



# Utilization and Cost of Hospital/Institutional Services in the Texas Workers' Compensation System

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## 2016-2020



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

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- 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.

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## Executive Summary

Hospital/institutional services include inpatient services, outpatient services, and other services, such as skilled nursing facilities, home health care, intermediate care, clinic or hospital-based End Stage Renal Disease (ESRD) facilities, special facility, or hospital surgeries.

Hospital/institutional services are currently billed and reimbursed based on the hospital fee guideline adopted on March 1, 2008. Before adopting this guideline there was no fee guideline addressing hospital outpatient services. Outpatient services were billed and reimbursed on a fair and reasonable basis. Inpatient services were previously billed and reimbursed based on the hospital fee guideline adopted on August 1, 1997. This guideline provided different methods of reimbursement based on the specific classification of the hospital and the type of services and total charges related to the admission.

This report presents fundamental metrics on the cost and utilization of hospital/institutional services in the Texas workers' compensation system. The data used in this report comes from hospital/institutional billing and payment data that insurance carriers report to the Division of Workers' Compensation (DWC). Claims with injuries that occurred from January 1, 2016, through December 31, 2020, were included in the analysis. Each claim had at least 12 months experience after injury. All claims in the analysis were billed and reimbursed based on the current hospital fee guidelines that became effective March 1, 2008.

Cost and utilization of hospital/institutional services were analyzed and presented separately for all hospital/institutional services, hospital inpatient services, hospital outpatient services, and other services. In the analysis of utilization, all the services were included regardless of the payment amount. However, in the analysis of cost, only services with non-zero payment were included.

## Key Findings

**Utilization:** The total number of claims receiving hospital/institutional services was stable from 2016 to 2019 but decreased by 26 percent in 2020. In each injury year, over 95 percent of these hospital claims had outpatient services but only five percent had inpatient services.

**Total Cost:** The total hospital cost increased from \$294 million in 2016 to \$334 million in 2018 but decreased to \$262 million in 2020. In each injury year, more than half of the hospital cost was for outpatient services and more than 40 percent was for inpatient services. The gap between outpatient and inpatient costs narrowed from 2016 to 2020.

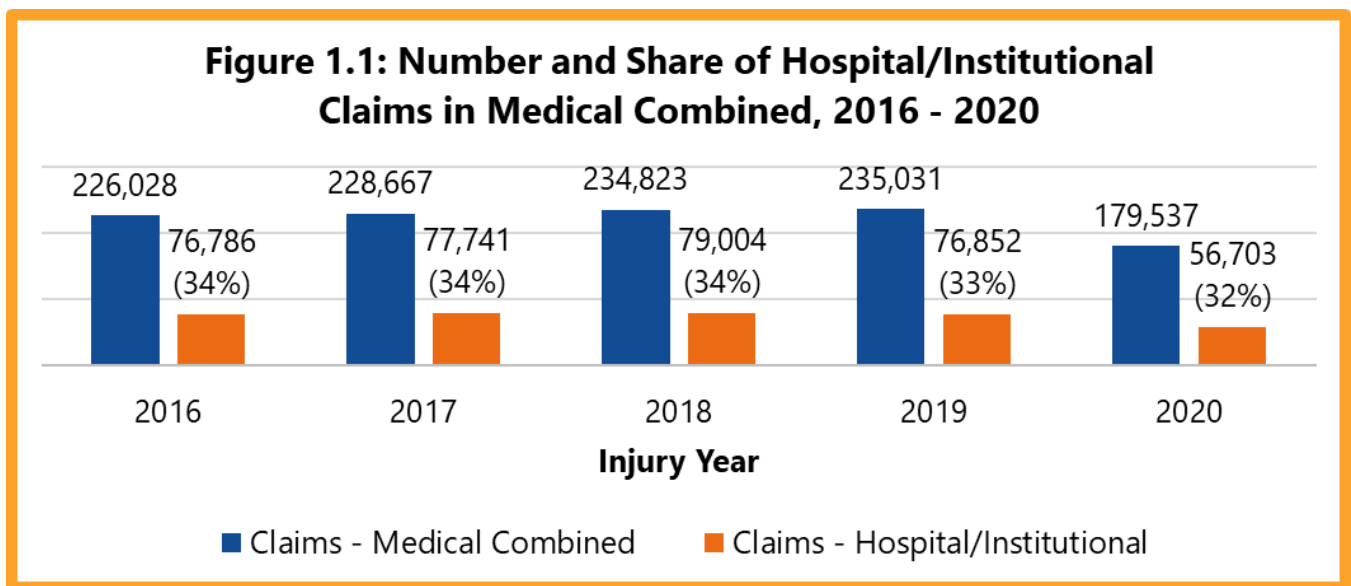
**Average Cost per Claim:** The average hospital cost per claim increased in 2018 and 2020, which was mainly driven by the inpatient cost per claim. In 2018, the average cost per claim for inpatient services increased due to the increases in average cost per service and average number of paid services per claim. In 2020, the large increase in average number of paid services per claim led to an increase in average cost per claim for inpatient services, even though the average cost per service decreased in 2020.

The average cost per claim for outpatient services also increased in 2018 and 2020 but the rate of that increase was smaller than the rate of increase for inpatient services. From 2016 to 2020 the average cost per service gradually increased, but the number of paid services per claim showed little change.

## Utilization and Cost of All Hospital/Institutional Services

### Utilization of Hospital/Institutional Services

From 2016 to 2020 about one third of claims receiving health care benefits had one or more hospital/institutional services (see Figure 1.1). The number of claims that received hospital/institutional services was stable from 2016 to 2019 but significantly declined by 26 percent from 2019 to 2020. In each injury year, over 95 percent of claims that received hospital/institutional services had one or more hospital outpatient services. Only five percent of claims had one or more hospital inpatient services and four percent of claims had one or more other services. These percentages do not add up to 100 percent because claims could receive more than one type of services.

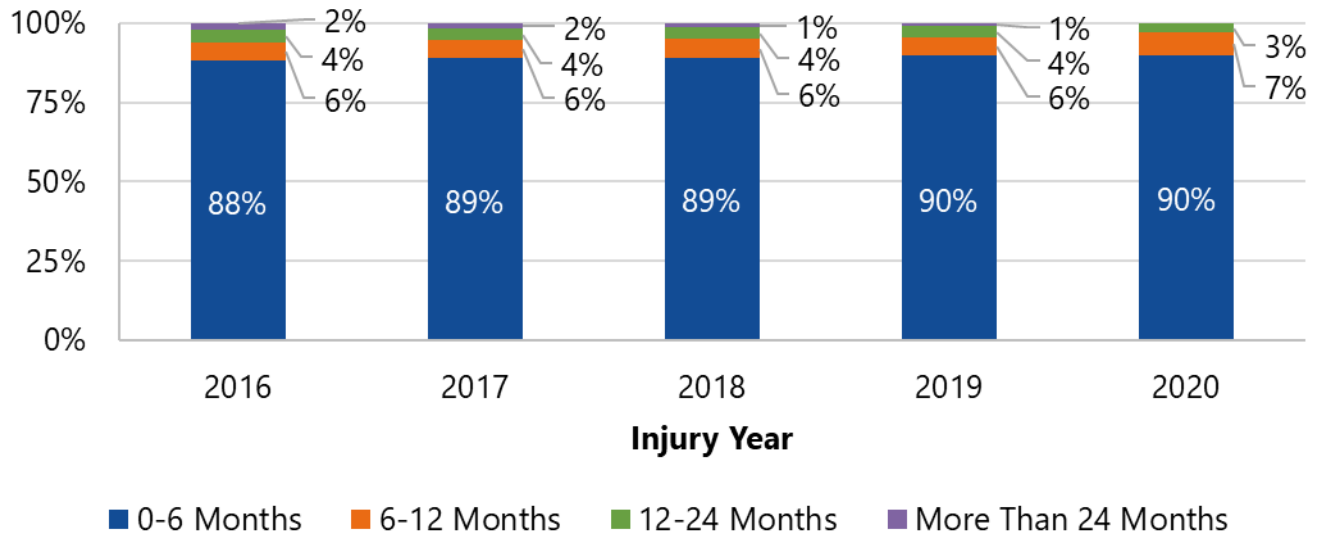


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Note: Medical Combined includes professional, hospital/institutional, pharmacy, and dental services.

Figure 1.2 shows that nearly 90 percent of claims receiving hospital/institutional services received those services for less than six months after injury. Around 10 percent received the services for more than six months.

**Figure 1.2: Distribution of Hospital/Institutional Claims by Post-Injury Treatment Duration, 2016 - 2020**

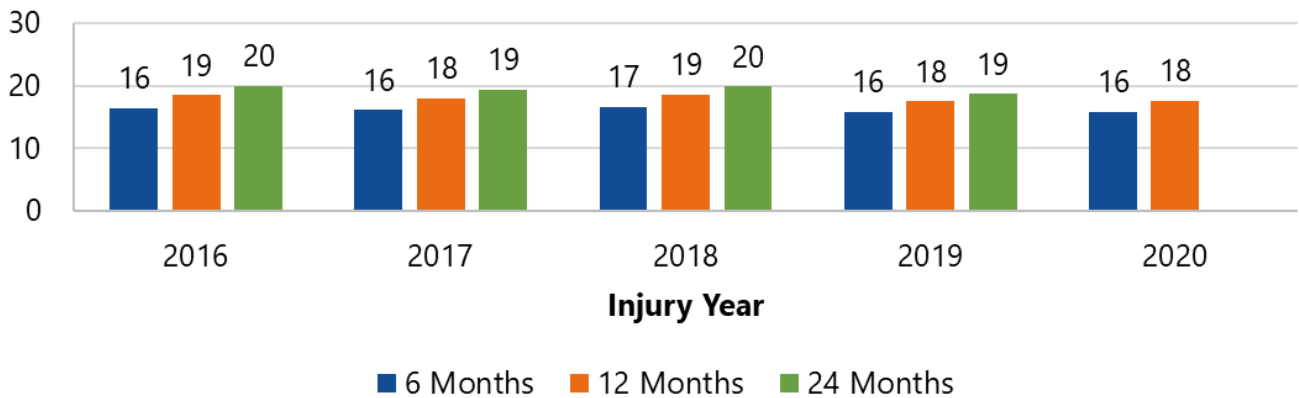


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Note: The number of claims that received hospital/institutional services for more than 24 months in 2019 and the number of claims that received the services for more than 12 months in 2020 will change over time as claims continue to mature and more data becomes available.

The claims receiving hospital/institutional services received, on average, a similar number of those services per claim from 2016 to 2020. As shown in Figure 1.3, injured employees received an average of 16 to 17 hospital/institutional services at six months post-injury, 18 to 19 services at 12 months post-injury and 19 to 20 services at 24 months post-injury.

