

ACCESS TO MEDICAL CARE IN THE
TEXAS WORKERS' COMPENSATION SYSTEM
2005 - 2017



TEXAS DEPARTMENT OF INSURANCE
WORKERS' COMPENSATION
RESEARCH AND EVALUATION GROUP

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Per Chapter 405 of the *Texas Labor Code*, the Workers' Compensation Research and Evaluation Group at the Texas Department of Insurance 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.

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EXECUTIVE SUMMARY

The Workers' Compensation Research and Evaluation Group (REG) conducted an analysis of injured employee access to medical care provided under the Texas workers' compensation system. This report is aimed at monitoring any change in the system's performance since the last report. This report also includes injured employee access to non-physician health care providers, and brings network results up to date.

This study focuses on the injured employees' initial access to medical care, excluding emergency medical services. The principal measurements are participation and retention rates of health care providers, and timeliness of care.

Participation Rates of Physicians and Other Health Care Providers

- The total number of physicians actively practicing in Texas increased at an annual rate of 3.2 percent between 2005 and 2017. The number of workers' compensation participating physicians remained relatively stable. The result was a decreasing participation rate.
- But because the number of workers' compensation claims decreased by 20 percent since 2005, the average number of workers' compensation patients per participating physician decreased from 19.4 claimants per physician in 2005 to 14.8 claimants per physician in 2017 (a 24 percent decrease).
- Decreasing participation by primary care physicians was in part alleviated by increasing participation by emergency medicine specialists and physician assistants.
- Participating physicians in the Top 20th percentile (in terms of the number of patients treated in a year) received about 87 percent of the total medical payments each year. The other 80 percent of the physicians received 13 percent of the total payment.

Physician Retention

- Overall workers' compensation physician retention rate was high and stable: 81 percent in 2006 and 79 percent in 2017. This means that about 80 percent of each year's participating physicians also participated in the following year.
- Retention rates for Orthopedic Surgery, Radiology/Pathology, and Emergency Medicine specialties stayed at more than 90 percent since 2006. Considering a natural rate of attrition due to practice change and retirement, these rates indicate almost no change in workers' compensation participation status.
- Retention rate for Primary Care physicians decreased from 79 percent in 2006 to 71 percent in 2017. There were indications that Primary Care was increasingly provided by Emergency Medicine specialists and Physician Assistants (PAs).
- Top 20% physicians had a high rate of year-to-year retention at more than 98 percent. Also, Top 20% physicians continued to participate in workers' compensation in the long term: 90 percent of those who had participated in 2005 were still participating in 2010, and 66 percent still participated 12 years later in 2017.

Access to Medical Care by Geographical Area

- In 2017, 78 percent of active physicians in Texas practiced in the five largest metro areas. Seventy-four percent of workers' compensation participating physicians were in the largest metro areas. In comparison, 73 percent of workers' compensation claimants resided in these areas.
- Participation rates were generally lower in larger metro areas because there are more doctors in these areas compared to participating doctors.
- Some smaller metro areas and border regions had a relatively higher number of workers' compensation patients per physician. Tyler, San Angelo, and Bryan Hospital Referral Regions (HRRs) had relatively more physicians than claims. Harlingen and El Paso areas had relatively less physicians than claims.

Timeliness of Care

- Overall, initial access (timeliness of care) measures showed that workers' compensation patients received non-emergency treatments faster in injury year 2016 than in injury year 2005.
- About 84 percent of patients received initial care in seven days or less in injury year 2016, up from 81 percent in injury year 2005. This rate stayed above 83 percent since injury year 2009.
- Delayed initial care was correlated with higher total medical costs. For injury year 2016, claims with greater than a seven-day delay had on average 39 percent higher medical costs in the first six months after injury.
- Claims with extremity injuries received their first treatment faster than those with neck, low back, and shoulder injuries.
- Smaller HRRs had a higher percentage of delayed cases, but these areas are often affected by few extreme values.
- Large metro areas generally showed less of their claimants traveling out of their area for first treatment. Smaller HRRs had a higher percentage of claims traveling outside of their HRR, some more than 40 percent. The majority of claimants' out-of-HRR trips were for Primary Care physicians.

Health Care Networks and Timeliness of Care

- Initial access for workers' compensation network patients was slightly better than non-network patients, and many networks showed further improvement from 2011 while access to care among non-network claims also improved.
- The share of claims that received their initial treatment within seven days after injury was higher among networks than non-networks.

1. INTRODUCTION

One of the primary goals of an effective workers' compensation program is to ensure that employees with work-related injuries receive prompt and appropriate medical treatment. Delayed medical care may negatively affect health outcomes, resulting in increased costs and return-to-work delays. Obtaining timely medical care in workers' compensation can be a complex process, as it involves reporting the injury, compensability and extent of injury determination, utilization reviews, preauthorization, and other rules. However, once the workers' compensation claim is found to be compensable, timely and appropriate access to medical care depends on the availability of providers who will accept workers' compensation patients.

Policymakers and system participants continue to express the need for increased numbers of health care providers in the Texas workers' compensation system. Anecdotal evidence suggests that some injured employees have difficulties finding appropriate health care providers. To assess access to care, the REG conducted an extensive study of the availability and participation of treating doctors in the workers' compensation system and evaluated the timeliness of medical care. Covering the period of injury years 2005 to 2017, the study's results indicate that access to care conditions for workers' compensation patients in Texas have improved, but some access challenges exist.

In the remainder of this section, we discuss definitions, data sources, and methodology used for this report. Analytic results are then presented in subsequent sections. In each section, a summary of key findings offers an overview, followed by a list of key performance indices.

KEY MEASURES FOR ACCESS TO MEDICAL CARE

This report measures the availability of care by the rate of physician participation in treating work-related injuries and the rate of physician retention. This report also measures the accessibility of care by the timeliness of first non-emergency medical treatment. Below, we present more details about some terms and measurements used in this report.

1. **Participation Rate** is defined as the number of workers' compensation **participating physicians** divided by the total number of **active physicians** in Texas.
2. **Active Physicians** are defined as physicians (Doctor of Medicine (MD) or Doctor of Osteopathy (DO)) licensed by Texas Medical Board (TMB) who are Texas-based, non-military, and direct patient care physicians. These physicians include those whose registration status is "active" and exclude those who work at military and Veterans Affairs (VA) hospitals or those who hold teaching, administration, and research positions. TMB registry is a snapshot at the end of a year and does not provide dates denoting intra-year changes in the registration status. As a result, some physicians may not be matched because of data errors.

3. **Participating Physicians** in a given year are active physicians (MDs/DOs) who have workers' compensation medical bills for one or more patients (claims) for that year. **Participating Health Care Providers** are workers' compensation treating health care providers including physicians, Doctors of Chiropractic (DCs), physician assistants (PAs), and physical/occupational therapists (PTs/OTs).

4. Year-to-year (consecutive) **Retention Rate** is the percentage of a prior year's workers' compensation participating physicians who also participate in the following year. This measure is calculated separately for each year. On the other hand, cumulative Retention Rate is calculated by following one particular year's participants in all subsequent years.

5. **Top 20%** physicians are defined based on the total number of unique workers' compensation patients a physician treats in a given year. Top 20% physicians are those who are in the top 20th percentile in terms of the number of patients treated. The cutoff for the 20th percentile in terms of the number of patients varies by year, but it ranges between 22 and 47 patients treated in a year to qualify as a Top 20% physician. However, the share of costs may indicate how important these Top 20% physicians are in the workers' compensation system: the Top 20% physicians received about 87 percent of the total medical payment in most years.

6. **Timeliness of Care** is measured by the number of days from the date of injury to the first non-emergency treatment (first visit to a physician or other health care provider). Medical service data for timeliness is analyzed only for the first six months after an injury. Thus, we exclude possible cases with a delayed treatment, for example, if an injured employee first saw a doctor more than six months after the injury or occupational disease.

7. **Geographical Areas** are defined by using Hospital Referral Regions (HRRs) developed by the Dartmouth Atlas of Healthcare project. In Texas, there are 24 HRRs constructed using Medicare hospitalization records and patient referral patterns. Texas HRRs also roughly correspond to major metro areas.

DATA SOURCES

This report uses the following datasets:

- Division of Workers' Compensation (DWC) Medical Data. This data collection has approximately 100 medical data elements, including billing and payment information, service date, physician license number, patient ZIP codes, treatment codes (CPT codes), and diagnostic codes (ICD-9 and ICD-10 codes) for each injured employee.
- Archived files of the annual list of physicians were obtained from TMB. This data file is an annual snapshot of TMB's real-time registry of licensed physicians.

