HCl	2.2%	1.4%		78.1%	85.1%
Baclofen	1.0%	1.3%		64.8%	53.2%
Acetaminophen w/ Codeine	0.9%	1.0%		69.5%	60.3%
Topiramate	0.8%	1.0%		92.5%	89.7%
Methocarbamol	0.8%	1.0%		66.4%	53.5%
Carisoprodol	1.1%	0.9%		18.6%	14.8%
Sub-Total	83.5%	85.0%		76.2%	73.6%

Appendix C. Top 20 Not Listed Drugs Undergoing UR, Pre- vs. Post-Formulary

	Percent of Not Listed Drug UR			UR Approval Rates	
Top 20 Not Listed Drugs	**2017**	**2018**		**2017**	**2018**
Docusate Sodium	6.7%	7.1%		90.1%	82.6%
Zolpidem Tartrate	6.3%	4.9%		49.3%	29.4%
Sennosides-Docusate Sodium	4.8%	4.4%		96.3%	91.5%
Alprazolam	4.5%	3.6%		31.6%	29.4%
Diclofenac Epolamine	2.8%	2.7%		78.7%	73.3%
Ondansetron	2.4%	2.7%		60.8%	56.9%
Metoprolol Succinate	2.1%	2.7%		97.9%	93.2%
Naloxegol Oxalate	2.7%	2.5%		93.4%	90.3%
Atorvastatin Calcium	2.0%	2.3%		94.4%	91.9%
Lisinopril	1.8%	2.2%		98.2%	95.8%
Eszopiclone	3.1%	2.1%		60.1%	41.7%
Amlodipine Besylate-Benazepril HCl	1.3%	2.0%		97.5%	95.4%
Losartan Potassium	2.0%	1.9%		97.2%	96.4%
Mirtazapine	1.6%	1.9%		87.1%	79.8%
Sildenafil Citrate	1.5%	1.7%		90.9%	92.0%
Polyethylene Glycol 3350	1.6%	1.7%		93.6%	87.8%
Sumatriptan	1.4%	1.6%		84.7%	81.0%
Quetiapine Fumarate	1.7%	1.5%		78.8%	74.6%
Buspirone HCl	1.5%	1.5%		79.7%	71.2%
Hydroxyzine HCl	1.5%	1.4%		76.9%	71.7%
Sub-Total	53.1%	52.2%		77.5%	73.6%

About the Author

Alex Swedlow is the President of the California Workers' Compensation Institute.

Robby Bullis is a Senior Research Associate at the California Workers' Compensation Institute.

Acknowledgements

The authors would like to thank Rena David, Stacy Jones, Denise Niber, and Bob Young of CWCI for their assistance in developing and producing this report.

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The California Workers' Compensation Institute, incorporated in 1964, is a private, nonprofit organization of insurers and self-insured employers conducting and communicating research and analyses to improve the California workers' compensation system. Institute members include insurers that collectively writing 82 percent of California workers' compensation direct written premium, as well as many of the largest public and private self-insured employers in the state. Additional information about CWCI research and activities is available on the Institute's website (www.cwci.org).

CWCI Spotlight Reports are published by the California Workers' Compensation Institute.

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