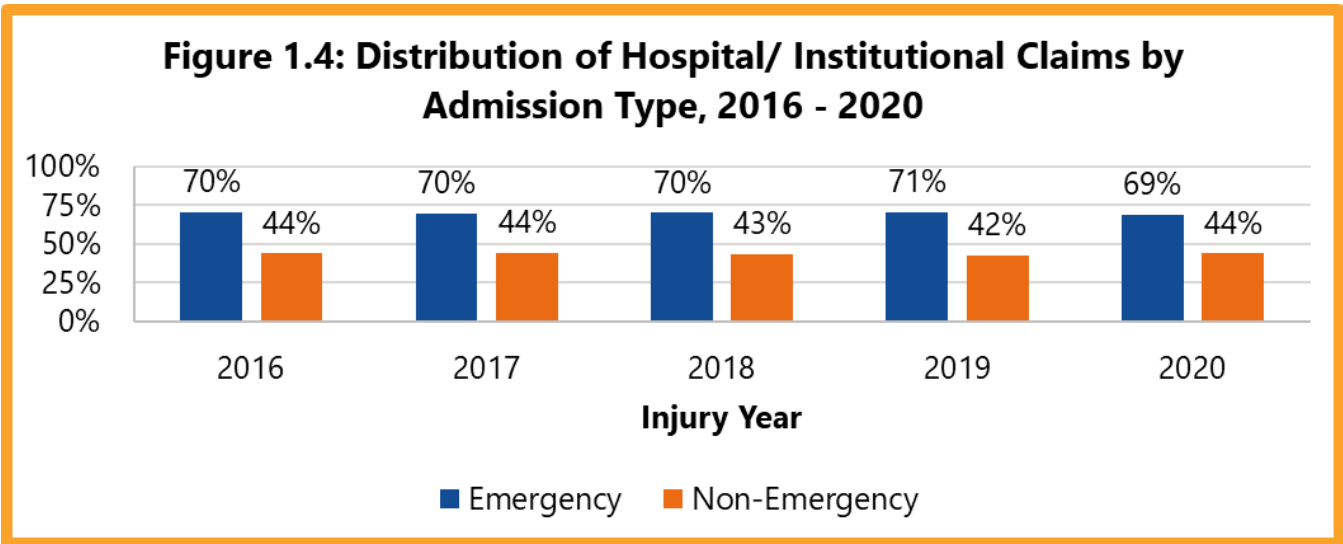
**Figure 1.3: Average Number of Hospital/Institutional Services per Claim at 6, 12, 24 Months Post-Injury, 2016 - 2020**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Emergency admission was the most frequent type of hospital admission for claims receiving hospital/institutional services (see Figure 1.4). Seven out of ten claims receiving hospital/institutional

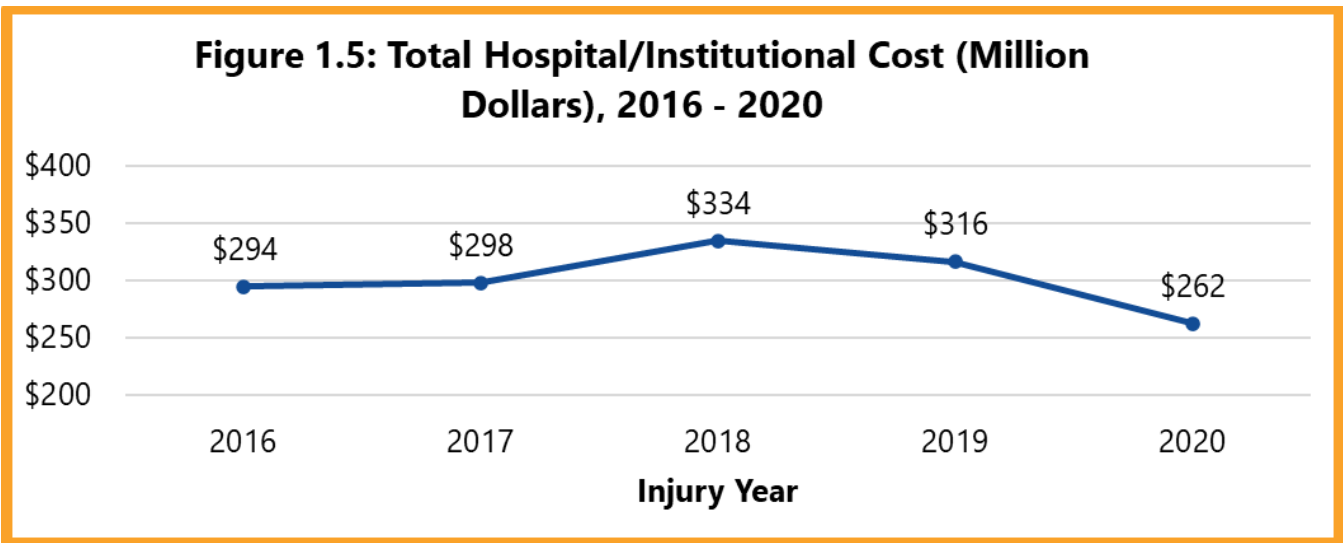
services involved injured employees who were admitted to hospital at least once through the emergency department.



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.  
 Note: Emergency admission indicates that a patient seen in the emergency department is subsequently admitted to the hospital. Non-emergency admission includes elective, urgent, newborn, and trauma admission.

### Total Cost of Hospital/Institutional Services

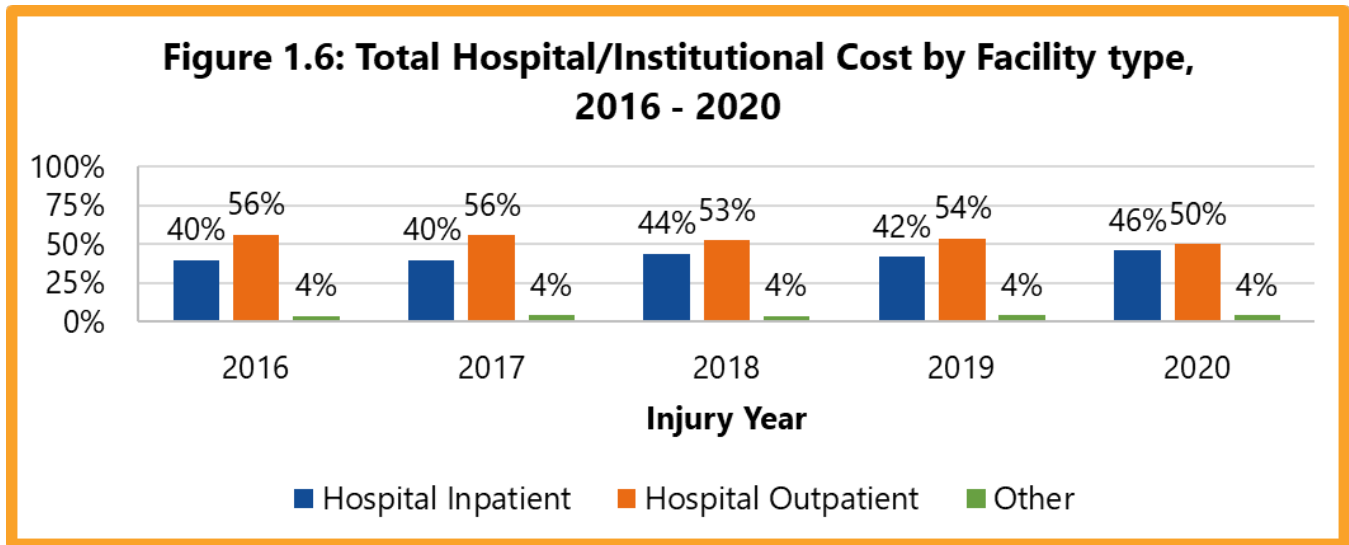
The overall cost of hospital/institutional services increased from \$294 million dollars in 2016 to \$334 million dollars in 2018 and then decreased to \$262 million dollars in 2020 (see Figure 1.5). The increase was mainly from 2017 to 2018 and the decrease was the greatest from 2019 to 2020. Specifically, the total cost increased by 12 percent from 2017 to 2018 and decreased by 17 percent from 2019 to 2020.



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.



Even though only about five percent of hospital claims received hospital inpatient services, they accounted for slightly more than 40 percent of the total hospital/institutional cost (see Figure 1.6). The gap between inpatient and outpatient hospital costs narrowed from 2016 to 2020.



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.  
 Note: Due to rounding, the percentages do not add up to 100%.

Overall, the average hospital/institutional cost per claim increased from 2016 to 2020 with large increases in 2018 and 2020 (see Table 1.1). The average hospital/institutional cost per claim at six months post-injury increased 16 percent from 2017 to 2018 and 15 percent from 2019 to 2020. The average cost per claim at 12 months post-injury increased 15 percent from 2017 to 2018 and 15 percent from 2019 to 2020. The average cost per claim at 24 months post-injury increased 13 percent from 2017 to 2018.

**Table 1.1: Number of Paid Claims and Average Cost per Claim for Hospital/Institutional Services at 6, 12, 24 Months Post-Injury, 2016 - 2020**

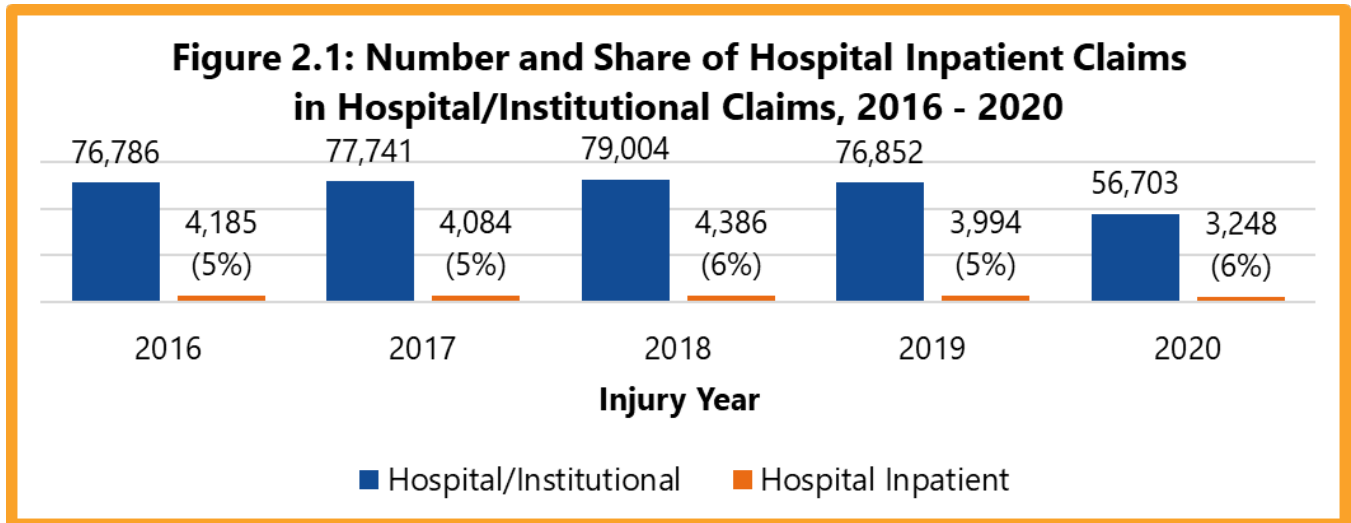
Injury Year	6 Months			12 Months			24 Months		
	Number of Paid Claims	Average Cost per Claim	Change	Number of Paid Claims	Average Cost per Claim	Change	Number of Paid Claims	Average Cost per Claim	Change
2016	66,984	\$3,301	-	68,584	\$3,673	-	69,280	\$4,017	-
2017	69,083	\$3,318	1%	70,651	\$3,664	0%	71,290	\$3,987	-1%
2018	70,089	\$3,859	16%	71,564	\$4,225	15%	72,149	\$4,509	13%
2019	68,462	\$3,809	-1%	69,777	\$4,148	-2%	70,344	\$4,438	-2%
2020	52,137	\$4,377	15%	53,279	\$4,770	15%	-	-	-

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

## Utilization and Cost of Hospital Inpatient Services

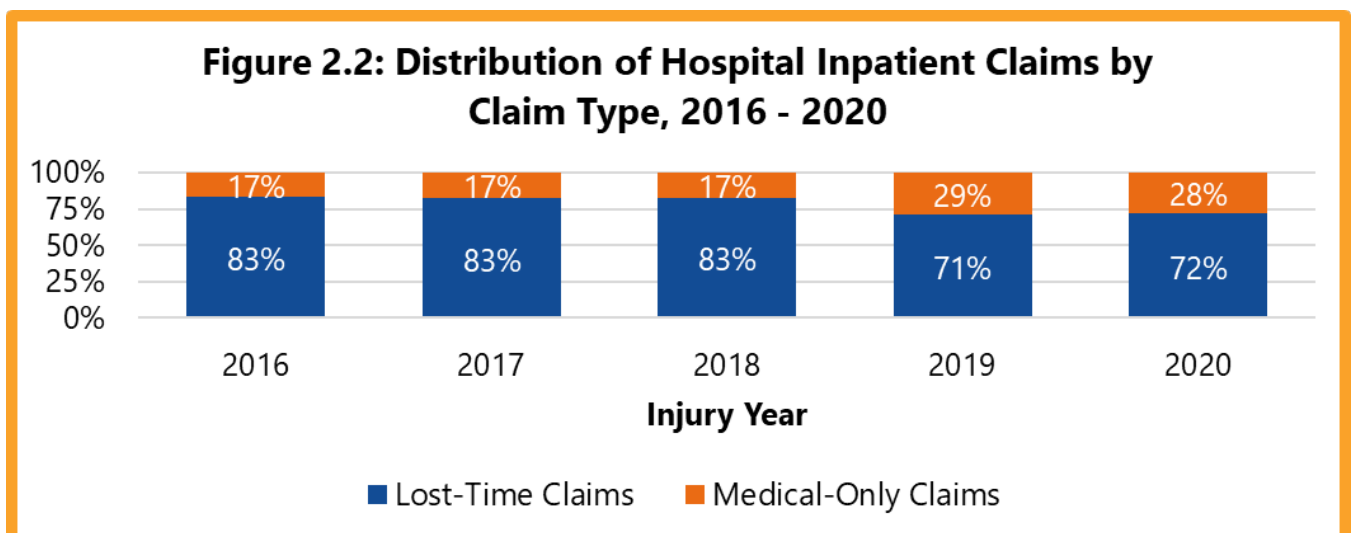
### Utilization of Hospital Inpatient Services

About 5 percent of claims that received hospital/institutional services had one or more hospital inpatient services and the proportion was similar from 2016 to 2020 (see Figure 2.1). The number of claims receiving hospital inpatient services had small changes from 2016 to 2019 and then declined significantly by 19 percent from 2019 to 2020 due to the low volume of all hospital/institutional claims in 2020.