- Network claims list is provided by workers' compensation network data calls administered by REG. These network claims were identified and matched with DWC medical data.
- HRR ZIP code boundary data comes from the Dartmouth Atlas of Healthcare project. A patient's location is based on the ZIP code in the medical bills. For physicians, the practice location in the TMB list is used.

METHODOLOGICAL NOTES

This study focuses mainly on the access to physicians (MDs/DOs) who accounted for about 90 percent of the providers at the initial visits. Non-physician health care providers tend not to be the first provider of choice for non-emergency visits. However, there are some injured employees whose first visit may include non-physicians such as DCs, PTs, OTs, and increasingly PAs. This report extends the analysis into non-physician health care providers.

The specialty of each physician is based on the primary specialty specified in the TMB list. Most physicians also have secondary specialties. Therefore, data classifications by specialty in this report may not be exclusive. A few specialty groups used in this report require some clarification. First, it should be noted that the Emergency Medicine specialty refers to the primary specialty field in the TMB list, not according to services they provide. In other words, this classification has no direct connection to emergency room (ER) services, and their services may occur in various non-ER settings. The Primary Care specialty group consists of family medicine, general practice, and internal medicine specialties. The Other Specialty includes such specialties as pediatrics, psychiatry, obstetrics and gynecology, and dermatology. It also includes physical medicine and rehabilitation specialty, and occupational medicine specialty. These two specialties are relatively small groups within the Other Specialty and they generally provide services after the initial visit.

This study also focuses on non-emergency medical care. Emergency care involves hospital ER visits, and issues regarding patients' access to hospital care differ from those of access to physician care. In the measurement of timeliness to care (initial care), all claims whose first-day services included ER services have been excluded. This results in about 15 to 20 percent of the claims being excluded from the timeliness analysis. However, in other measurements such as participation rates, these claims and their services have been included in the analysis. This is mainly to reflect the fact that the number of participating physicians with Emergency Medicine specialty has been increasing substantially, while that of Primary Care physicians has been decreasing. As a result, this report includes all professional (non-hospital) medical bills from Emergency Medicine specialists that are coded as ER services.

2. PHYSICIAN AND HEALTH CARE PROVIDER PARTICIPATION

KEY FINDINGS

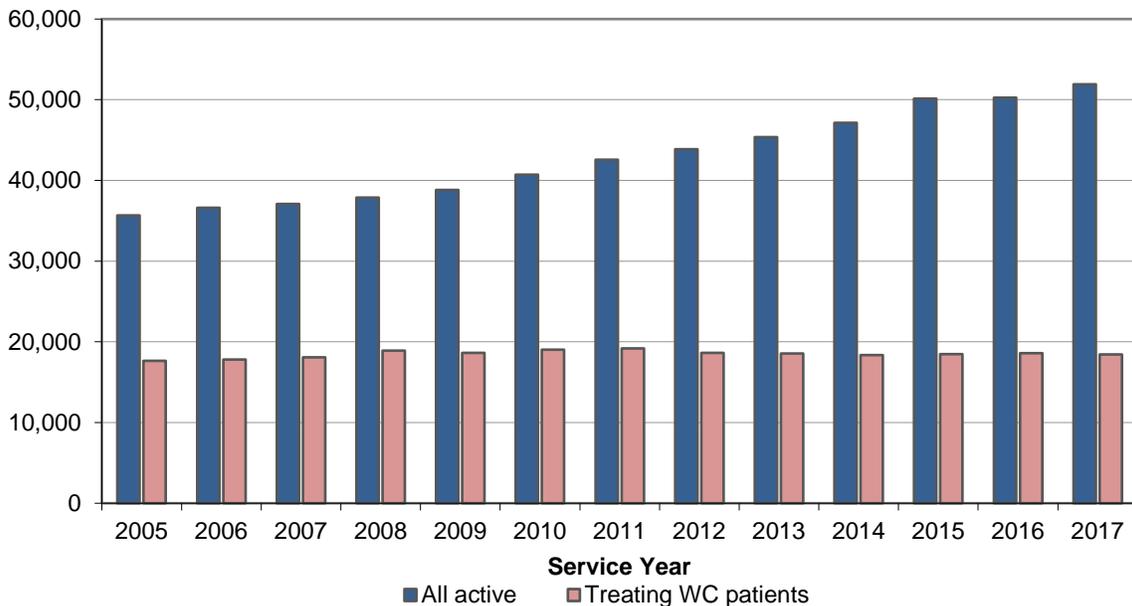
- The total number of physicians actively practicing in Texas increased at an annual rate of 3.2 percent between 2005 and 2017. The number of workers' compensation participating physicians remained relatively stable. The result was a decreasing participation rate. But because the number of workers' compensation claims decreased by 20 percent, the average number of workers' compensation patients per participating physician decreased by 24 percent.
 - The ratio of patients per participating physician decreased from 19.4 in 2005 to 14.8 in 2017 (a 24 percent decrease).
 - For new patients only, the ratio decreased from 14.2 patients per participating physician in 2005 to 12.6 in 2017 (an 11 percent decrease).
 - The total number of workers' compensation claims treated in a calendar year decreased from 342,734 claims in 2005 to 273,328 claims in 2017.
 - Including other health care providers such as chiropractors, physician assistants, and physical/occupational therapists, the number of claims per health care provider stayed at eight or nine claims per health care provider in all years.
- Decreasing participation by Primary Care physicians is in part alleviated by increasing participation by emergency medicine specialists and physician assistants.
 - The Primary Care physician participation rate decreased from 50 percent in 2005 to 32 percent in 2017. In absolute terms, the actual number of physicians decreased from 5,305 to 4,415, a 17 percent decrease.
 - The Emergency Medicine physician participation rate decreased from 94 percent in 2005 to 86 percent in 2017, mainly because of the rapid increase in the number of licensed emergency medicine specialists. The actual number of workers' compensation participating Emergency Medicine physicians increased from 1,352 in 2005 to 3,182 in 2017.
 - Participating Physician Assistants increased from 1,040 in 2005 to 2,527 in 2017.
- Participating physicians in the Top 20th percentile in terms of the number of patients treated in a year received about 87 percent of the total medical payments each year.¹ The Bottom 80 percent of the physicians received 13 percent of the total payment.

¹ Since patients can be treated simultaneously by both Top 20% and the other 80% physicians, counts of claims treated result in duplicative numbers. However, simple counts of unique claims show that, as a group, Top 20% physicians together treated about 81 percent of the workers' compensation claims in 2017.

2.1 NUMBER OF ACTIVE AND WORKERS' COMPENSATION PARTICIPATING PHYSICIANS

- The number of active physicians in Texas increased by 46 percent from 2005 to 2017.
- The number of participating physicians increased by four percent from 2005 to 2017.
- The result is a lower participation rate.
- Overall, 35 percent of active Texas physicians participated in workers' compensation in 2017.

This measure shows the total number of active physicians licensed by TMB and the number of physicians participating in the Texas workers' compensation system. The number of active physicians grew from 35,659 in 2005 to 51,930 in 2017, a 46 percent increase. In comparison, the number of workers' compensation participating physicians grew by 4 percent since 2005.

