

# Analysis of Injured Employee Outcomes After the Texas Pharmacy Closed Formulary

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## October 2019



**Workers' Compensation**  
**Research &**  
**Evaluation Group**

Per Chapter 405 of the Texas Labor Code, the Workers' Compensation Research and Evaluation Group at the Texas Department of Insurance, Division of Workers Compensation (DWC) is responsible for conducting professional studies and research on various system issues, including:

- the delivery of benefits;
- litigation and controversy related to workers' compensation;
- insurance rates and rate-making procedures;
- rehabilitation and reemployment of injured employees;
- the quality and cost of medical benefits;
- employer participation in the workers' compensation system;
- employment health and safety issues; and
- other matters relevant to the cost, quality, and operational effectiveness of the workers' compensation system.

This report is online at [www.tdi.texas.gov/reports/wcreg/index.html](http://www.tdi.texas.gov/reports/wcreg/index.html) and a PDF can be obtained by contacting DWC.

For more information, email [WCResearch@tdi.texas.gov](mailto:WCResearch@tdi.texas.gov).

## ACKNOWLEDGMENTS

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REG's Director, DC Campbell, managed the project and researcher Botao Shi conducted the analyses. Dr. Soon-Yong Choi, an economist, and researcher Conrado Garza contributed significant editorial comments.

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## EXECUTIVE SUMMARY

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The Texas Department of Insurance, Division of Workers' Compensation (DWC) first implemented a pharmacy closed formulary to manage drug prescriptions to injured employees in 2011. The closed pharmacy formulary includes all FDA-approved drugs, except investigational and experimental drugs. It excludes drugs listed as N-drugs (or "not recommended" drugs) and compounded drugs. The Workers' Compensation Research and Evaluation Group (REG) published previous studies that reported significant reductions in drug utilization and costs after the formulary took effect, especially among N-drugs.

This study compiles key measures on injured employee outcomes, such as return-to-work rates and health outcomes. Other factors in addition to the formulary, such as networks and economic conditions, could potentially impact trends in injured employee outcomes. The purpose of this study is not to measure the impact of the formulary on those outcomes, but to illustrate how those post-formulary outcomes occurred while the system experienced significant reductions in the utilization and cost of pharmaceuticals, particularly N-drugs and opioids not on the N-drug list.

The findings below summarize key utilization and cost impacts from previous studies, as well as injured employee outcome measures.

### **Background — Formulary Impact on Utilization and Costs:**

- The total number of claims receiving pharmaceuticals decreased by 2 percent.
- The total number of claims receiving N-drugs decreased by 67 percent.
- The total number of claims receiving high levels of N-drug opioids decreased from almost 15,000 in 2009 to less than 500 in 2015.
- The total number of prescriptions decreased by 11 percent.
- The total number of N-drug prescriptions decreased by 77 percent.

### **Key Findings**

#### **Health Outcomes**

Mental and physical functioning scores for network injured employees increased after the formulary. For non-network injured employees, physical functioning scores also increased, but mental functioning scores remained unchanged.

#### **Return to Work**

The average return-to-work rate for network and non-network employees increased after the pharmacy closed formulary.

#### **Medical Disputes**

The number of workers' compensation medical disputes decreased significantly.

#### **Receiving Prescriptions**

About 78 percent of injured employees said they had no problem receiving their prescriptions.

#### **Medical Interlocutory Orders**

After accounting for withdrawn requests, 60 percent of the Medical Interlocutory Orders (MIO) requested were approved.

### **Post-Formulary Changes — Injured Employee Outcomes:**

- The average return-to-work rate for network and non-network employees increased after the pharmacy closed formulary took effect.
- The average mental functioning scores for network injured employees increased after the implementation of the pharmacy closed formulary, while the average for non-network injured employees remained unchanged.
- The average physical functioning scores for network and non-network injured employees increased after the pharmacy closed formulary went into effect.
- The physical functioning scores for network and non-network injured employees increased since the pharmacy closed formulary.

### **Medical Disputes — 2009 to 2017:**

- The number of workers' compensation medical disputes decreased 38 percent from 2011 to 2017.
- Preauthorization disputes, which could include disputes over N-drug prescriptions, decreased from 41 percent of all medical disputes in 2010 to 17 percent in 2017.
- The decrease in disputes is related to several factors, such as fewer claims filed, the creation of health care networks in 2006, the adoption of DWC's medical treatment guidelines in 2007, and DWC's adoption of professional, inpatient and outpatient hospital, and ambulatory surgical center fee guidelines in 2008.
- About 78 percent of injured employees said they had no problem receiving their prescriptions, while an additional 10 percent said it was a small problem.
- Of the 163 Medical Interlocutory Orders (MIO) requested, 93 were approved, 62 denied, and eight withdrawn.

## I. INTRODUCTION

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One major component of the 2005 legislative reforms implemented by the Division of Workers' Compensation (DWC) was the adoption of a pharmacy closed formulary for injured employees in the Texas workers' compensation system. The closed formulary took effect in two phases. The first was on September 1, 2011, for new workers' compensation claims with dates of injury on or after that date. The second was on September 1, 2013, for older (legacy) claims with injury dates prior to September 1, 2011.