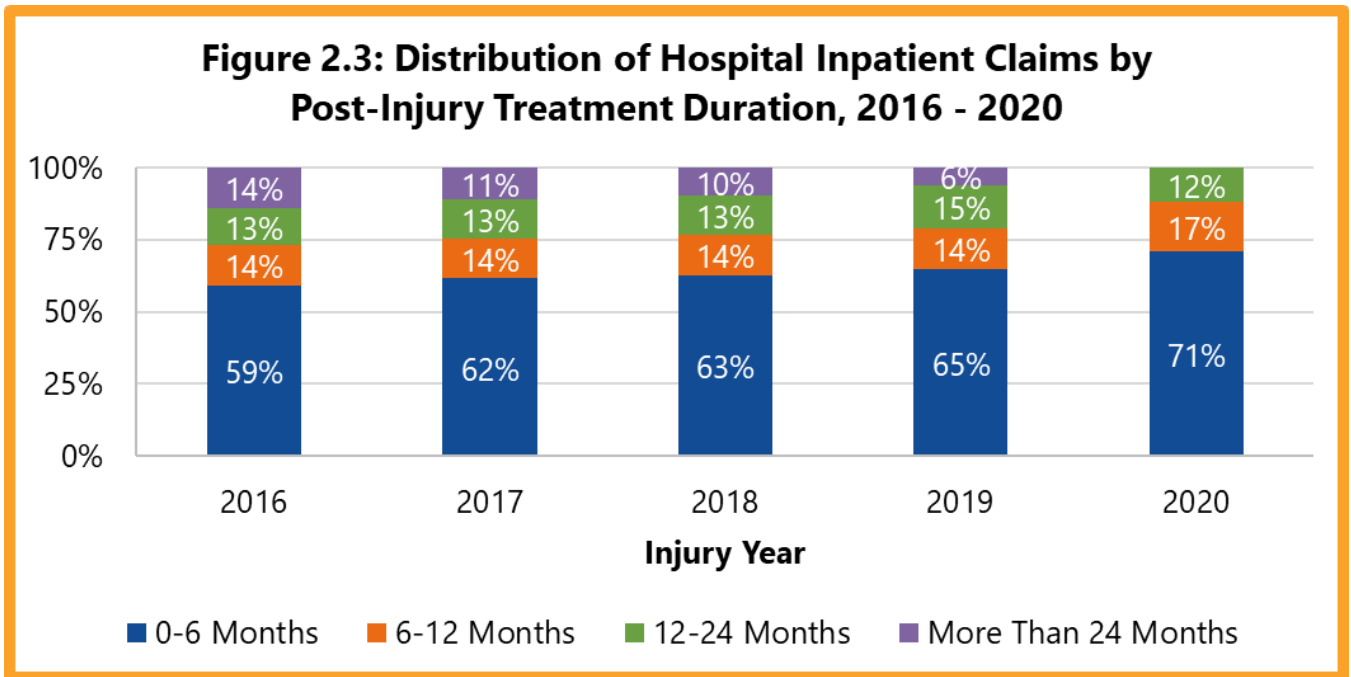
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Claims with more than seven days of lost time due to a work-related injury are classified as lost-time claims. The remaining claims are classified as medical-only claims. Figure 2.2 shows that from 2016 to 2018, 83 percent of claims receiving hospital inpatient services were lost-time claims, and the proportion decreased to around 70 percent in 2019 and 2020. The medical-only claims accounted for 17 percent in 2016 to 2018 and increased to nearly 30 percent in 2019 and 2020.



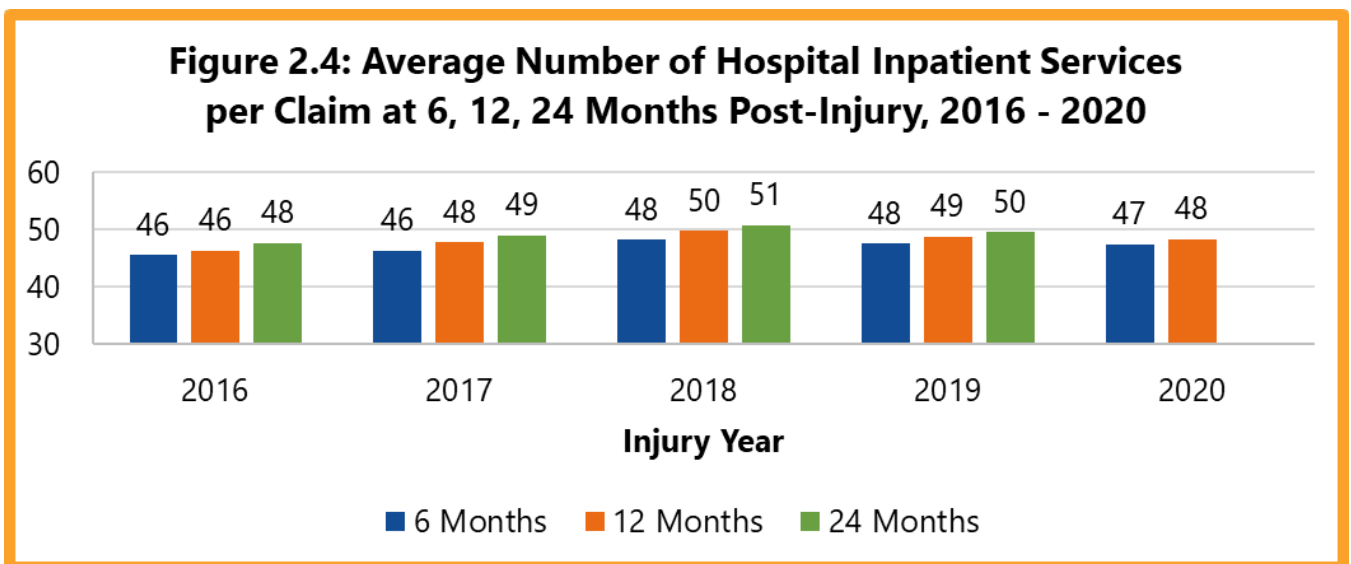
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Figure 2.3 shows that most claims receiving hospital inpatient services received those services for less than six months post-injury, and the proportion of claims receiving these services increased from 59 to 71 percent from 2016 to 2020.



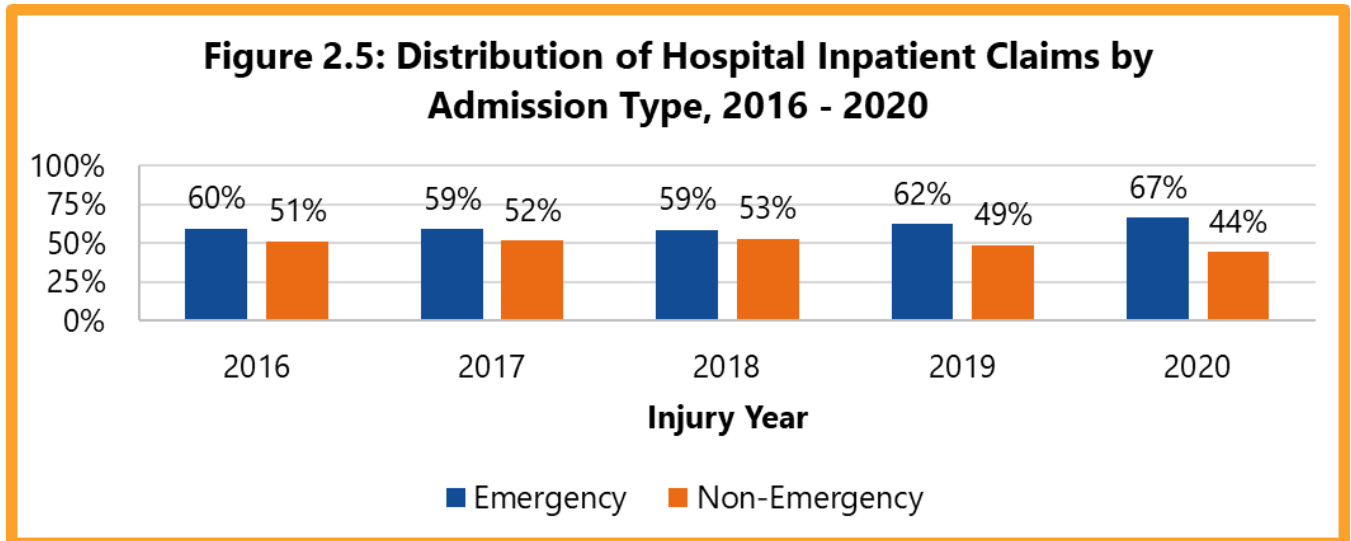
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.  
 Note: The number of claims that received hospital inpatient services for more than 24 months in 2019 and the number of claims that received the services for more than 12 months in 2020 will change over time as claims continue to mature and more data becomes available.

The claims receiving hospital inpatient services had, on average, a similar number of those services from 2016 to 2020 (see Figure 2.4). The average number of hospital inpatient services per claim was 46 to 48 at six months post-injury, 46 to 50 at 12 months post-injury and 48 to 51 at 24 months post-injury.



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022

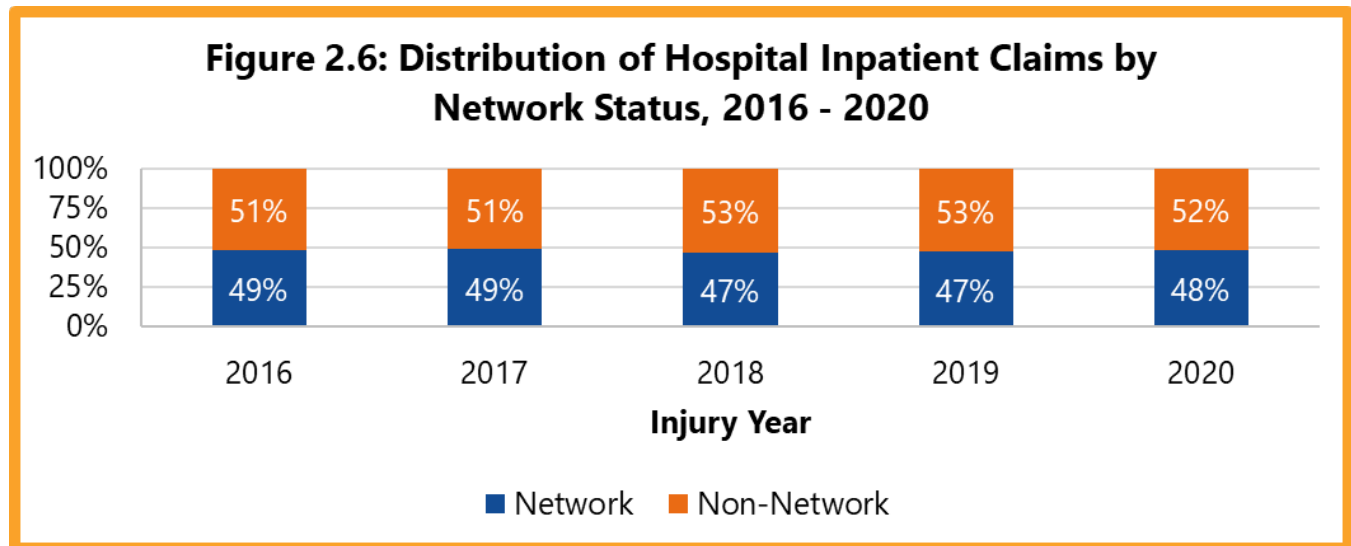
Figure 2.5 shows that about 60 percent of claims receiving hospital inpatient services involved injured employees who were admitted to hospital at least once through the emergency department.



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Note: Emergency admission indicates that a patient seen in the emergency department is subsequently admitted to the hospital. Non-emergency admission includes elective, urgent, newborn, and trauma admission.