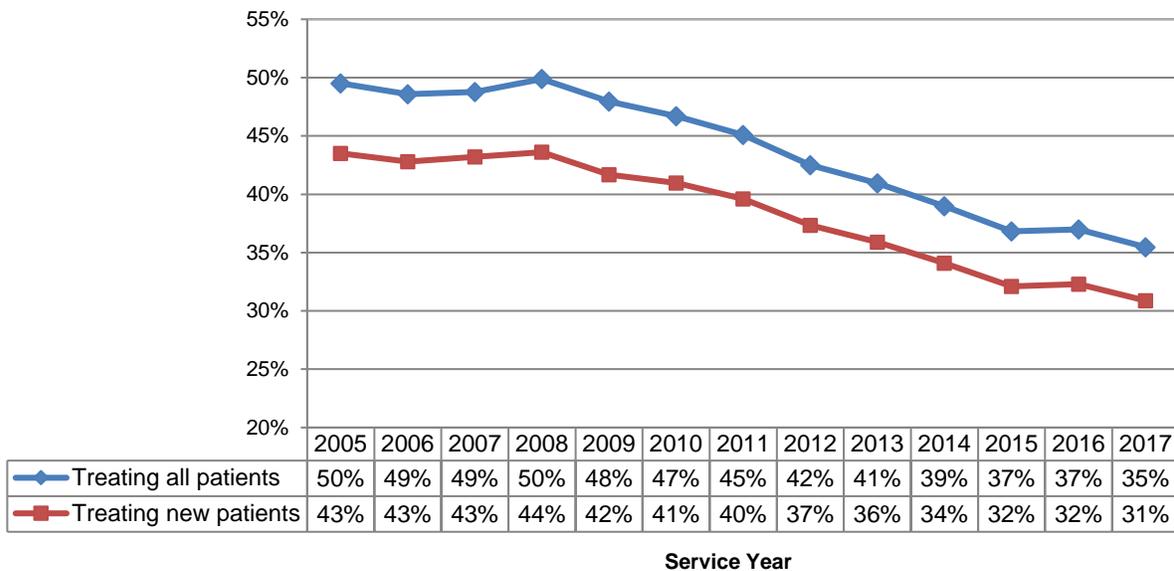


Service year	All active	Treating WC patients
2005	35,659	17,656
2006	36,623	17,788
2007	37,080	18,087
2008	37,880	18,893
2009	38,833	18,616
2010	40,724	19,014
2011	42,574	19,197
2012	43,882	18,649
2013	45,353	18,567
2014	47,137	18,375
2015	50,120	18,458
2016	50,275	18,597
2017	51,930	18,419

Notes: 'All active' refers to the total number of active physicians licensed by TMB. See page 1 for the definition of 'active.'
 'Treating workers' compensation patients' refers to the number of participating physicians who billed at least one service in a given service year according to the workers compensation medical billing data.
 Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2018.

2.2 PHYSICIAN PARTICIPATION RATE

- Thirty-five percent of active Texas physicians participated in workers’ compensation in 2017; 31 percent of them treated new patients; about 4 percent of them treated only established patients from previous injury years.
- The physician participation rate has been decreasing steadily since 2008, mainly because the total number of licensed physicians in Texas (the denominator) has been increasing. The number of workers’ compensation participating physicians (the numerator) increased slightly, but not nearly at the rate of the total number of licensed physicians.
- The decrease in the participation rate was primarily due to the increasing number of active physicians in Texas, relative to the workers’ compensation participating physicians.



Service year	Active MD/DO	Treating all patients	Treating new patients
2005	35,659	17,656	15,509
2006	36,623	17,788	15,671
2007	37,080	18,087	16,025
2008	37,880	18,893	16,517
2009	38,833	18,616	16,183
2010	40,724	19,014	16,687
2011	42,574	19,197	16,866
2012	43,882	18,649	16,381
2013	45,353	18,567	16,281
2014	47,137	18,375	16,073
2015	50,120	18,458	16,088
2016	50,275	18,597	16,231
2017	51,930	18,419	16,034

Notes: The participation rate is the number of physicians treating workers’ compensation patients divided by the number of licensed and active physicians in Texas. Active physicians include pediatricians, OB/GYN, and other specialties that seldom treat work-related injuries.

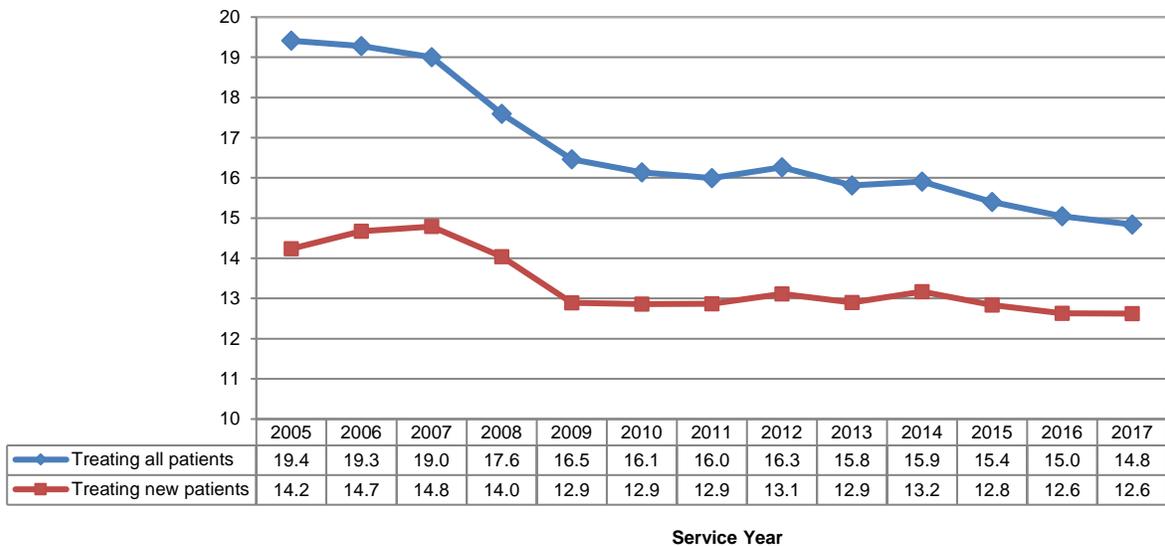
“Treating all patients” is based on the service year data that includes new and old injuries. “Treating new patients” considers physicians treating at least one new workers’ compensation claim.

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

2.3 NUMBER OF CLAIMS PER PARTICIPATING PHYSICIAN

- Considering all workers’ compensation patients, the average number of claims per physician decreased by 24 percent, from 19.4 claims per physician to 14.8.
- For new workers’ compensation claims, the average number of claims per physician decreased from 14.2 in 2005 to 12.6 in 2017, an 11 percent decrease.

The decreasing physician participation rate, which is determined by the total number of licensed physicians, does not necessarily indicate a worsening access to care condition for workers’ compensation. Because the number of patients (claims) in the workers’ compensation system decreased significantly, the number of patients per participating physician continued to decrease since 2005.



Service year	Number of all claims	Number of new claims
2005	342,734	220,784
2006	342,951	229,903
2007	343,746	236,982
2008	332,405	231,894
2009	306,414	208,573
2010	306,878	214,647
2011	306,988	216,999
2012	303,371	214,758
2013	293,545	210,062
2014	292,372	211,711
2015	284,305	206,518
2016	279,861	205,012
2017	273,328	202,406

Notes: “Treating all patients” is based on the service year data that includes new and old injuries. “Treating new patients” considers physicians treating at least one new workers’ compensation claim. Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2018.

2.4 NUMBER OF HEALTH CARE PROVIDERS IN THE MEDICAL BILLING DATA

When all health care providers with at least one service bill in the workers’ compensation medical data, regardless of their licensing or practicing status, are examined:

- Since 2005, the number of participants decreased for physicians, chiropractors, and physical/occupational therapists.
- The number of participating physician assistants increased by 143 percent from 1,040 in 2005 to 2,527 in 2017.

The physician participation rate was calculated using the TMB list of Texas licensed, active, and direct patient care physicians. These conditions excluded many participants who nonetheless treated and billed for services for workers’ compensation patients. Actual billing data shows that non-Texas and other physicians (such as non-direct patient care physicians and VA hospital personnel) do treat and bill for workers’ compensation patients. DCs, PAs, PTs, and OTs also play a significant role.

The table below presents counts of all reported health care providers participating in workers’ compensation. There were 24,268 service-providing physicians in 2017, compared to 18,419 participants who were active, Texas-based, direct patient care physicians.