The pharmacy closed formulary includes all FDA-approved drugs, except investigational and experimental drugs, and excludes drugs listed as N-drugs (or "not recommended" drugs). N-drugs are listed in Appendix A of DWC's adopted treatment guidelines the *Official Disability Guidelines: Treatment in Workers' Comp*, published by the Work Loss Data Institute. DWC rules in 2018 also excluded compounded drugs from the formulary.

Prescriptions that are excluded from the formulary require pre-approval by the insurance carrier before they can be dispensed.

In 2016, the Workers' Compensation Research and Evaluation Group (REG) published its seventh analysis of the DWC pharmacy closed formulary impact. These analyses show that the pharmacy closed formulary has had a significant effect on the utilization and costs of pharmaceuticals for new injuries and legacy claims.<sup>1</sup>

However, questions remained about post-formulary outcomes for injured employees. While the goal of this study is to examine the trends of key injured employee outcomes, pre- and post-formulary, it does not seek to measure causal links with the formulary. Multiple other factors outside of the pharmacy closed formulary, such as the economy and network status, can contribute to injured employee outcomes. Outcomes reported in this study include a comparison of injured employee survey results from 2010 to 2018 on return-to-work rates, physical and mental functioning scores, as well as the results of the 2018 injured employee survey which asked new questions about their experience specific to pharmaceutical services.

Since about 50 percent of new injured employees in Texas receive their medical services in health care networks, this study presents findings broken out by both network and non-network claims. Further, to ensure compatible injury years with the cost and utilization timeframes, REG realigned the network outcome data used for its annual *Network Report Card* study. While some *Network Report Card* results appear similar to the results in this report, the injury years differ.

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<sup>1</sup> For more information, see Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, <https://www.tdi.texas.gov/reports/wcreg/documents/formulary16.pdf>.

## 2. BACKGROUND: FORMULARY IMPACT ON PHARMACY COST AND UTILIZATION

In 2016, REG compared injuries that occurred before (2009, 2010, and 2011) and after the closed pharmacy formulary was implemented (2012 and 2013).<sup>2</sup> Both sets of claims were analyzed at 24 months post-injury to account for differences in claim maturity. For example, REG analyzed 2013 injury year data through 2015, with services through 2017. The study found that the closed formulary reduced the total number of claims receiving N-drugs from 2011 to 2012, and the decrease continued into injury year 2013 (see Table 1).

**Table 1: Number and Share of Claims Receiving N-Drugs and Other Drugs, Injury Years 2009–2013**

	Fiscal Injury Year					2011-2012 Percentage Change
	2009	2010	2011	2012	2013	
All Claims	105,624	103,331	105,963	103,359	95,983	-2%
<b>N-Drugs</b>						
Number of Claims	31,556	29,835	24,286	8,120	4,181	-67%
Percent of All Claims	30%	29%	23%	8%	4%	-66%
<b>Other Drugs</b>						
Number of Claims with at Least One Other Drug	101,947	99,746	103,219	102,663	95,622	-1%
Number of Claims with Other Drugs Only (No N- Drugs)	74,068	73,496	81,677	95,239	91,802	17%
Percent of All Claims	70%	71%	77%	92%	96%	20%

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

### Changes in Claim Trends from 2011 to 2012:

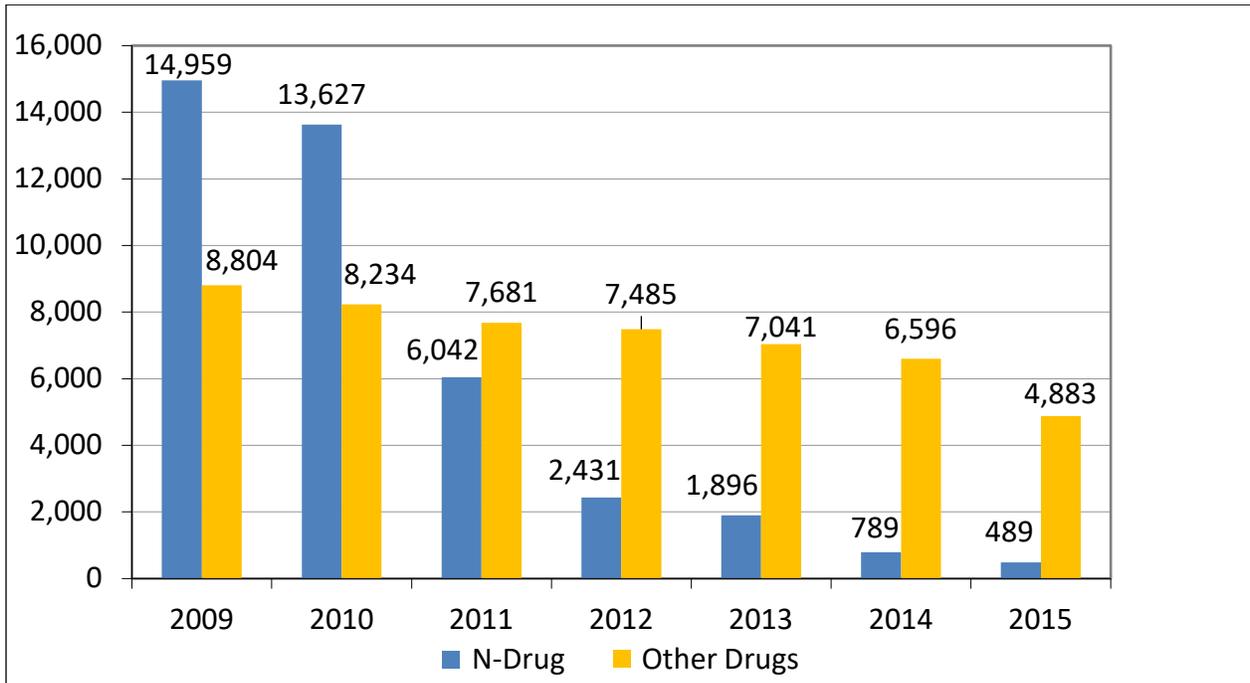
- The total number of claims receiving pharmaceuticals decreased by 2 percent.
- The total number of claims receiving N-drugs decreased by 67 percent.