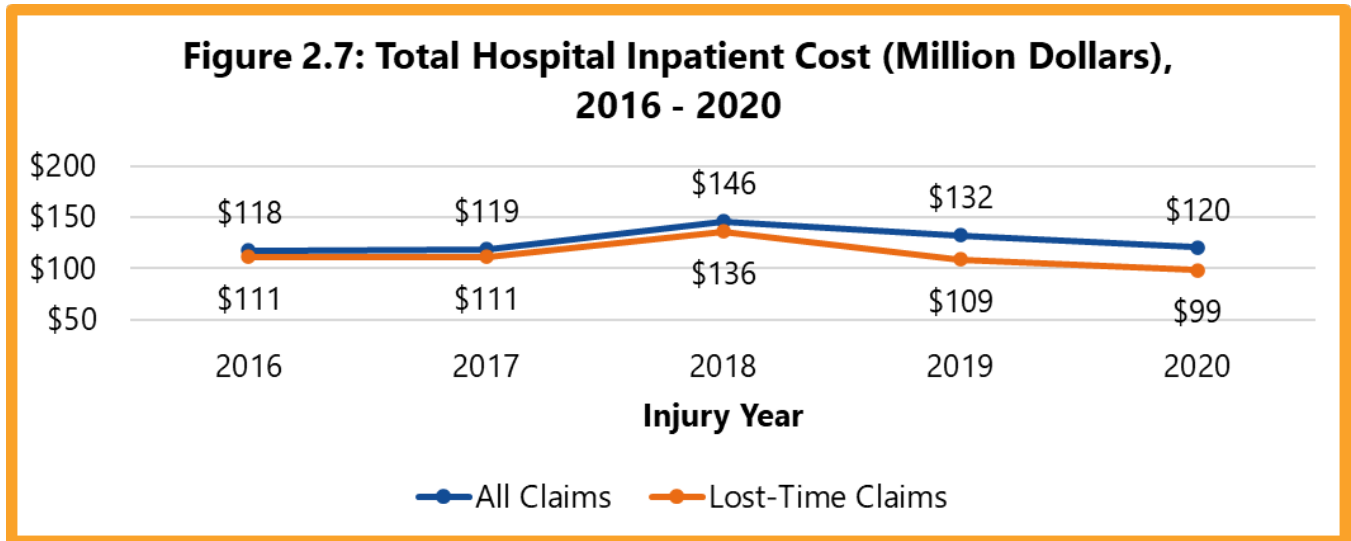
Figure 2.6 shows the percentage of network and non-network claims that received hospital inpatient services. Nearly half of injured employees were treated in networks.



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

## Cost of Hospital Inpatient Services

The total hospital inpatient cost changed slightly from 2016 to 2017 but increased 23 percent from 2017 to 2018 and decreased 18 percent from 2018 to 2020 (see Figure 2.7). Even though the number of claims receiving hospital inpatient services was about 22 percent lower in 2020 than the number in 2016, the total hospital inpatient cost was similar in these two years. Lost-time claims accounted for nearly 94 percent of the total hospital inpatient cost in 2016 to 2018, but the proportion declined to 82 percent in 2019 and 2020.



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

The average hospital inpatient cost per claim at 6 and 12 months post-injury increased by 38 percent from 2016 to 2020 with large increases in 2018 and 2020 (see Table 2.1). The average cost per claim at six months post-injury increased 19 percent from 2017 to 2018 and 12 percent from 2019 to 2020. The average cost per claim at 12 months post-injury also increased 19 percent from 2017 to 2018 and 12 percent from 2019 to 2020. The average cost per claim at 24 months post-injury increased 16 percent from 2017 to 2018.

**Table 2.1: Number of Paid Claims and Average Cost per Claim of Hospital Inpatient Services at 6, 12, 24 Months Post-Injury, All Claims, 2016 – 2020**

Injury Year	6 Months			12 Months			24 Months		
	Number of Paid Claims	Average Cost per Claim	Change	Number of Paid Claims	Average Cost per Claim	Change	Number of Paid Claims	Average Cost per Claim	Change
2016	3,080	\$29,649	-	3,253	\$30,440	-	3,464	\$31,661	-
2017	3,101	\$31,226	5%	3,244	\$31,909	5%	3,425	\$33,174	5%
2018	3,423	\$37,106	19%	3,566	\$37,919	19%	3,708	\$38,452	16%
2019	3,256	\$36,701	-1%	3,351	\$37,354	-1%	3,463	\$37,845	-2%
2020	2,760	\$40,980	12%	2,833	\$41,863	12%	-	-	-

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

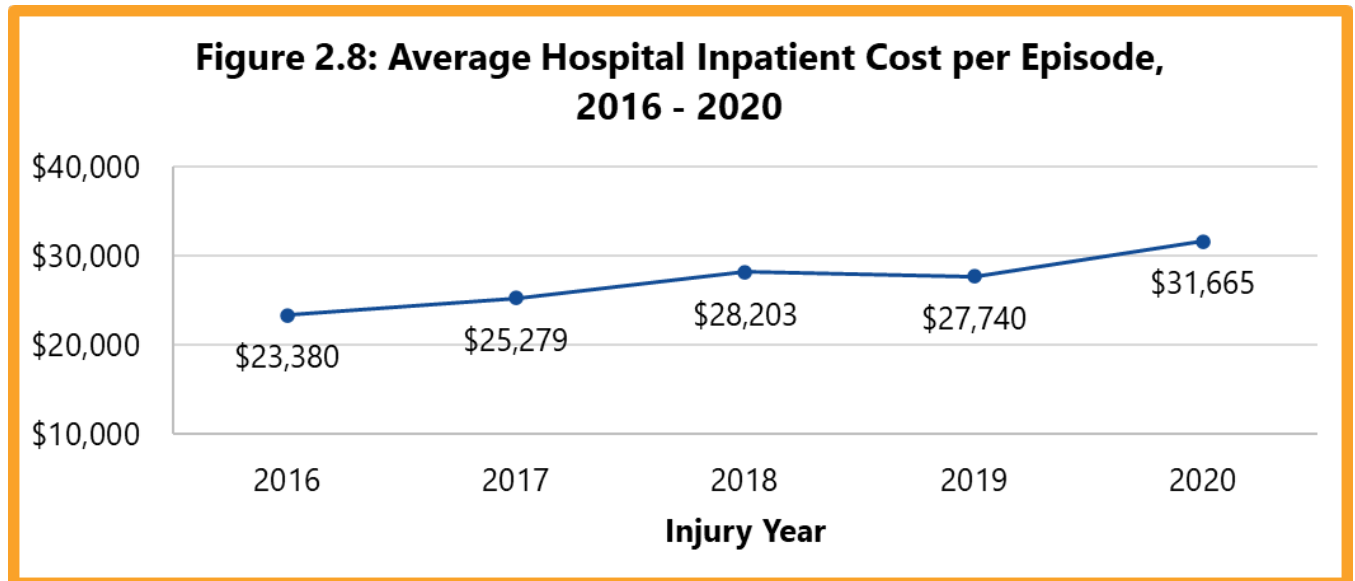
Table 2.2 shows the average hospital inpatient cost per claim at 6, 12, and 24 months post-injury for lost-time claims. The average cost per claim for lost-time claims also increased from 2016 to 2020 with the similar increase rate to all hospital inpatient claims shown in Table 2.1.

**Table 2.2: Number of Paid Claims and Average Cost per Claim of Hospital Inpatient Services at 6, 12, 24 Months Post-Injury, Lost-Time Claims, 2016 – 2020**

Injury Year	6 Months			12 Months			24 Months		
	Number of Paid Claims	Average Cost per Claim	Change	Number of Paid Claims	Average Cost per Claim	Change	Number of Paid Claims	Average Cost per Claim	Change
2016	2,670	\$31,785	-	2,840	\$32,568	-	3,044	\$33,830	-
2017	2,686	\$33,507	5%	2,826	\$34,159	5%	2,996	\$35,471	5%
2018	2,992	\$39,405	18%	3,121	\$40,230	18%	3,252	\$40,774	15%
2019	2,441	\$40,295	2%	2,519	\$40,898	2%	2,602	\$41,432	2%
2020	2,095	\$44,276	10%	2,144	\$45,307	11%	-	-	-

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

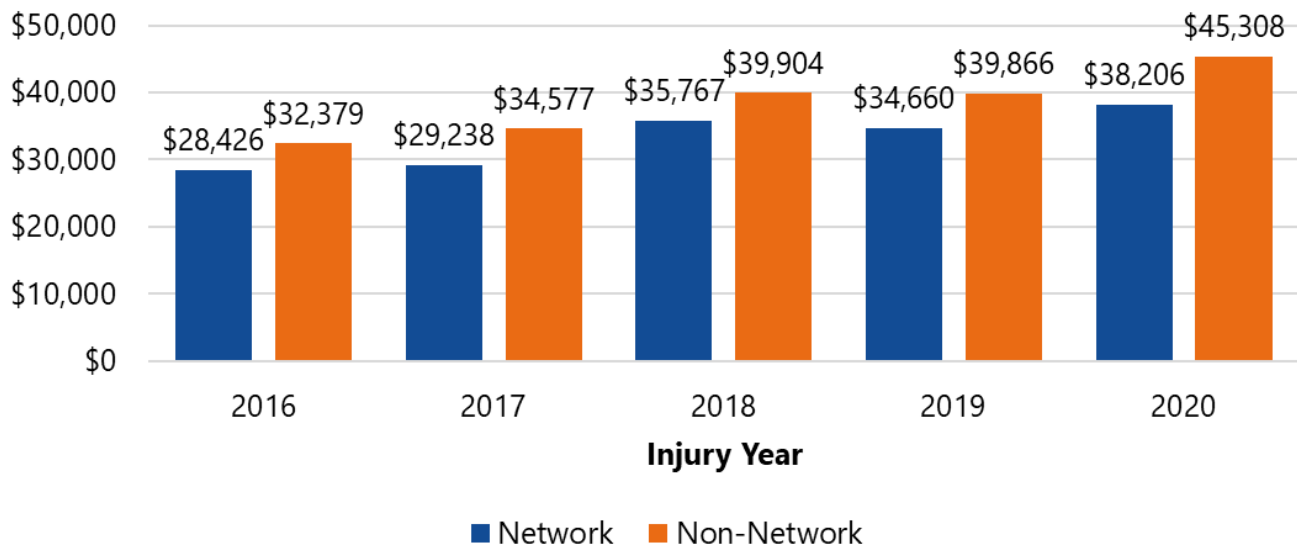
Figure 2.8 shows the average hospital inpatient cost per episode from 2016 to 2020. An episode is the period of time which an injured employee spends under the care of a consultant within a significant facility within a specialty in a hospital facility. It starts with an inpatient admission and ends with an inpatient discharge. Similar to the trend of the average cost per claim, the average cost per episode also increased from 2016 to 2020, especially in 2018 and 2020.



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Figure 2.9 shows the average hospital inpatient cost per claim at 12 months post-injury for network and non-network claims. Network claims had lower cost per claim on average than non-network claims.

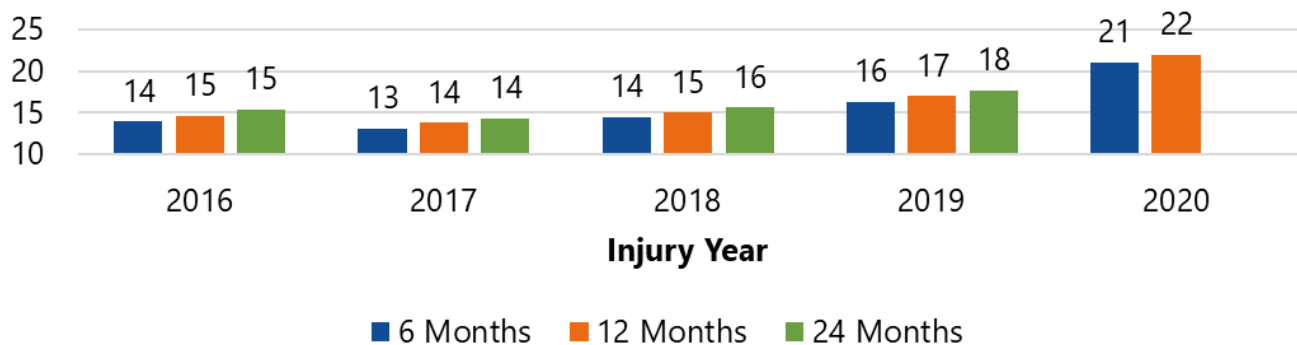
**Figure 2.9: Average Hospital Inpatient Cost per Claim at 12 Months Post-Injury by Network Status, 2016 - 2020**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

While the average number of hospital inpatient services for each claim had small changes from 2016 to 2020 (see Figure 2.4), the average number of services that were paid for each claim increased from 2016 to 2020, especially in 2020 (see Figure 2.10).