Service Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
DC	4,743	3,076	2,801	2,746	2,356	2,181	1,957	1,672	1,712	1,675	1,536	1,362	1,312
Participating MD/DO	17,656	17,788	18,087	18,893	18,616	19,014	19,197	18,649	18,567	18,375	18,458	18,597	18,419
Other billing MD/DO*	8,469	9,748	11,138	11,983	10,657	9,852	8,973	8,018	7,408	7,793	7,148	6,889	5,849
PA	1,040	1,091	1,210	1,316	1,320	1,518	1,737	1,980	2,065	2,168	2,272	2,484	2,527
PT/OT	5,241	4,354	4,419	4,062	3,786	3,611	3,693	3,808	3,755	3,923	3,914	4,176	4,279
Total	37,149	36,057	37,655	39,000	36,735	36,176	35,557	34,127	33,507	33,934	33,328	33,508	32,386

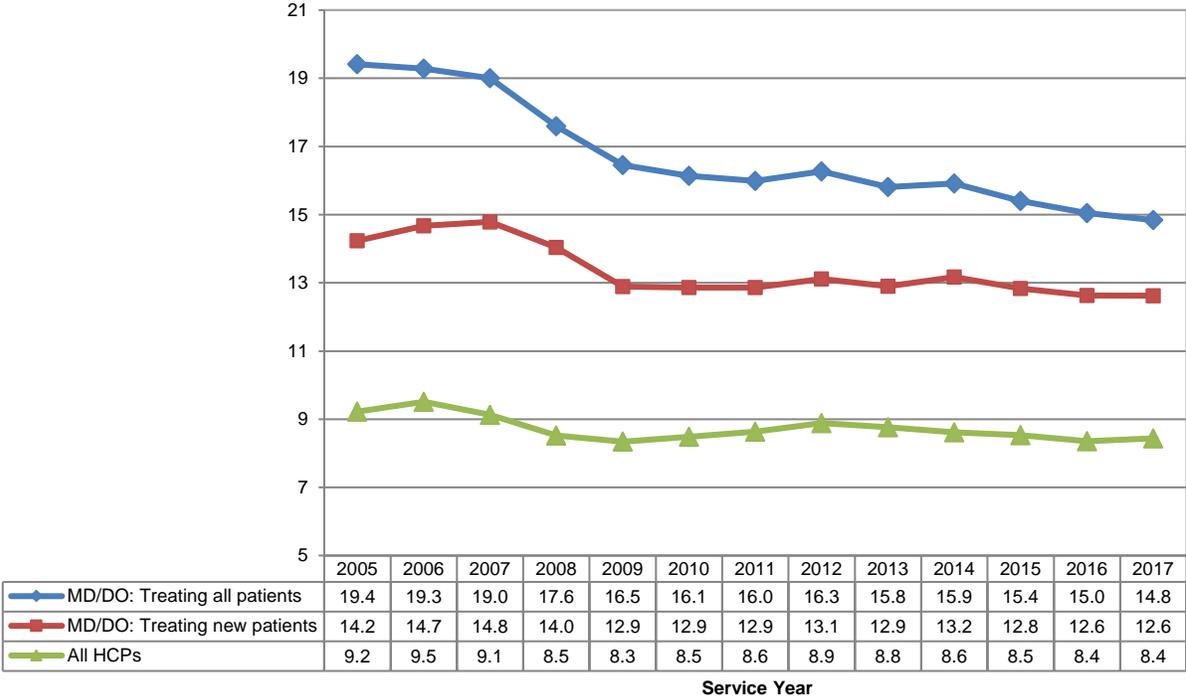
Notes: ‘Other billing MD/DO’ includes out-of-state physicians and those who are military or non-direct patient care physicians but submitted one or more workers’ compensation bills. DC = Doctor of Chiropractic. MD/DO = Doctor of Medicine or Doctor of Osteopathy. PA = physician assistant. PT/OT = physical therapist or occupational therapist.

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

Participation rates of non-physician health care providers require annual lists of licensed and active health care providers for each type of providers. However, access was limited to archived data for these providers. Using available data, estimates showed that about 23 percent of DCs, 28 percent of PAs, and 15 percent of PTs/OTs participated in workers’ compensation in 2015.

2.5 NUMBER OF CLAIMS PER HEALTH CARE PROVIDER IN MEDICAL BILLING DATA

- Using the counts of all health care providers in the medical billing data, the number of claims per health care provider stayed relatively the same since 2005 at about eight to nine patients per provider.

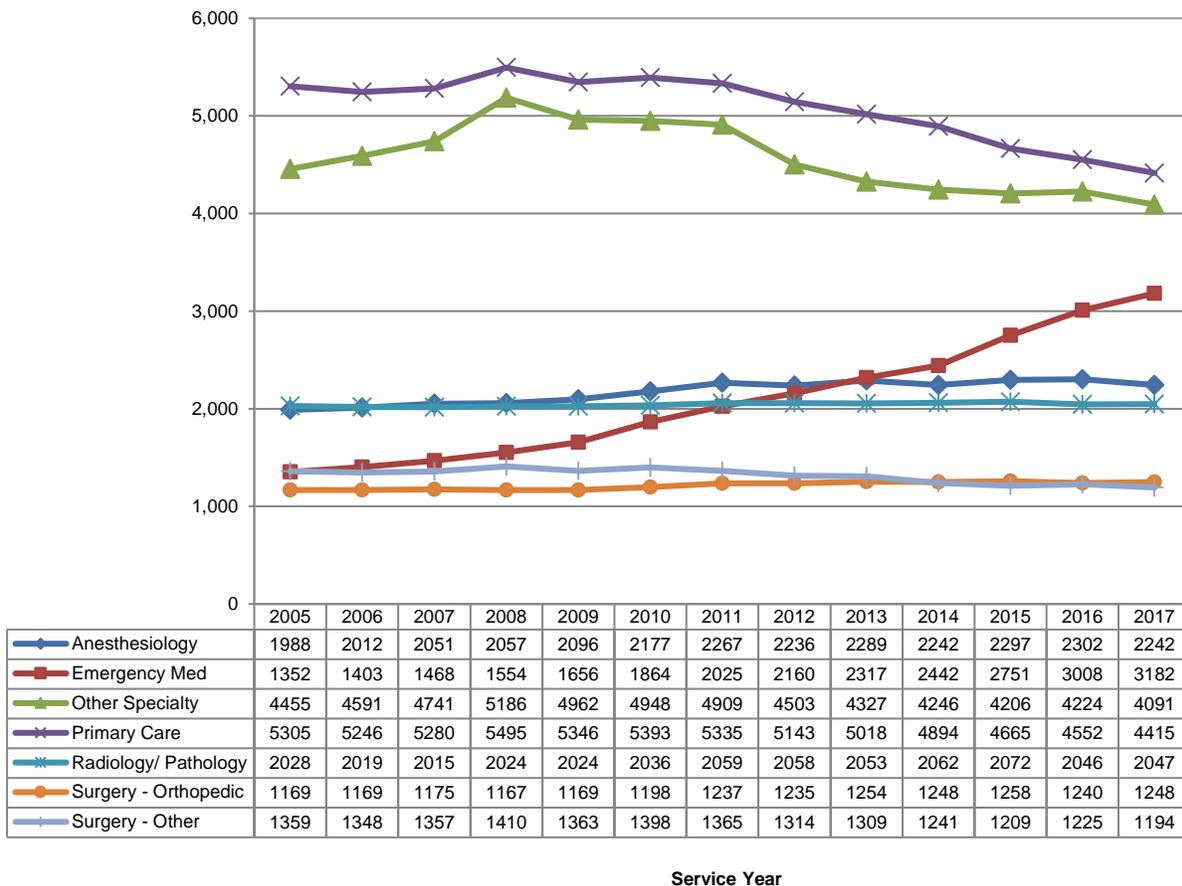


Note: Numbers for MD/DO are reproduced from the data in Section 2.3 for comparison.
 Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2018.

2.6 NUMBER OF PARTICIPATING PHYSICIANS BY SPECIALTY

- The number of Primary Care physicians participating in workers’ compensation decreased by 17 percent since 2005. The number of claims decreased by 20 percent during the same period.
- Emergency Medicine physicians increased by 135 percent. Those with a specialty in Anesthesiology increased by 13 percent. Radiology/Pathology specialties increased by 1 percent.
- The number of participating orthopedic surgeons increased by 7 percent.

This measure shows the number of participating physicians by specialty. Primary Care physicians, which consistently has been the largest group, decreased from 5,305 in 2005 to 4,415 in 2017. Other Specialty is the second most common group with 4,091 participating physicians in 2017. The increasing participation by Emergency Medicine specialists is notable, with a rapid increase from 1,352 in 2005 to 3,182 in 2017.