<sup>2</sup> The last pre-formulary year, 2011, has claims with injuries that occurred September 2010 to August 2011. The first post-formulary year, 2012, has claims with injuries that occurred September 2011 to August 2012.

- The total number of claims receiving Other drugs increased by 17 percent.

The federal government has called the impact of opioids, in terms of cost and lost lives, a public health emergency and an epidemic. According to the *CDC Guideline for Prescribing Opioids for Chronic Pain - United States, 2016*, daily dosage groupings for opioids fall into three categories based on the Morphine Milligram Equivalents (MMEs) per day:<sup>3</sup> Low (1 – 49 MMEs/day), Medium (50 – 89 MMEs/day), and High (90+ MMEs/day). High utilization of opioids has been linked to high addiction rates, an increase in accidental overdoses, and suicide. The REG study shows measurable reductions in opioid utilization in Texas after implementing the closed formulary (see Figure 1).

**Figure 1: Number of Claims Receiving Opioid Prescriptions with 90+ MMEs/Day, by Service Year**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

<sup>3</sup> Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016. *MMWR Recomm Rep* 2016;65(No. RR-1):1–49. DOI: <http://dx.doi.org/10.15585/mmwr.rr6501e1>

### Changes in Opioid Trends from 2009 to 2015:

- The total number of claims receiving high levels of N-drug opioids decreased from 14,959 in 2009 to 489 in 2015.
- The total number of claims receiving high levels of Other opioids decreased from 8,804 in 2009 to 4,883 in 2015.

The pharmacy closed formulary also had a significant impact on the number and percentage of prescriptions in the Texas workers' compensation system. Overall, the total number of prescriptions for N-drugs and Other drugs decreased after implementing the formulary (see Table 2).

**Table 2: Number and Share of Prescriptions for N-Drugs and Other Drugs, Injury Years 2009–2013**

	Fiscal Injury Year					2011–2012 Percentage Change
	2009	2010	2011	2012	2013	
Total Number of Prescriptions	688,464	657,504	665,098	593,195	545,868	-11%
<b>N-Drugs</b>						
Number of Prescriptions	113,333	98,251	74,081	16,974	8,979	-77%
N-drug Prescriptions as a Percent of All Prescriptions	16%	15%	11%	3%	2%	-74%
<b>Other Drugs</b>						
Number of Prescriptions	575,131	559,253	591,017	576,221	536,889	-3%
Other Drug Prescriptions as a Percent of All Prescriptions	84%	85%	89%	97%	98%	9%

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

### Changes in Prescription Trends from 2011 to 2012:

- The total number of prescriptions decreased by 11 percent.
- The total number of N-drug prescriptions decreased by 77 percent.
- The total number of N-drug prescriptions as a percentage of all drugs decreased by 74 percent.
- The total number of prescriptions for Other drugs decreased by 3 percent.

The decrease in pharmaceutical utilization, both by prescriptions and claims, resulted in significant cost reductions in Texas, both in total and average costs (see Table 3).