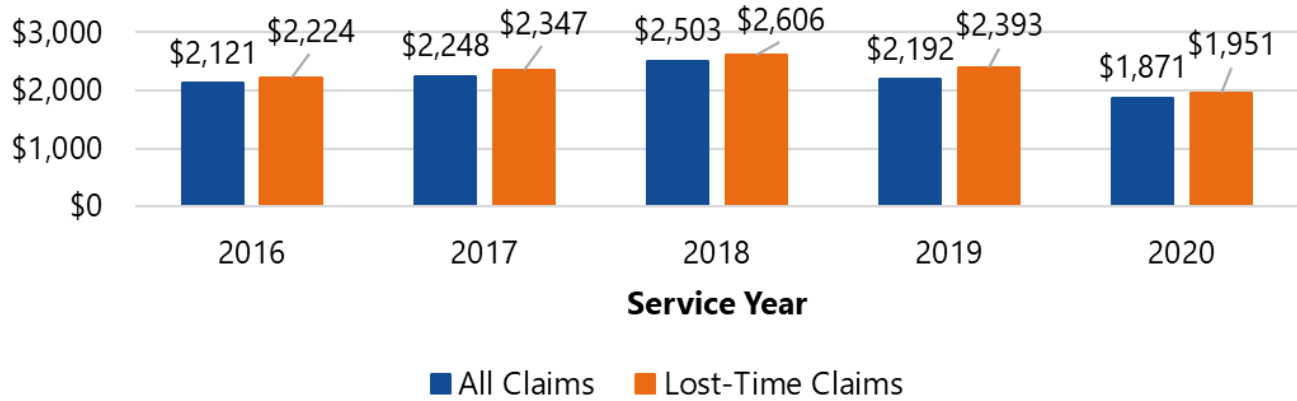
**Figure 2.10: Average Number of Paid Hospital Inpatient Services per Claim at 6, 12, 24 Months Post-Injury, All Claims, 2016 - 2020**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Figure 2.11 shows the average hospital inpatient cost per service for all hospital inpatient claims and lost-time claims separately by service year. For all hospital inpatient claims, the average cost per service increased by 18 percent from 2016 to 2018 and then decreased by 25 percent from 2018 to 2020. These trends in the average cost per service were similar for lost-time claims.

**Figure 2.11: Average Hospital Inpatient Cost per Service by Claim Type, 2016 - 2020**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Table 2.3 shows that the average hospital inpatient cost per claim for emergency admissions was lower than that for non-emergency admissions in the first and second year post-injury. In the first year post-injury, claims with emergency admissions received a lower number of hospital inpatient services per claim on average in each injury year. The average cost per service was also lower for emergency admissions in 2016, 2017, and 2020. In the second year post-injury, there were very few claims with emergency admissions still receiving the hospital inpatient services.

**Table 2.3: Average Cost of Hospital Inpatient Services for Emergency and Non-Emergency Admissions in the First Year and Second Year Post-Injury, 2016 - 2020**

Admission Type	Injury Year	First Year Post-Injury				Second Year Post-Injury			
		Number of Paid Claims	Average Cost per Claim	Average Number of Paid Services per Claim	Average Cost per Service	Number of Paid Claims	Average Cost per Claim	Average Number of Paid Services per Claim	Average Cost per Service
Emergency	2016	1,858	\$22,135	12	\$1,899	31	\$18,964	21	\$889
	2017	1,795	\$22,777	11	\$2,090	44	\$24,956	23	\$1,078
	2018	1,969	\$28,314	12	\$2,433	30	\$19,519	20	\$996
	2019	2,006	\$28,044	13	\$2,177	32	\$16,727	22	\$759
	2020	1,808	\$31,938	18	\$1,762	-	-	-	-
Non-Emergency	2016	1,428	\$34,008	17	\$2,052	258	\$36,571	17	\$2,155
	2017	1,480	\$36,233	16	\$2,309	223	\$39,784	15	\$2,627
	2018	1,704	\$40,790	17	\$2,378	203	\$33,251	19	\$1,765
	2019	1,547	\$41,067	20	\$2,084	157	\$33,835	22	\$1,559
	2020	1,214	\$45,995	23	\$2,014	-	-	-	-

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.



Table 2.4 shows the utilization and average cost of hospital inpatient services for the most commonly used diagnosis-related group (DRG) codes in each injury year. These codes accounted for about 20 percent of all inpatient services in each injury year. Overall, the average cost per service decreased from 2016 to 2020.

**Table 2.4: Utilization and Average Cost of Hospital Inpatient Services for Commonly Used DRG Codes, 2016 - 2020**

DRG Code	DRG Code Description	2016		2017		2018		2019		2020	
		Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service
494	Lower extremity and humerus procedures except hip, foot and femur without CC/MCC	5%	\$1,317	4%	\$1,387	4%	\$1,203	5%	\$1,215	4%	\$914
493	Lower extremity and humerus procedures except hip, foot and femur with CC	4%	\$1,649	3%	\$1,554	3%	\$1,392	4%	\$1,429	3%	\$1,064
470	Major hip and knee joint replacement or reattachment of lower extremity without MCC	3%	\$1,515	2%	\$1,368	4%	\$1,024	3%	\$869	1%	\$874
481	Hip and femur procedures except major joint with CC	2%	\$1,274	2%	\$1,303	2%	\$1,012	3%	\$1,278	3%	\$840
957	Other or procedures for multiple significant trauma with MCC	2%	\$3,568	2%	\$3,941	2%	\$3,504	2%	\$3,050	2%	\$2,200
460	Spinal fusion except cervical without MCC	2%	\$3,578	3%	\$1,903	2%	\$1,810	2%	\$1,691	1%	\$1,936
603	Cellulitis without MCC	2%	\$1,173	2%	\$846	2%	\$838	2%	\$776	1%	\$684
958	Other or procedures for multiple significant trauma with CC	1%	\$2,294	2%	\$2,753	1%	\$1,811	2%	\$1,957	2%	\$1,690
906	Hand procedures for injuries	1%	\$2,588	2%	\$2,024	2%	\$1,485	2%	\$1,802	2%	\$1,157

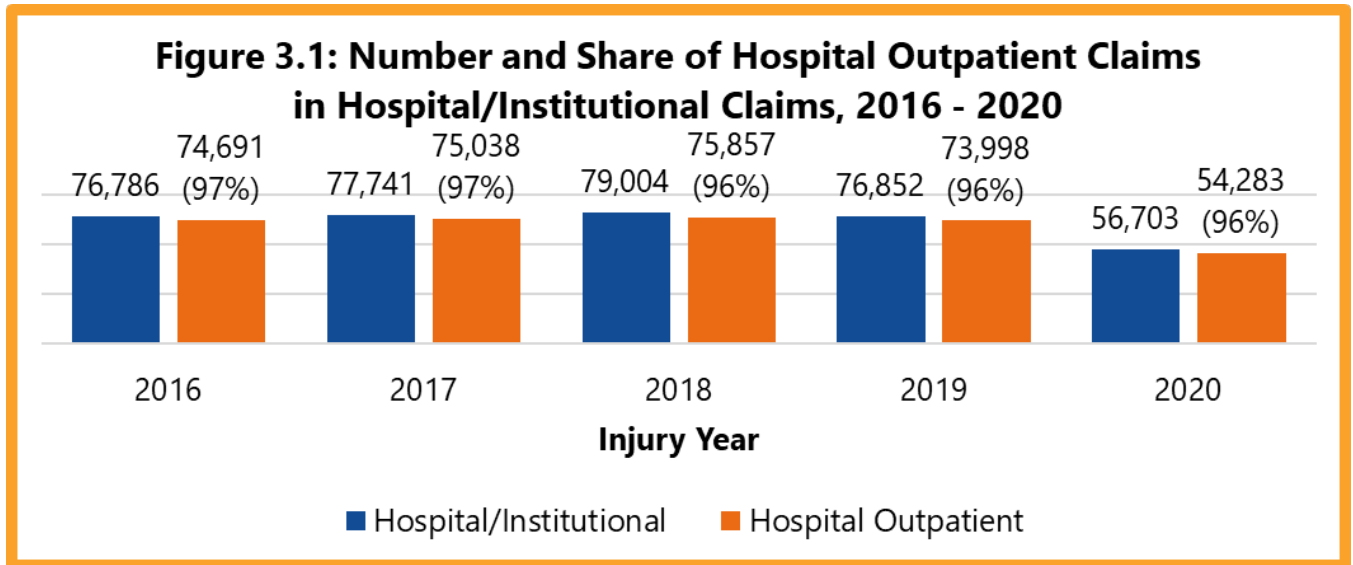
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Note: The share of used services indicates the share of services used regardless of the payment. CC = Complication or Comorbidity, MCC = Major Complication or Comorbidity.

## Utilization and Cost of Hospital Outpatient Services

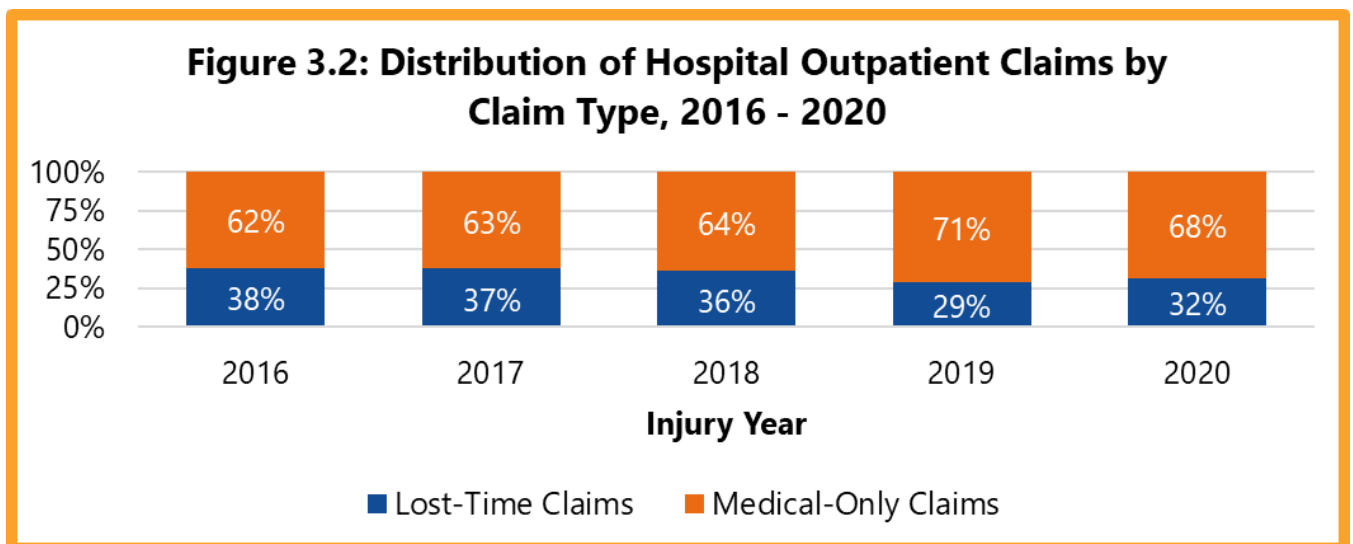
### Utilization of Hospital Outpatient Services

Over 95 percent of claims that received hospital/institutional services had one or more hospital outpatient service and the proportion was similar from 2016 to 2020 (see Figure 3.1). The number of claims receiving hospital outpatient services had small changes from 2016 to 2019 but decreased significantly by 27 percent from 2019 to 2020 due to the low volume of all hospital/institutional claims in 2020.