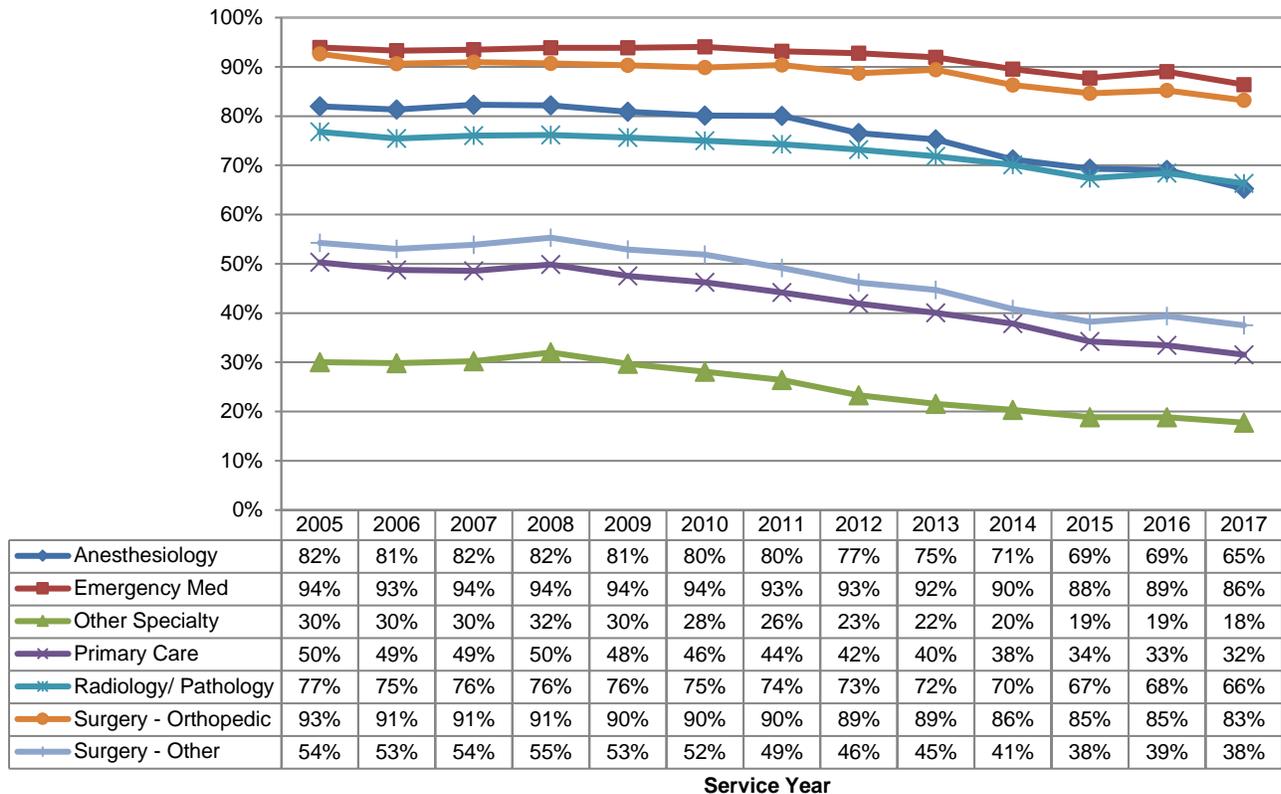
Note: Other Specialty includes such specialties as pediatrics, OB/GYN, cardiovascular diseases, and ophthalmology.
 Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2018.

2.7 PHYSICIAN PARTICIPATION RATES BY SPECIALTY

- Participation rates have decreased slightly since 2005, mainly because the number of active physicians increased in Texas.
- Over 80 percent of active Orthopedic and Emergency Medicine physicians participated in workers’ compensation in all the study years.
- Primary Care physicians’ participation rate decreased from 50 percent in 2005 to 32 percent in 2017. This decrease is somewhat compensated by the increasing participation of Emergency Medicine specialists (since 2000) and Physician Assistants.

As in the overall physician participation rate (see Section 2.2), participation rates by physician specialty show decreases since 2005, but this results mainly from the increasing denominator (the total number of Texas licensed physicians).

Participation rates have consistently been high for Emergency Medicine and Orthopedic Surgery specialties. Participation rates of Anesthesiology and Radiology/Pathology specialties were also relatively high. Physicians in Other Specialty have the lowest participation rate at 18 percent in 2017. This group’s low participation rate is expected because they include specialties that are least related to work-related injuries such as OB/GYN and pediatrics.

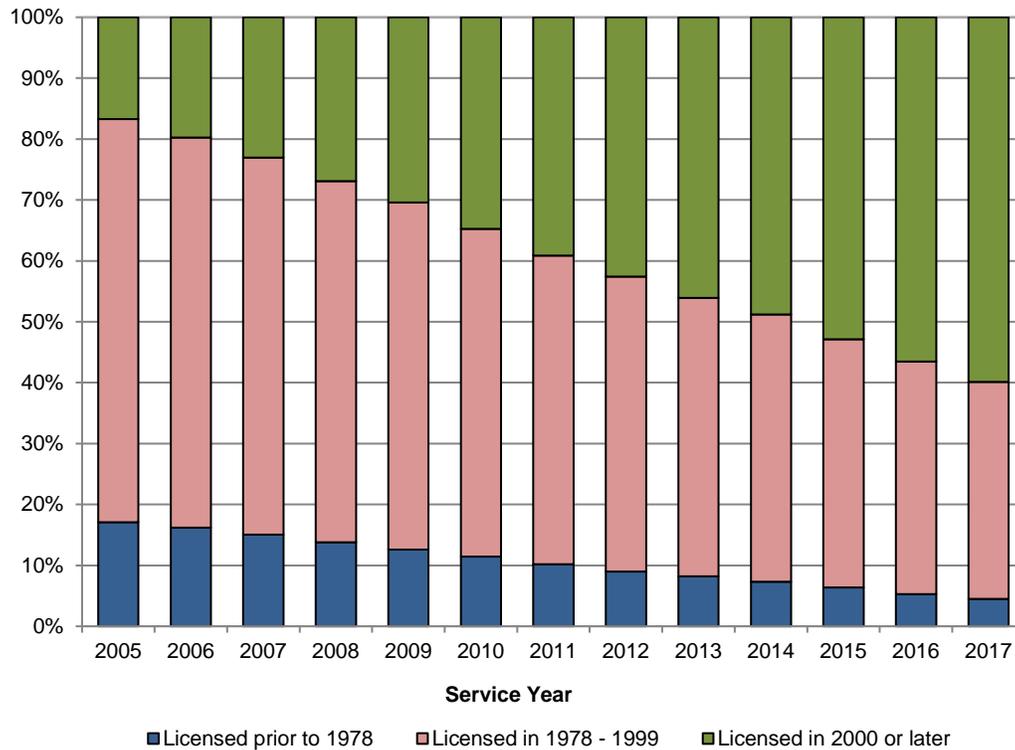


Note: Other Specialty includes such specialties as pediatrics, OB/GYN, cardiovascular diseases, and ophthalmology.
 Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2018.

2.8 PARTICIPATING PHYSICIANS BY YEAR OF LICENSE

- In 2005, 17 percent of participants were physicians licensed in 2000 or later. In 2017, they accounted for 60 percent of all participants.
- In 2017, 5 percent of participants were physicians licensed prior to 1978, down from 17 percent of the total in 2005.

This measure shows that participating physicians exit and enter the workers' compensation market continuously, and that the main dynamics of such changes is the natural process of licensing, practice changes, aging, and retirement. Between 2005 and 2017, 7,308 physicians who were licensed in 1999 or earlier exited the market while 8,071 new licensees entered it resulting in a net gain of 763 physicians. The most recently licensed group (licensed in 2000 or later) accounted for 60 percent of the total participating physicians in 2017.



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

Year of license	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Prior to 1978	3,021	2,878	2,718	2,608	2,347	2,173	1,954	1,681	1,520	1,340	1,179	986	825
1978 - 1999	11,682	11,398	11,202	11,197	10,610	10,231	9,733	9,027	8,493	8,066	7,523	7,095	6,570
2000 or later	2,953	3,512	4,167	5,088	5,659	6,610	7,510	7,941	8,554	8,969	9,756	10,516	11,024
Total	17,656	17,788	18,087	18,893	18,616	19,014	19,197	18,649	18,567	18,375	18,458	18,597	18,419

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

2.9 TOP 20% PHYSICIANS

The workers' compensation health care market is highly specialized due to the nature of occupational injuries, reimbursement and review processes, regulatory rules, and the initial investment costs for providers (training, adapting to rules and procedures, special devices, and so on).²

Physicians in the Top 20th percentile accounted for about 87 percent of the total payments to physicians in 2017. Overall, Top 20% physicians are distributed relatively evenly across large and small metro areas.