**Table 3: Impact of Closed Formulary on Pharmacy Costs, Injury Years 2009–2013**

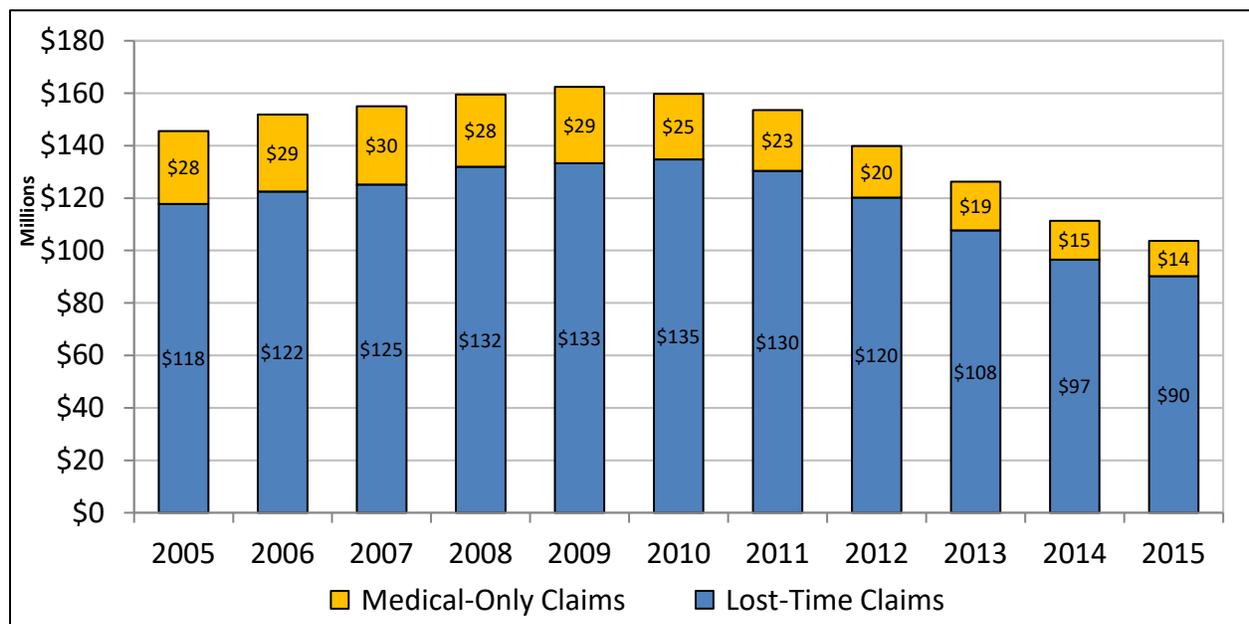
<b>Fiscal Injury Year</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2011–2012 Percentage Change</b>
Total Pharmacy Costs	\$49.6 Million	\$46.2 Million	\$44.5 Million	\$38.0 Million	\$36.7 Million	-15%
Total Cost of N-Drug Prescriptions	\$11.9 Million	\$11.3 Million	\$8.9 Million	\$2.0 Million	\$1.0 Million	-78%
Average N-Drug Cost Per Claim	\$376	\$379	\$367	\$240	\$241	-35%

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

**Prescription Cost Trends — 2009 to 2013:**

- The total costs of prescriptions decreased by 15 percent.
- The total cost of N-drug prescriptions decreased by 78 percent.
- The average N-drug cost per claim decreased by 35 percent.

**Figure 2: Impact of Closed Formulary on Pharmacy Costs, by Claim Type**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

- The pharmacy costs for medical-only claims and lost-time claims increased from 2005 to 2010.
- The pharmacy costs for both claim types began to decrease in 2011, the year the formulary was implemented, and has continued to decrease since.

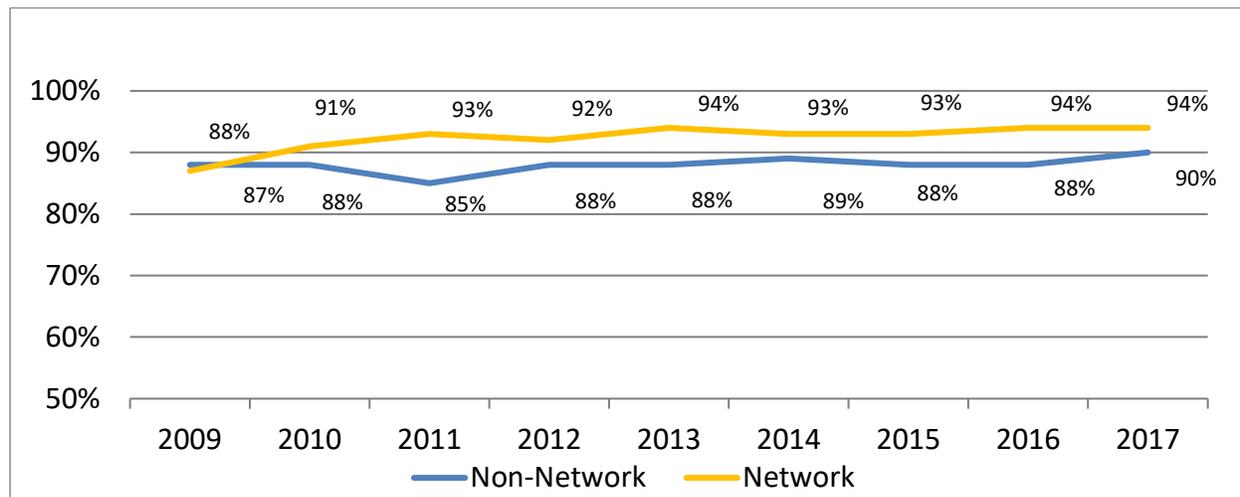
### 3. INJURED EMPLOYEE OUTCOMES PRE- AND POST-FORMULARY

#### INJURED EMPLOYEE SURVEY — 2009 TO 2017:

REG conducts an annual survey of about 3,000 injured employees to collect a range of measures on injured employee experiences in the workers' compensation system. The results are reported in the annual *Network Report Card*. However, to ensure compatible injury years with the cost and utilization timeframes, REG realigned the network outcome data for this report. While some *Network Report Card* results appear similar to the results in this report, the injury years differ.