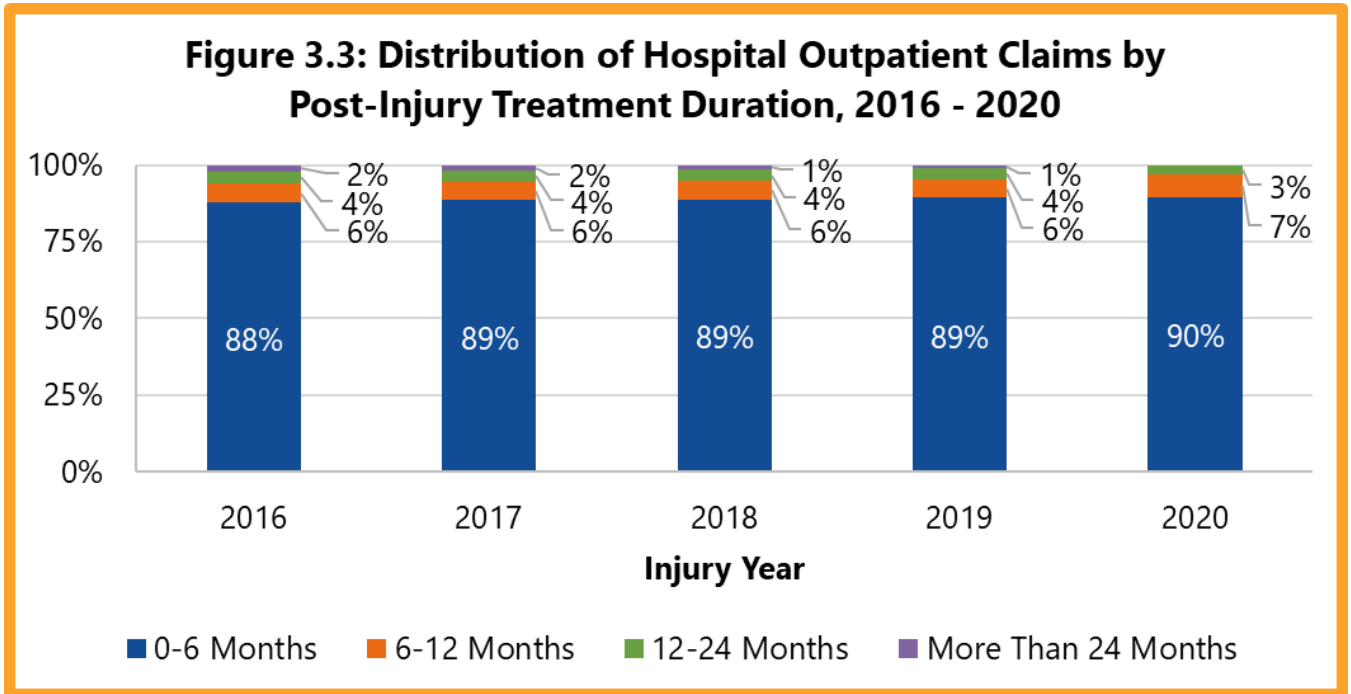
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Over 60 percent of claims receiving hospital outpatient services in each injury year were medical-only claims and lost-time claims accounted for less than 40 percent (see Figure 3.2).



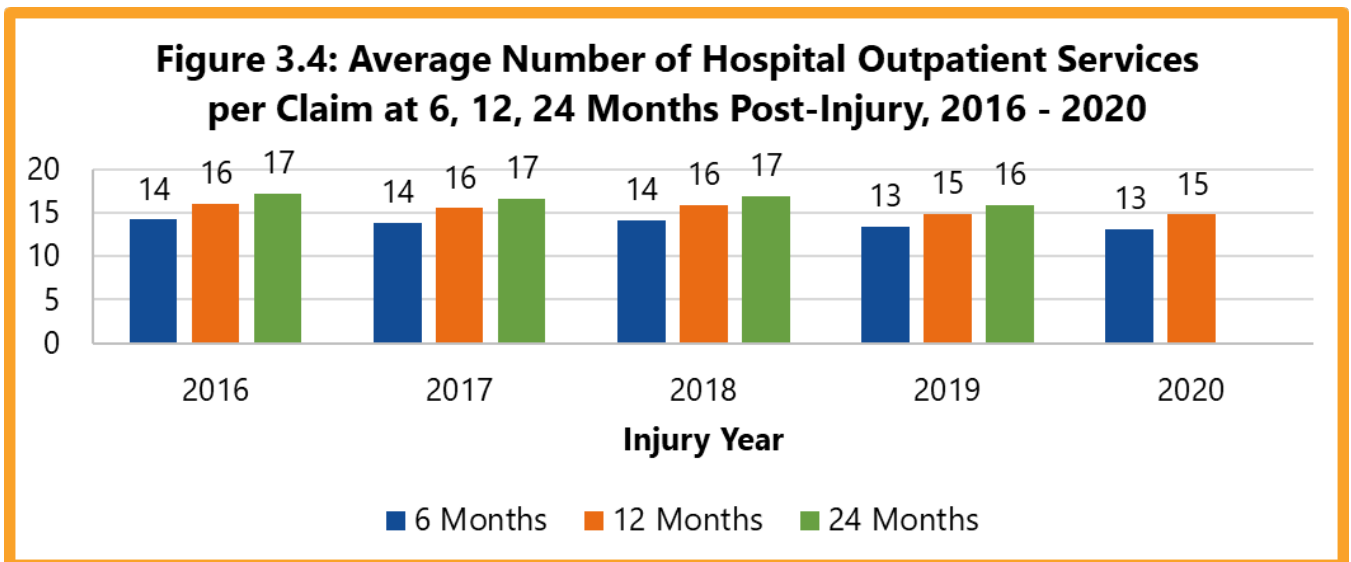
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Figure 3.3 shows that nearly 90 percent of claims receiving hospital outpatient services received those services for less than six months after injury. About 10 percent received the services for more than six months.



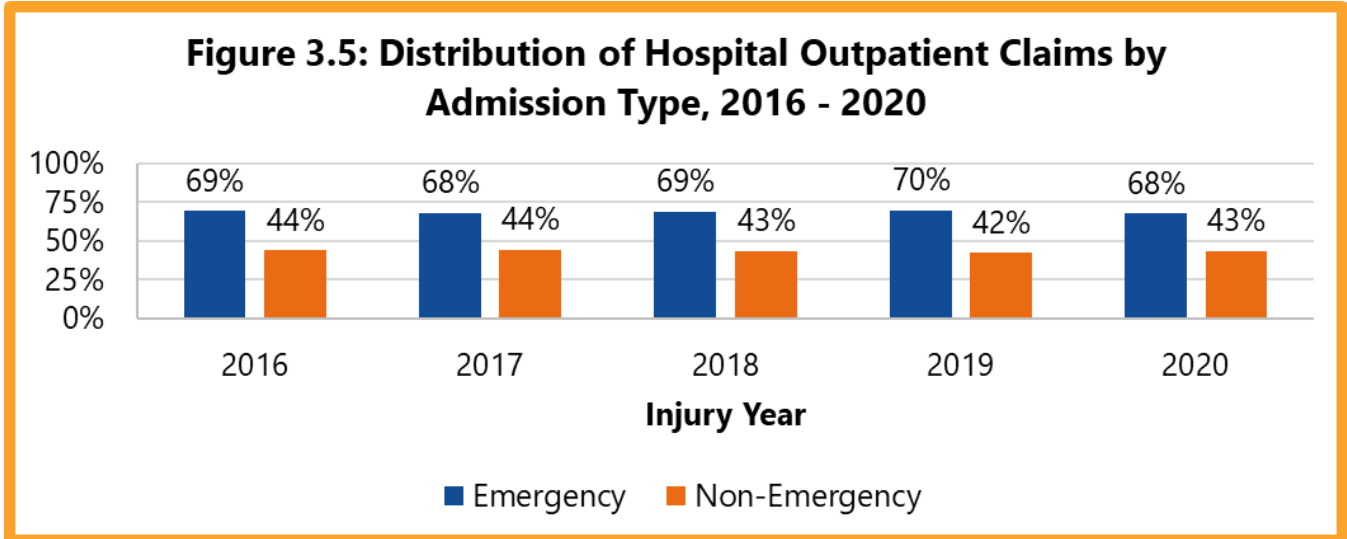
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022. Note: The number of claims that received hospital outpatient services for more than 24 months in 2019 and the number of claims that received the services for more than 12 months in 2020 will change over time as claims continue to mature and more data becomes available.

The average number of hospital outpatient services per claim was stable from 2016 to 2020 (see Figure 3.4). Injured employees received an average of 13 to 14 hospital outpatient services at six months post-injury, 15 to 16 services at 12 months post-injury and 16 to 17 services at 24 months post-injury.



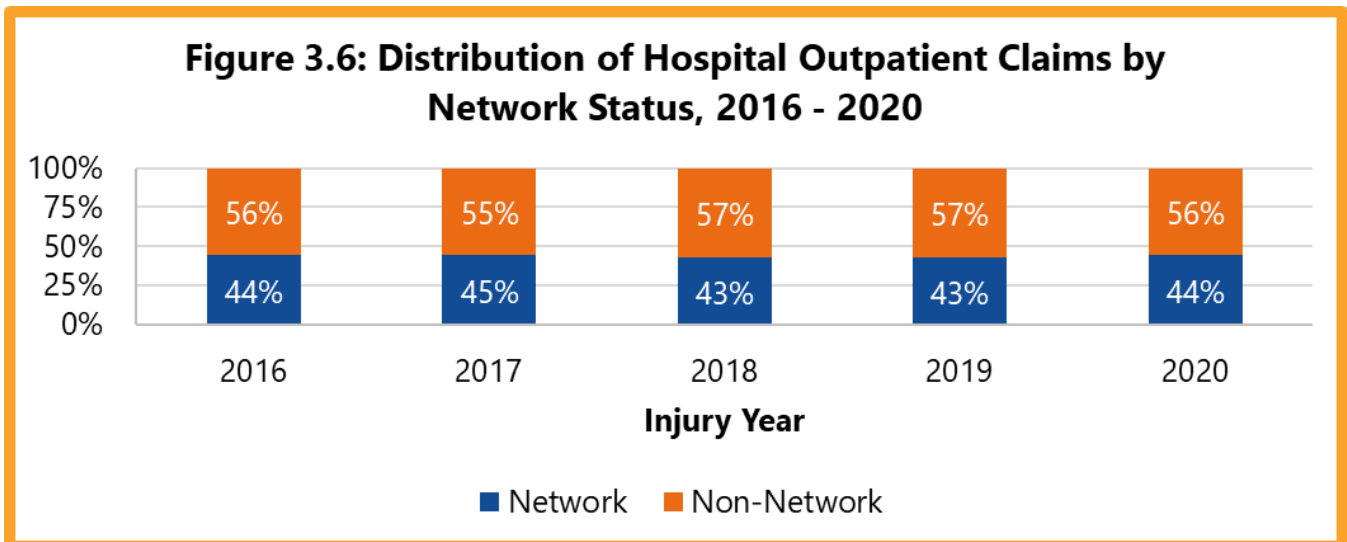
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Emergency admission was the most frequent type of hospital admission for claims receiving hospital outpatient services (see Figure 3.5). Nearly 70 percent of claims receiving hospital outpatient services involved injured employees who were admitted to hospital at least once through the emergency department.



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022. Note: Emergency admission indicates that a patient seen in the emergency department is subsequently admitted to the hospital. Non-emergency admission includes elective, urgent, newborn, and trauma admission.

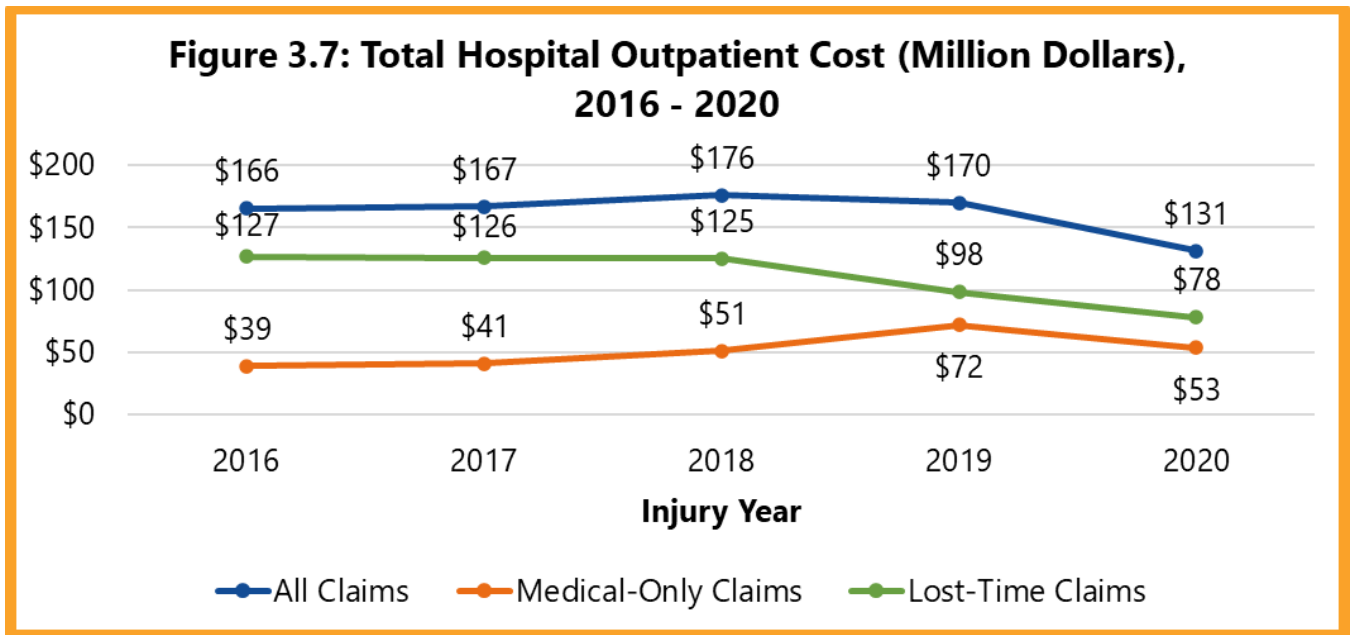
Figure 3.6 shows the percentage of network and non-network claims that received hospital outpatient services. About 44 percent of injured employees were treated in networks.