Number of Physicians

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Top 20%	3,594	3,572	3,643	3,829	3,760	3,866	3,846	3,789	3,751	3,732	3,702	3,828	3,751
Bottom 80%	14,062	14,216	14,444	15,064	14,856	15,148	15,351	14,860	14,816	14,643	14,756	14,769	14,668

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

Total Payments (in Million Dollars)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Top 20%	\$290	\$271	\$270	\$272	\$280	\$279	\$314	\$301	\$279	\$265	\$256	\$241	\$229
Bottom 80%	\$44	\$42	\$42	\$43	\$43	\$45	\$53	\$49	\$47	\$42	\$42	\$36	\$34

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

Top 20% Physicians by Hospital Referral Regions (HRRs) in Selected Specialties in 2017

HRR	All	Primary Care	Radiology/Pathology	Emergency Med	Surgery - Orthopedic
Abilene	53	13	12	6	11
Amarillo	70	22	28	5	8
Austin	302	52	108	16	49
Beaumont	44	6	19	3	10
Bryan	46	9	21	1	8
Corpus Christi	74	15	30	4	12
Dallas	822	196	229	48	136
El Paso	108	14	27	6	30
Fort Worth	322	69	88	27	51
Harlingen	66	35	15	1	6
Houston	825	159	239	68	136
Longview	21	1	11	1	2
Lubbock	114	40	35	11	10
McAllen	77	31	17	5	10
Odessa	89	20	18	17	13
San Angelo	31	6	9	5	6
San Antonio	413	95	109	20	49
Temple	66	14	26	7	10
Tyler	84	14	27	4	16
Victoria	25	8	7	1	5
Waco	37	6	13	4	5
Wichita Falls	34	8	9	10	5

Note: 'All' includes other specialties besides the four specialties shown above.

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

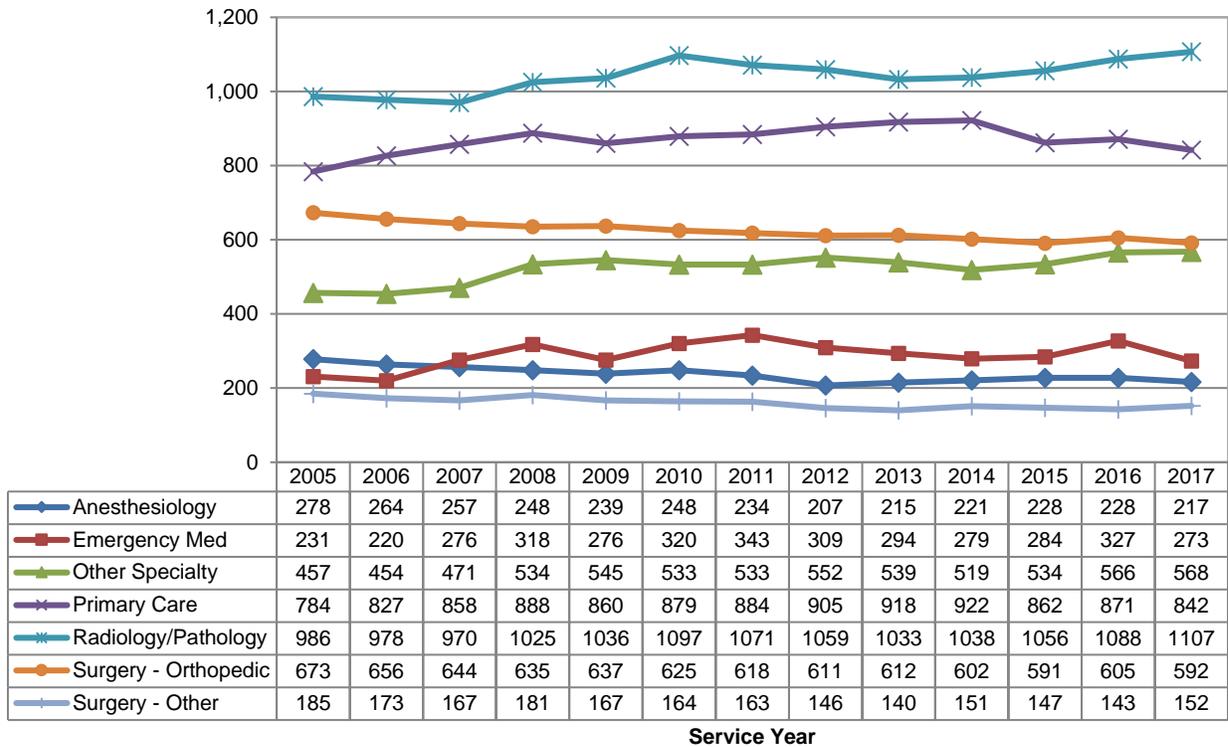
² National workers' compensation markets are also highly concentrated. In Louisiana, for example, 3.8 percent of physicians accounted for 72 percent of workers' compensation costs. See "The impact of cost intensive physicians on workers' compensation," by Bernacki et al., *Journal of Occupational and Environmental Medicine*, 51(1): 22-28, January 2010.

2.10 NUMBER OF TOP 20% PHYSICIANS BY SPECIALTY

- Since 2005, Radiology/Pathology has been the most common specialty among the Top 20% physicians.
- The number of Primary Care physicians in the Top 20% has increased since 2005 while physicians in surgery-related specialties (Orthopedic Surgery, Other Surgery, and Anesthesiology) decreased.

This measure shows the number of Top 20% participating physicians by specialty. The number of physicians in Radiology/Pathology, Primary Care, Emergency Medicine, and Other Specialty groups increased since 2005. The number of physicians of Orthopedic Surgery, Other Surgery, and Anesthesiology specialties decreased. The total combined share of these three surgery-related groups decreased from 32 percent in 2005 to 26 percent in 2017.

The slight decrease since 2015 in the number of Primary Care physicians appears to be related to the decrease in the participation rate of Primary Care physicians and the increase in the participation of PAs in Primary Care.



Note: Other Specialty includes such specialties as pediatrics, OB/GYN, cardiovascular diseases, and ophthalmology.

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

3. PHYSICIAN RETENTION

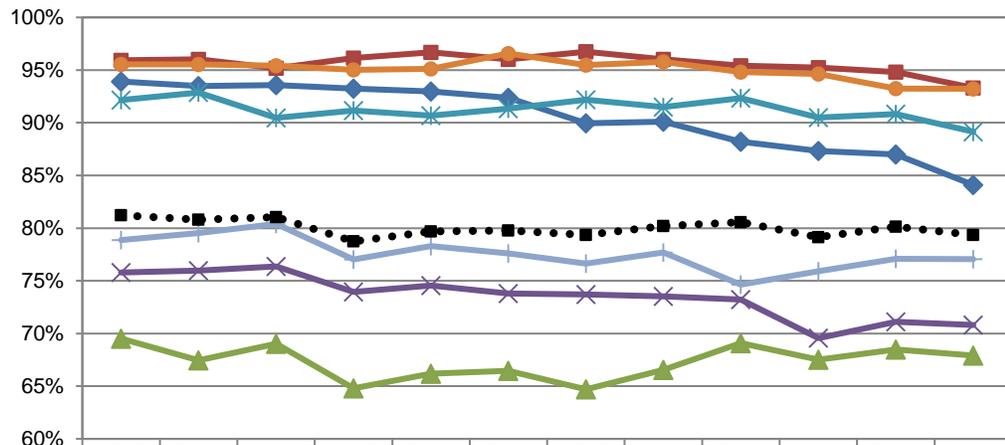
KEY FINDINGS

- Overall, the workers' compensation physician retention rate was high and stable: 81 percent in 2006 and 79 percent in 2017. This means that about 80 percent of each year's participating physicians also participated in the following year.
- Retention rates for Orthopedic Surgery, Radiology/Pathology, Emergency Medicine, and Anesthesiology specialties stayed at 90 percent or more since 2005. Considering a natural rate of attrition due to practice change and retirement, these rates indicate almost no change in workers' compensation participation status.
- Retention rate for Primary Care physicians decreased from 79 percent in 2005 to 71 percent in 2017. There are indications that Primary Care is increasingly provided by Emergency Medicine specialists and PAs.
- Top 20% physicians have a high rate of year-to-year retention at over 98 percent. Also, Top 20% physicians continue to participate in workers' compensation in the long term: 66 percent of those who had participated in 2005 were still participating 12 years later in 2017.

3.1 YEAR-TO-YEAR (CONSECUTIVE) RETENTION RATES BY SPECIALTY

- Overall, physicians who participated in 2005 had an 81 percent retention rate in 2006. Among those who participated in 2016, 79 percent of them continued to participate in 2017. The remaining 21 percent who left the workers’ compensation system is partly explained by normal attrition processes among physicians such as retirement, death, changes in practice type, and migration. Newly licensed and relocated physicians are entering to replace those who left.
- Orthopedic surgeons and Emergency Medicine specialists maintained the highest retention rate at above 90 percent in each year.