Since networks treat about 50 percent of new injured employees, it is useful to present findings for network and non-network injured employees as separate groups, when available. The key outcomes reported in this report are return-to-work rates and health outcomes (mental and physical functioning scores). Figure 3 shows the return-to-work rates while Figures 4 and 5 present mental and physical functioning scores from injury years 2009 to 2017.

**Figure 3: Injured Employee Return-to-Work Rates, by Injury Year**

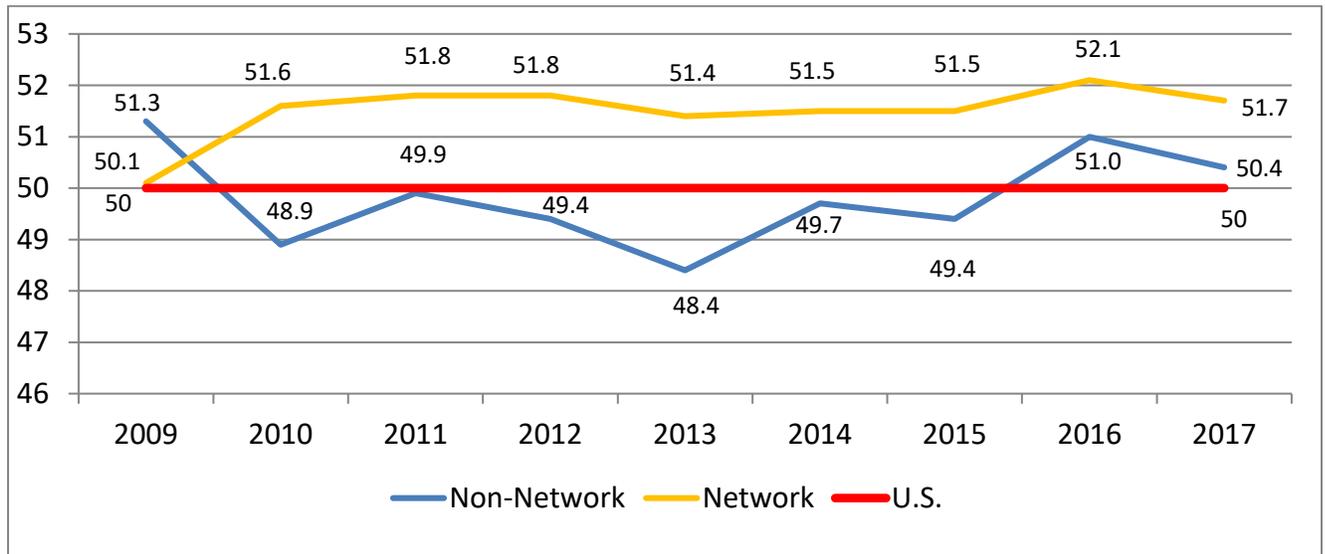


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2019.

#### Return-to-Work Rates — 2009 to 2017:

- The return-to-work rates for network injured employees were consistently higher than for non-network injured employees after 2009.
- The return-to-work rate for network injured employees averaged 90 percent before the formulary took effect and 93 percent after.
- The return-to-work rate for non-network injured employees averaged 87 percent before the formulary took effect and 89 percent after.