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

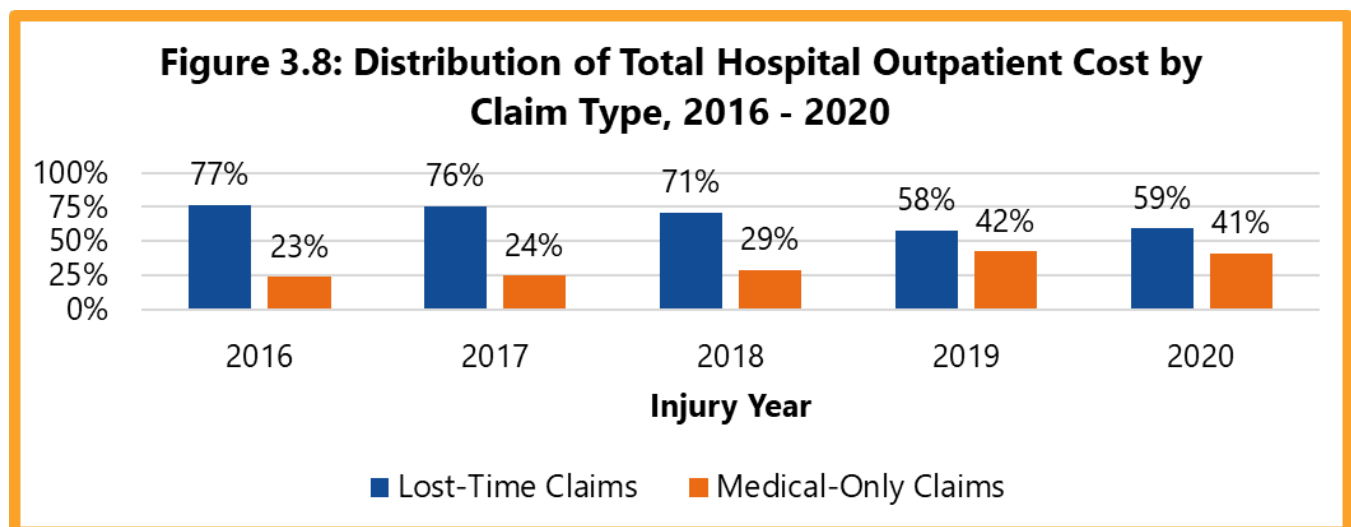
## Cost of Hospital Outpatient Services

The total cost of hospital outpatient services for all hospital outpatient claims remained steady from 2016 to 2019 but decreased by 23 percent from 2019 to 2020 due to the low volume of hospital outpatient claims (see Figure 3.7). The hospital outpatient cost for lost-time claims was stable from 2016 to 2018, but significantly decreased by 38 percent from 2018 to 2020. The hospital outpatient cost for medical-only claims increased by 85 percent from 2016 to 2019 and then decreased by 25 percent from 2019 to 2020.



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Figure 3.8 shows that the proportion of the total hospital outpatient cost for lost-time claims was higher in 2016 to 2018 than the proportion in 2019 and 2020. The proportion of the total hospital outpatient cost for medical-only claims increased from 2016 to 2020, especially in 2019 and 2020.



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Overall, the average hospital outpatient cost per claim at 6 and 12 months post-injury increased by 14 percent from 2016 to 2020 due to increases in the years 2018 and 2020 (see Table 3.1). The average cost per claim at six months post-injury increased 8 percent from 2017 to 2018 and 8 percent from 2019 to 2020. The average cost per claim at 12 months post-injury increased 7 percent from 2017 to 2018 and 8 percent from 2019 to 2020. The average cost per claim at 24 months post-injury increased 6 percent from 2017 to 2018.

**Table 3.1: Number of Paid Claims and Average Cost per Claim of Hospital Outpatient Services at 6, 12, 24 Months Post-Injury, All Claims, 2016 - 2020**

Injury Year	6 Months			12 Months			24 Months		
	Number of Paid Claims	Average Cost per Claim	Change	Number of Paid Claims	Average Cost per Claim	Change	Number of Paid Claims	Average Cost per Claim	Change
2016	65,091	\$1,906	-	66,726	\$2,170	-	67,431	\$2,355	-
2017	66,660	\$1,880	-1%	68,263	\$2,142	-1%	68,920	\$2,323	-1%
2018	67,149	\$2,024	8%	68,692	\$2,293	7%	69,297	\$2,472	6%
2019	65,761	\$2,008	-1%	67,134	\$2,278	-1%	67,713	\$2,478	<1%
2020	49,846	\$2,164	8%	51,035	\$2,466	8%	-	-	-

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Table 3.2 shows the average hospital outpatient cost per claim at 6, 12, and 24 months post-injury for lost-time claims. For lost-time claims, the average cost per claim at 6 and 12 months post-injury increased by 9 percent from 2016 to 2020. The average cost per claim at 24 months post-injury changed slightly from 2016 to 2019.

**Table 3.2: Number of Paid Claims and Average Cost per Claim of Hospital Outpatient Services at 6, 12, 24 Months Post-Injury, Lost-Time Claims, 2016 - 2020**

Injury Year	6 Months			12 Months			24 Months		
	Number of Paid Claims	Average Cost per Claim	Change	Number of Paid Claims	Average Cost per Claim	Change	Number of Paid Claims	Average Cost per Claim	Change
2016	24,470	\$3,589	-	25,817	\$4,150	-	26,391	\$4,557	-
2017	24,706	\$3,526	-2%	26,031	\$4,108	-1%	26,554	\$4,511	-1%
2018	24,210	\$3,734	6%	25,313	\$4,298	5%	25,749	\$4,689	4%
2019	18,906	\$3,722	<1%	19,749	\$4,325	1%	20,108	\$4,803	2%
2020	15,577	\$3,920	5%	16,293	\$4,535	5%	-	-	-

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

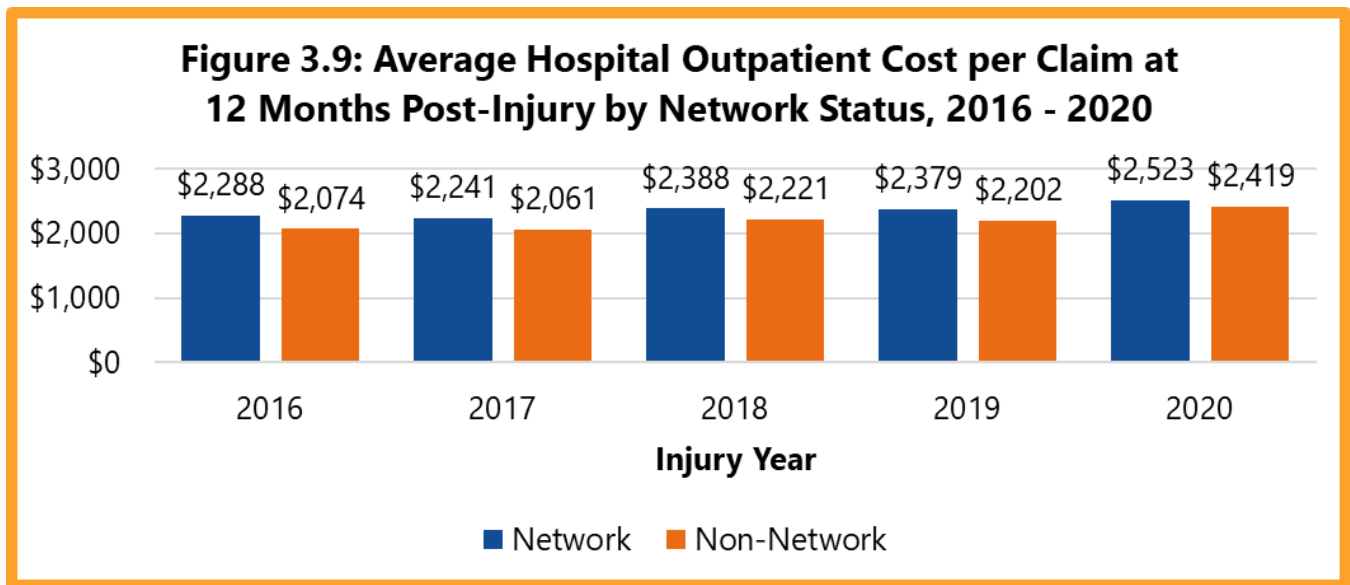
Table 3.3 shows the average hospital outpatient cost per claim at 6, 12, and 24 months post-injury for medical-only claims. The average cost per claim for medical-only claims increased significantly from 2016 to 2020 with large increases from 2017 to 2019.

**Table 3.3: Number of Paid Claims and Average Cost per Claim of Hospital Outpatient Services at 6, 12, 24 Months Post-Injury, Medical-Only Claims, 2016 - 2020**

Injury Year	6 Months			12 Months			24 Months		
	Number of Paid Claims	Average Cost per Claim	Change	Number of Paid Claims	Average Cost per Claim	Change	Number of Paid Claims	Average Cost per Claim	Change
2016	40,621	\$891	-	40,909	\$921	-	41,040	\$938	-
2017	41,954	\$910	2%	42,232	\$931	1%	42,366	\$951	1%
2018	42,939	\$1,060	16%	43,379	\$1,123	21%	43,548	\$1,160	22%
2019	46,855	\$1,317	24%	47,385	\$1,425	27%	47,605	\$1,495	29%
2020	34,269	\$1,366	4%	34,742	\$1,495	5%	-	-	-

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

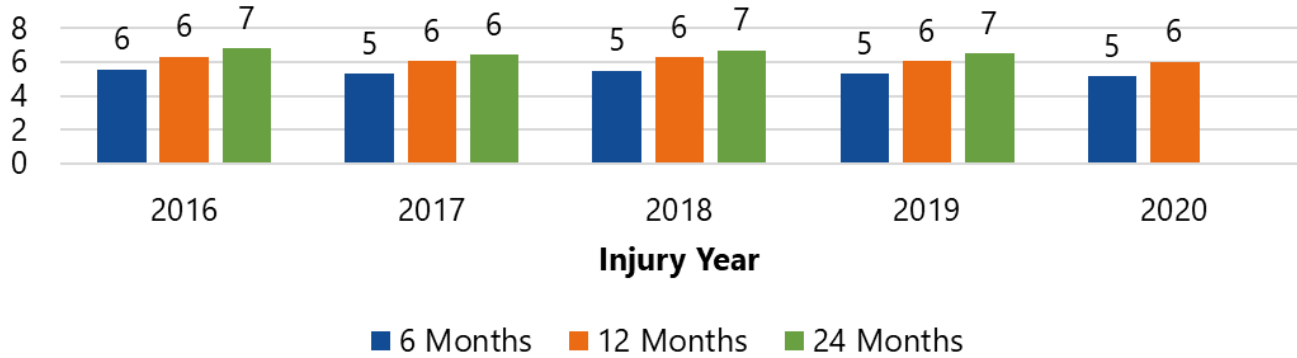
Figure 3.9 shows the average hospital outpatient cost per claim at 12 months post-injury for network and non-network claims. Non-network claims had slightly lower average cost per claim than network claims.



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Figure 3.10 shows that the average number of hospital outpatient services that were paid for each claim changed only slightly from 2016 to 2020. At six months post-injury, an average of five to six hospital outpatient services were paid per claim in 2016 to 2020. At 12 months post-injury, an average of six services were paid per claim, and at 24 months post-injury, an average of six to seven services were paid per claim.