Retention rates for Emergency Medicine, Orthopedic Surgery, Radiology/Pathology, and Anesthesiology specialties stayed between 85 and 95 percent in the last 12 years, decreasing slightly in recent years. Retention rates for Primary Care, Surgery - Other, and Other Specialty was generally lower, ranging from 65 percent to 80 percent.



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
◆ Anesthesiology	94%	93%	94%	93%	93%	92%	90%	90%	88%	87%	87%	84%
■ Emergency Med	96%	96%	95%	96%	97%	96%	97%	96%	95%	95%	95%	93%
▲ Other Specialty	70%	67%	69%	65%	66%	66%	65%	67%	69%	68%	68%	68%
× Primary Care	76%	76%	76%	74%	75%	74%	74%	74%	73%	70%	71%	71%
* Radiology/ Pathology	92%	93%	90%	91%	91%	91%	92%	91%	92%	90%	91%	89%
● Surgery - Orthopedic	96%	96%	95%	95%	95%	97%	95%	96%	95%	95%	93%	93%
+ Surgery - Other	79%	80%	80%	77%	78%	78%	77%	78%	75%	76%	77%	77%
●●● Overall	81%	81%	81%	79%	80%	80%	79%	80%	81%	79%	80%	79%

Service Year

Note: *Consecutive retention rate* is calculated as the share of a prior year’s participants who participate in the following year. Other Specialty includes such specialties as pediatrics, OB/GYN, cardiovascular diseases, and ophthalmology.

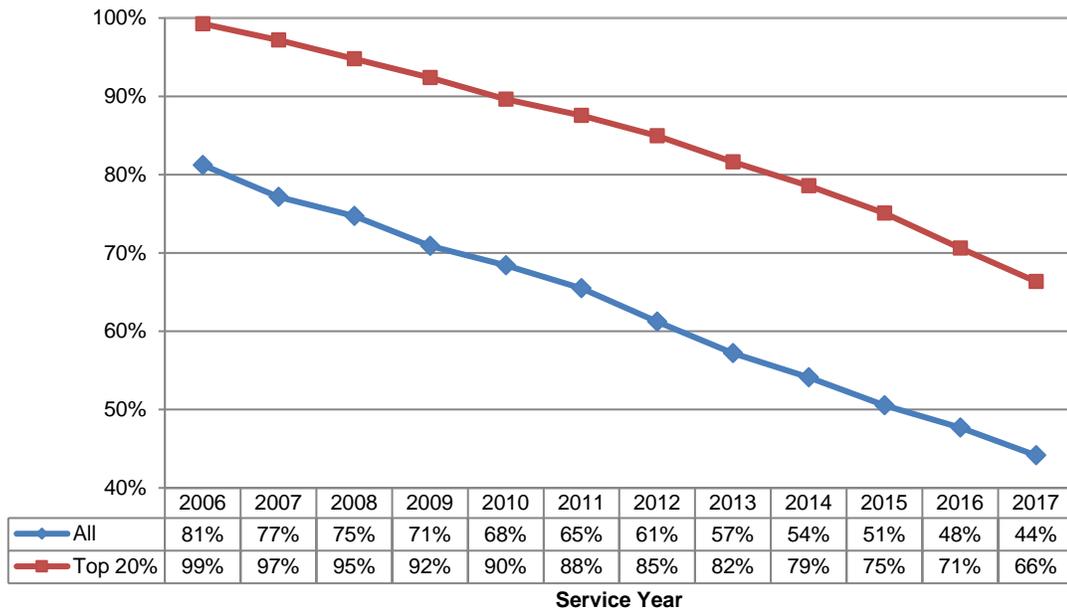
Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2018.

3.2 CUMULATIVE RETENTION RATES

- Overall, 44 percent of the physicians who had participated in 2005 still participated in 2017.
- Among the Top 20% participating physicians in 2005, 66 percent of them were still participating in 2017.

Cumulative retention rates are calculated by following the same physicians who participated in 2005 throughout subsequent years. For all participants in 2005, the cumulative retention rate shows a 20 percent decrease in the first year. However, the attrition rate in subsequent years remains at about 3 percent per year. For the Top 20% group, 66 percent of those who participated in 2005 were still participating in 2017. The attrition rate is less than 3 percent per year.

The very predictable annual decreases (the attrition rate) indicate that the physician participation is somewhat regular and stable in the long term and is not significantly affected by changes in other factors such as decreases in patients, increases in the number of practitioners, and changes in workers' compensation fee schedules and policies that occurred since 2005.



Note: A *cumulative retention rate* is calculated by taking those physicians who participated in 2005 and by identifying who, among those 2005 participants, still participated in each following year since 2005. Unlike year-to-year *consecutive* retention rates, for which new physicians may replace old participants without changing the rate, cumulative retention rates show the longevity of participation in workers' compensation.

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

4. ACCESS TO MEDICAL CARE BY GEOGRAPHICAL AREA

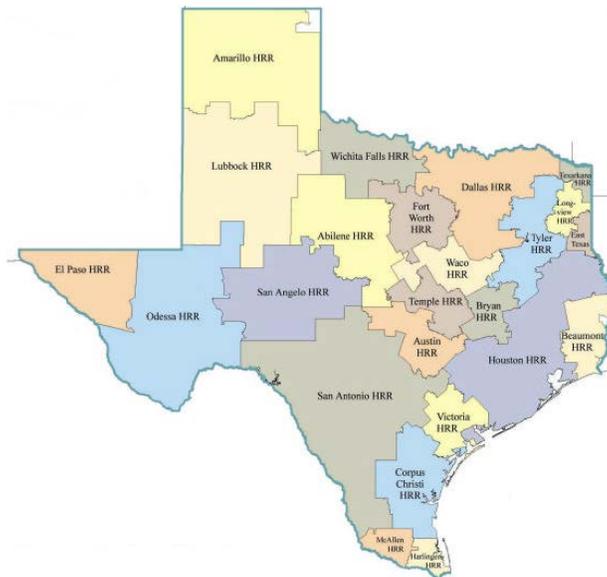
KEY FINDINGS

- In 2017, 78 percent of active physicians in Texas practiced in the five largest metro areas. Seventy-four percent of workers' compensation participating physicians were in the largest metro areas. In comparison, 73 percent of workers' compensation claims resided in these areas.
- Participation rates were generally lower in larger metro areas as there were more doctors in these areas.
- Some smaller metro areas and border regions had a higher number of workers' compensation patients per physician. Harlingen and El Paso HRRs had relatively less physicians than claims. Tyler, San Angelo, and Bryan HRRs had relatively more physicians than claims.

HOSPITAL REFERRAL REGION (HRR)

HRRs are based on *The Dartmouth Atlas of Health Care*.

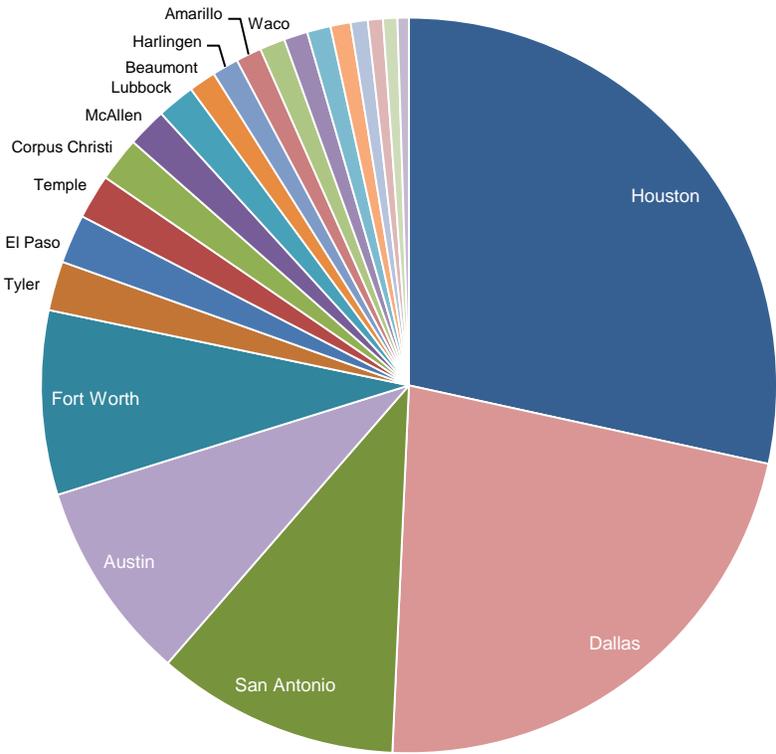
- HRRs are constructed using Medicare hospitalization records and patient referral patterns, closely resembling the pattern of medical care and access.
- HRRs roughly correspond to census metro areas, but HRRs are more relevant to medical care as they are constructed by patient referral pattern. There are 24 HRRs in Texas. Two HRRs are removed from the analysis: Texarkana and Shreveport HRRs are primarily located in Arkansas and Louisiana, respectively.
- Patients' and physicians' ZIP codes are recoded into HRRs. A patient's location is based on the employee mailing ZIP code in the medical bills. For physicians, the practice location ZIP code in the TMB list is used. For service locations, facility ZIP codes were used.