**Figure 4: Injured Employee Mental Functioning Scores, by Injury Year**

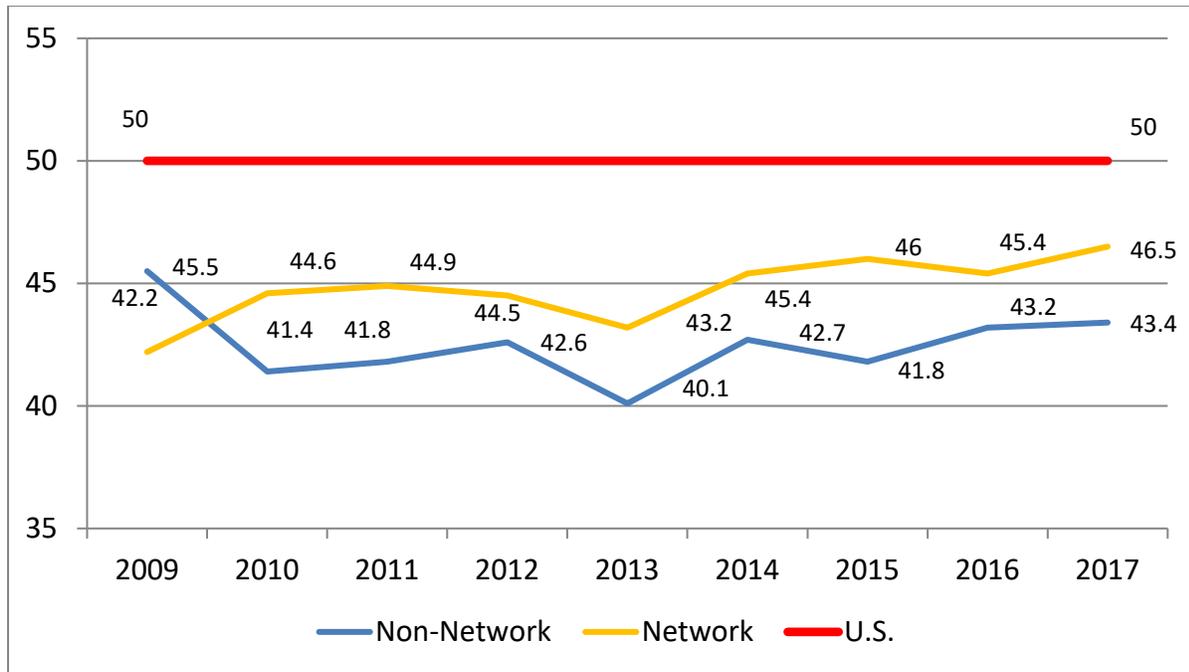


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2019.  
 Note: The U.S. line represents the 50th percentile for the U.S. population.

**Mental Functioning Scores — 2009 to 2017:**

- The mental functioning scores for network injured employees averaged 51.2 before and 51.7 after the pharmacy closed formulary went into effect.
- The mental functioning scores for non-network injured employees averaged 50.0 before and after the pharmacy closed formulary went into effect.
- The mental functioning scores for network injured employees were consistently higher than for the non-network injured employees and the U.S. population.
- The mental functioning scores for network injured employees consistently exceeded the U.S. population scores, while the mental functioning scores for non-network injured employees exceeded the U.S. population scores in 2009 and again for the last two years.

**Figure 5: Injured Employee Physical Functioning Scores, by Injury Year**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2019.  
 Note: The U.S. line represents the 50th percentile for the U.S. population.

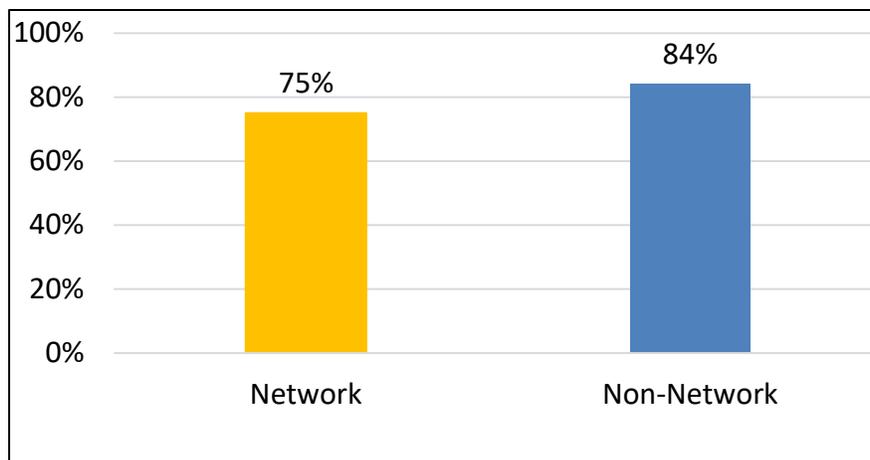
**Physical Functioning Scores — 2009 to 2017:**

- The physical functioning scores for network and non-network injured employees both increased to their highest levels since the formulary went into effect.
- The physical functioning scores for network injured employees averaged 43.9 before and 45.1 after the formulary went into effect.
- The physical functioning scores for non-network injured employees averaged 42.9 before and 42.3 after the formulary went into effect.
- The physical functioning scores for network injured employees were higher in 2017 than in any year pre- or post-formulary.