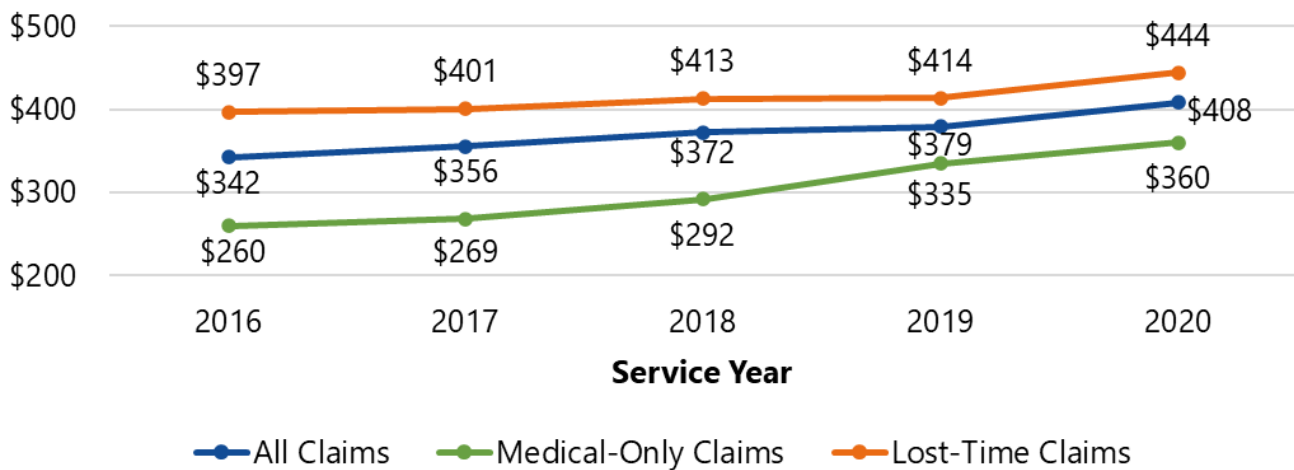
**Figure 3.10: Average Number of Paid Hospital Outpatient Services per Claim at 6, 12, 24 Months Post-Injury, All Claims, 2016 - 2020**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Figure 3.11 shows the average hospital outpatient cost per service by claim type and service year. For all hospital outpatient claims, the average cost per service increased by 19 percent from 2016 to 2020. The rate of increase in the average hospital outpatient cost per service was higher for medical-only claims (38 percent from 2016 to 2020), compared with the rate of increase for lost-time claims (12 percent from 2016 to 2020).

**Figure 3.11: Average Hospital Outpatient Cost per Service by Claim Type, 2016 - 2020**



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Table 3.4 shows that the average hospital outpatient cost per claim for emergency admissions was much lower than that for non-emergency admissions in the first and second year post-injury. In the first year post-injury, claims with emergency admissions received a much lower number of hospital outpatient services on average in each injury year. The average cost per service was also lower for emergency



admissions in 2016 to 2018. In the second year post-injury, there were fewer claims with emergency admissions still receiving hospital outpatient services. The average number of services per claim and the average cost per service were lower for emergency admissions than those for non-emergency admissions.

**Table 3.4: Average Cost of Hospital Outpatient Services for Emergency and Non-Emergency Admissions in the First Year and Second Year Post-Injury, 2016 - 2020**

Admission Type	Injury Year	First Year Post-Injury				Second Year Post-Injury			
		Number of Paid Claims	Average Cost per Claim	Average Number of Paid Services per Claim	Average Cost per Service	Number of Paid Claims	Average Cost per Claim	Average Number of Paid Services per Claim	Average Cost per Service
Emergency	2016	40,162	\$980	3	\$298	258	\$1,286	5	\$276
	2017	41,114	\$977	3	\$328	234	\$1,233	4	\$325
	2018	42,557	\$1,064	3	\$356	235	\$1,258	3	\$368
	2019	44,754	\$1,044	3	\$374	181	\$1,643	4	\$430
	2020	33,535	\$1,074	3	\$418	-	-	-	-
Non-Emergency	2016	26,139	\$3,501	9	\$381	2,851	\$4,302	11	\$406
	2017	26,799	\$3,411	9	\$385	2,758	\$4,600	10	\$460
	2018	27,249	\$3,680	9	\$388	2,801	\$4,602	11	\$414
	2019	27,430	\$3,680	10	\$382	2,658	\$5,274	12	\$446
	2020	21,383	\$4,009	10	\$412	-	-	-	-

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Table 3.5 shows the utilization and average cost of hospital outpatient services for the most commonly used HCPCS codes in each injury year. These HCPCS codes accounted for over 30 percent of hospital outpatient services in each injury year. The share of services for each HCPCS code was similar in different injury years. The average cost per service increased the most from 2016 to 2020 except for HCPCS codes 85025 and J2405.

**Table 3.5: Utilization and Average Cost of Hospital Outpatient Services for Commonly Used HCPCS Codes, 2016 - 2020**

HCPCS Code	HCPCS Code Description	2016		2017		2018		2019		2020	
		Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service
97110	Therapy procedure using exercise to develop strength, endurance, range of motion, and flexibility, each 15 minutes.	11%	\$95	11%	\$94	11%	\$92	11%	\$93	12%	\$98

HCPCS Code	HCPCS Code Description	2016		2017		2018		2019		2020	
		Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service
97140	Manual therapy techniques, one or more regions, each 15 minutes.	5%	\$50	5%	\$49	6%	\$49	6%	\$49	6%	\$53
99283	Emergency department visit for the evaluation and management of a patient, which requires these three key components: An expanded problem focused history; an expanded problem focused examination; and medical decision making of moderate complexity.	3%	\$365	3%	\$375	3%	\$405	3%	\$420	3%	\$423
97530	Therapeutic activities, direct (one-on-one) patient contact by the provider (use of dynamic activities to improve functional performance), each 15 minutes.	2%	\$74	2%	\$80	3%	\$88	3%	\$87	3%	\$92
97112	Neuromuscular reeducation of movement, balance, coordination, kinesthetic sense, posture, and/or proprioception for sitting and/or standing activities.	2%	\$62	2%	\$64	2%	\$67	3%	\$66	2%	\$69
99284	Emergency department visit for the evaluation and management of a patient, which requires these three key components: A detailed history; detailed examination; and medical decision making of moderate complexity.	2%	\$605	2%	\$616	2%	\$662	2%	\$682	2%	\$671
G0463	Hospital outpatient clinic visit for assessment and management of a patient as maintained by CMS falls under Miscellaneous Services.	2%	\$175	2%	\$187	2%	\$197	2%	\$198	2%	\$201
97010	Any physical agent applied to produce therapeutic changes to biologic tissue; includes but not limited to thermal, acoustic, light, mechanical, or electric energy.	2%	\$11	2%	\$18	2%	\$29	2%	\$32	2%	\$39
85025	Blood count; complete (CBC), automated (Hgb, Hct, RBC, WBC, and platelet count), and	1%	\$20	2%	\$16	2%	\$15	2%	\$17	2%	\$14

HCPCS Code	HCPCS Code Description	2016		2017		2018		2019		2020	
		Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service	Share of Used Services	Average Cost per Service
	automated differential WBC count.										
J2405	Injection, ondansetron hydrochloride, per 1 mg as maintained by CMS falls under Drugs, Administered by Injection.	1%	\$80	2%	\$101	2%	\$464	2%	\$44	2%	\$21

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Table 3.6 shows the utilization and average cost of physical therapy and surgical services for hospital outpatient claims with hand, knee, and shoulder injuries separately in each injury year. For all three types of injuries, there were more claims receiving the surgical services only. Compared to claims with hand injuries and claims with knee injuries, claims with shoulder injuries had more services per claim and higher cost per surgical service on average.

**Table 3.6: Utilization and Average Cost of Physical Therapy and Surgical Services for Hospital Outpatient Claims with Hand, Knee, and Shoulder Injuries, 2016 - 2020**

Body Part	Injury Year	Claims Receiving Physical Therapy Only				Claims Receiving Surgeries Only				Claims Receiving Physical Therapy and Surgeries			
		Number of Claims	Number of Used Services	Share of Paid Services	Average Cost per Service	Number of Claims	Number of Used Services	Share of Paid Services	Average Cost per Service	Number of Claims	Number of Used Services	Share of Paid Services	Average Cost per Service
Hand	2016	507	10,645	70%	\$69	6,170	9,645	53%	\$826	227	7,005	62%	\$249
	2017	571	11,009	70%	\$69	6,096	9,223	48%	\$1,018	258	9,404	61%	\$230
	2018	574	11,669	69%	\$65	5,831	9,001	61%	\$882	207	6,474	62%	\$247
	2019	649	12,262	73%	\$68	5,681	8,395	54%	\$893	211	6,091	71%	\$206
	2020	503	10,903	70%	\$68	4,131	5,783	46%	\$1,190	171	4,860	75%	\$206
Knee	2016	249	5,452	72%	\$77	1,371	2,769	58%	\$3,820	516	7,281	69%	\$573
	2017	236	5,442	67%	\$78	1,235	2,344	56%	\$4,347	465	6,113	64%	\$658
	2018	263	6,080	69%	\$78	1,148	2,319	52%	\$4,381	411	5,735	67%	\$628
	2019	287	5,820	72%	\$85	941	1,839	51%	\$4,459	388	5,848	65%	\$602
	2020	235	4,909	79%	\$84	828	1,574	54%	\$5,067	306	3,772	63%	\$787
Shoulder	2016	914	25,874	70%	\$74	1,548	6,374	33%	\$5,020	573	27,213	68%	\$289
	2017	1,003	29,016	71%	\$70	1,501	5,792	29%	\$6,658	577	23,944	70%	\$342
	2018	1,108	29,953	71%	\$71	1,456	5,203	31%	\$6,917	600	26,605	69%	\$342
	2019	1,078	29,358	73%	\$73	1,415	4,871	32%	\$7,378	517	20,989	75%	\$357
	2020	814	20,376	75%	\$82	1,041	3,504	32%	\$7,836	400	17,049	70%	\$367

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Note: This analysis only included the physical therapy and surgical services that were used for hospital outpatient claims with hand, knee, and shoulder injuries.

Table 3.7 shows the utilization and average cost of the surgical services for hospital outpatient claims and claims at the ambulatory surgical center (ASC) with hand, knee, and shoulder injuries separately in each injury year. For all three types of injuries, hospital outpatient claims received, on average, a similar number of surgical services per claim as the ASC claims. However, hospital outpatient claims had higher average cost per surgical service for knee and shoulder injuries and ASC claims had slightly higher average cost per surgical service for hand injuries. Compared to claims with hand injuries and claims with knee injuries, claims with shoulder injuries had more surgical services per claim and higher cost per surgical service on average.

**Table 3.7: Utilization and Average Cost of Surgical Services for Hospital Outpatient Claims and ASC Claims with Hand, Knee, and Shoulder Injuries, 2016 - 2020**

Body Part	Injury Year	Hospital Outpatient				ASC			
		Number of Claims	Number of Used Surgical Services	Share of Paid Surgical Services	Average Surgical Cost per Service	Number of Claims	Number of Used Surgical Services	Share of Paid Surgical Services	Average Surgical Cost per Service
Hand	2016	6,397	10,450	54%	\$902	74	126	54%	\$1,092
	2017	6,354	10,107	48%	\$1,138	86	133	49%	\$1,241
	2018	6,038	9,728	59%	\$974	120	194	56%	\$1,047
	2019	5,892	8,964	54%	\$974	190	279	60%	\$1,041
	2020	4,302	6,281	45%	\$1,297	135	187	57%	\$1,275
Knee	2016	1,887	3,939	57%	\$3,824	26	50	54%	\$2,423
	2017	1,700	3,349	55%	\$4,380	21	41	51%	\$2,686
	2018	1,559	3,218	52%	\$4,444	32	49	71%	\$2,536
	2019	1,329	2,627	52%	\$4,590	29	40	50%	\$2,934
	2020	1,134	2,126	55%	\$5,082	54	77	83%	\$2,689
Shoulder	2016	2,121	8,923	32%	\$5,081	41	129	50%	\$2,790
	2017	2,078	8,258	29%	\$6,527	37	134	37%	\$3,513
	2018	2,056	7,608	31%	\$6,795	38	122	41%	\$3,467
	2019	1,932	6,871	32%	\$7,326	54	152	52%	\$3,830
	2020	1,441	5,031	32%	\$7,596	51	170	39%	\$4,269

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2022.

Note: This analysis only included the surgical services that were used for hospital outpatient claims and ASC claims with hand, knee, and shoulder injuries.



**Utilization and Cost of Hospital/Institutional Services in the Texas Workers' Compensation System  
2016-2020**

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