## INJURED EMPLOYEE SURVEY — 2018:

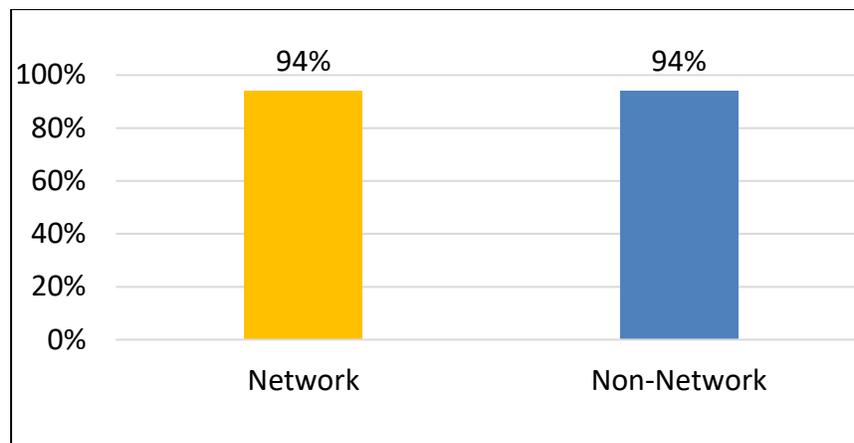
In 2018, REG’s injured employee survey also asked questions specific to injured employees’ experience with the pharmaceutical services they received for work-related injuries. A higher percentage of non-network injured employees than network injured employees received pharmaceuticals for their injuries (see Figure 6). An equal percentage of network and non-network injured employees said the prescriptions were for pain they experienced from the injury (see Figure 7). The results of this survey provide a baseline from which to measure injured employee experience with the pharmaceuticals they receive for their injuries.

**Figure 6: Percentage of Injured Employees Who Received Prescription Drugs for Their Work-Related Injuries**



Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2018.

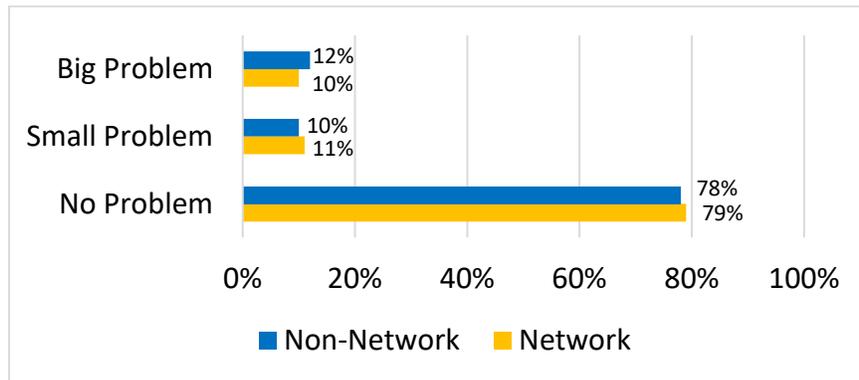
**Figure 7: Percentage of Injured Employees Who Said They Received Prescription Drugs for Pain They Experienced from Their Work-Related Injuries**



Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2018.

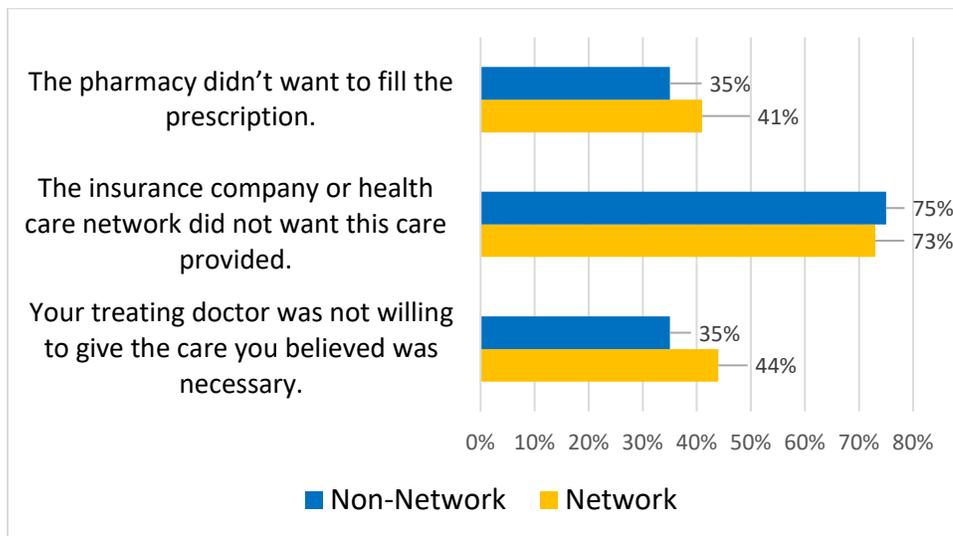
The survey also asked injured employees about any problems they might have experienced in receiving the prescription drugs they thought were necessary for their injuries. An overwhelming majority said they had no problems in receiving their prescription drugs (see Figure 8). Among those with problems, a majority thought it was because the insurance company or health care network did not want this care provided (see Figure 9).

**Figure 8: Percentage of Injured Employees Who Said They Had Problems or No Problems Receiving the Prescription Drugs They Thought Were Necessary for Their Work-Related Injuries**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2018.

**Figure 9: The Reasons Injured Employees Gave for the Problems They Experienced in Receiving the Prescription Drugs They Thought Were Necessary for Their Work-Related Injuries**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2018.

The 2018 survey also asked questions regarding best practices that prescribing doctors use in workers' compensation. While the results show little difference by network status, they show that significant opportunities exist for prescribing doctors to follow best practices that may further improve injured employee outcomes (see Table 4).

**Table 4: Interactions Between Treating Doctors and Injured Employees**

<b>When your treating doctor prescribed pain drugs to you, did the doctor:</b>	<b>Network Injured Employees</b>	<b>Non-Network Injured Employees</b>
Discuss treatment goals for you, including how much pain you should expect as a result of your injury?	54%	54%
Discuss benefits and risks of you taking the pain drugs?	43%	46%
Discuss how often and how much of the drug you should take?	50%	49%
Discuss ways you could deal with your pain, especially long-term?	30%	35%
Ask you about other drugs you were taking?	54%	53%
Test your urine?	51%	61%

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2018.

## **MEDICAL DISPUTES**

The number of medical disputes in the workers' compensation system is a measurement of disagreements between system participants. Generally, there are three types of medical disputes, and these may include disputes over pharmaceutical services and prescription drugs:

- fee disputes (disputes over the amount of payment for medical services provided to injured employees),

- preauthorization disputes<sup>4</sup> (disputes regarding the medical necessity of certain medical treatments and services that the insurance carrier denied), and
- retrospective medical necessity disputes (disputes regarding the medical necessity of medical treatments and services that have already been rendered and billed by the health care provider).

The number of medical disputes has decreased steadily since 2000, when it was more than 17,000. This trend continued after implementing the pharmacy closed formulary in 2011, suggesting that the formulary was not a measurable source of disagreement between injured employees and other system participants (see Table 5).

**Table 5: Distribution of Medical Disputes Submitted to DWC, by Type of Medical Dispute: 2009–2017**

Year Dispute Received	Pre-Authorization	Fee Disputes	Retrospective Medical Necessity Disputes	Total
2009	24%	74%	2%	12,293
2010	41%	58%	1%	7,596
2011	35%	63%	2%	7,795
2012	37%	62%	1%	5,643
2013	26%	73%	1%	5,187
2014	26%	74%	Less than 1%	5,241
2015	23%	77%	Less than 1%	5,283
2016	20%	80%	Less than 1%	4,960
2017	17%	82%	Less than 1%	4,849

Source: Texas Department of Insurance: Division of Workers' Compensation and Workers' Compensation Research and Evaluation Group, 2018.

**Medical Disputes — 2009 to 2017:**

- The number of workers' compensation medical disputes decreased 38 percent from 2011 (when the formulary was implemented) to 2017.

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<sup>4</sup> Texas Labor Code §413.014 and 28 Texas Administrative Code §134.600 include a list of medical treatments and services that require preauthorization by the insurance carrier before they can be provided to an injured employee. Networks are not subject to these preauthorization requirements and may establish their own lists of medical treatments and services that require preauthorization. See Texas Insurance Code §1305.351.

- Preauthorization disputes, including disputes over N-drugs prescriptions, decreased from 41 percent of all medical disputes in 2010 to 17 percent in 2017.
- The decrease in disputes is related to several factors, such as fewer claims filed, the creation of health care networks in 2006, the adoption of DWC’s medical treatment guidelines in 2007, and DWC’s adoption of professional, inpatient and outpatient hospital, and ambulatory surgical center fee guidelines in 2008.

**REMEDIES FOR LEGACY CLAIMS UNDER THE CLOSED FORMULARY**

DWC implemented the pharmacy closed formulary for legacy claims in 2013. At that time, there were 2,691 claims identified as receiving N-drugs without agreements between insurance carriers and prescribing doctors.

To address this concern, DWC created a process to allow a prescribing doctor or pharmacy to obtain a medical interlocutory order (MIO) when an insurance carrier denies preauthorization of previously prescribed drugs. An MIO allows the injured employee to continue using the drug throughout the duration of the dispute.

As of September 2019, 163 MIOs had been requested; DWC approved 93 of these and denied 62. Three percent (87 claimants) of the 2,691 legacy claims identified as receiving N-drugs submitted MIO requests (see Table 6).

**Table 6: Medical Interlocutory Orders for Legacy Claims**

<b>MIO Request Status (September 2013 – August 2019)</b>	<b>Count</b>	<b>Subsequently Rescinded</b>
Approved	93	27
Denied	62	NA
Withdrawn (before approval or denial)	8	NA
<b>Total</b>	<b>163</b>	

Source: Texas Department of Insurance, Division of Workers’ Compensation, 2019  
 Note: MIOs are rescinded when agreements are reached, or the dispute process is adjudicated.

## SUMMARY

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This report does not attempt to establish a causal link between the formulary and injured-employee outcomes in Texas. However, trends in injured employee outcomes showed modest improvements over time, both before and after implementing the pharmacy closed formulary.

As the post-formulary utilization and costs of prescriptions decreased, outcomes improved in most measures, especially for network claims. Return-to-work rates and health outcomes increased most years. Medical disputes (which include pharmacy disputes) decreased significantly, a measure of decreasing friction between injured employees and insurance carriers over fees, medical necessity services, and preauthorization. However, the 2018 survey results demonstrate that significant opportunities exist for prescribing doctors to help improve injured employee outcomes with more adherence to best practices.

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