4.1 ACTIVE PHYSICIANS BY HRR (2017)

- Total number of active Texas physicians (MDs/DOs) in 2017 was 51,486.
- Five largest metro areas (Houston, Dallas, San Antonio, Austin, and Fort Worth) accounted for 78 percent of all active physicians.

This pie chart shows the number of active physicians in each of the 22 HRRs in Texas. It ranges from 14,634 for Houston to 258 for Victoria. Complete numbers are provided in the table on the right.



HRR	Number of physicians
Houston	14,634
Dallas	11,480
San Antonio	5,485
Austin	4,541
Fort Worth	4,167
Tyler	1,116
El Paso	1,106
Temple	1,010
Corpus Christi	1,003
McAllen	891
Lubbock	858
Beaumont	613
Harlingen	596
Amarillo	580
Waco	574
Bryan	535
Odessa	533
Abilene	457
Longview	386
Wichita Falls	339
San Angelo	324
Victoria	258

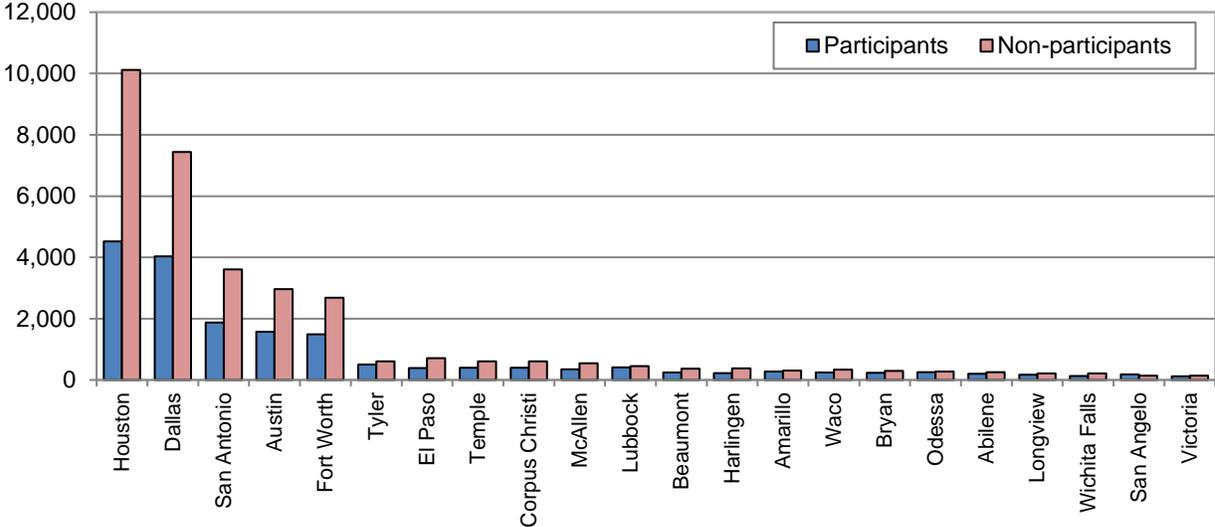
Note: Active physicians include only non-military and direct patient care MD/DO physicians whose practice state is Texas. Some cases are excluded because their location cannot be determined.

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

4.2 PHYSICIAN NUMBER AND PARTICIPATION STATUS BY HRR (2017)

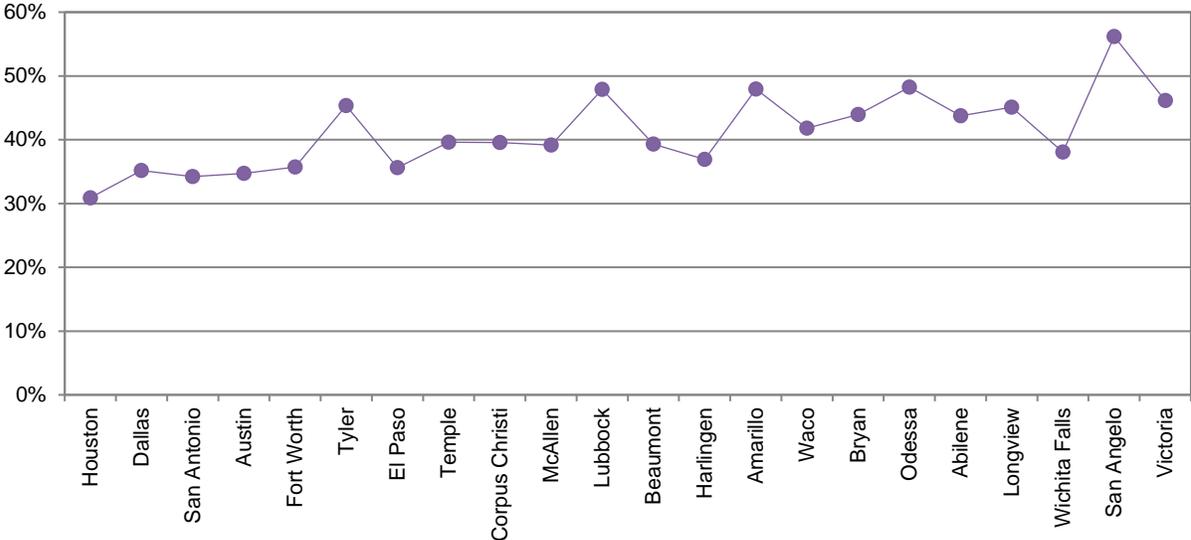
- Houston, Dallas, San Antonio, Austin, and Fort Worth accounted for 78 percent of the active physicians and 74 percent of the participating physicians in 2017. In comparison, 73 percent of all workers’ compensation claims are in the same five metro areas.
- Overall, 35 percent of active Texas physicians participated in workers’ compensation in 2017 (see Section 2.2). Participation rates in the five metro areas were slightly less than this average, while smaller areas had slightly higher participation rates.

Number of Participating and Non-participating Physicians by HRR (2017)



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

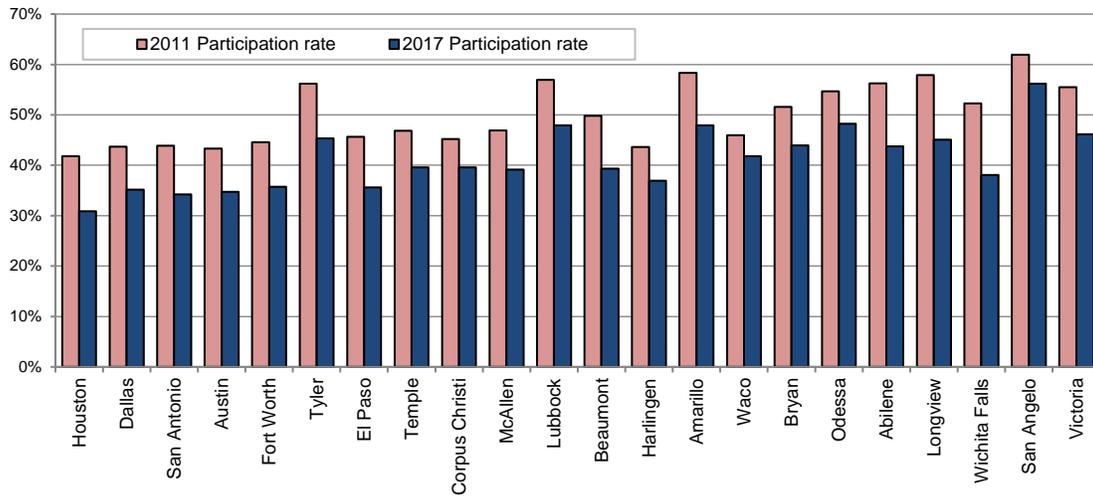
Participation Rate by HRR (2017)



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

4.3 WORKERS' COMPENSATION PARTICIPATION RATES BY HRR (2011 - 2017)

- Participation rates are generally lower in larger metro areas as there are more doctors relative to participating doctors in these areas.
- Between 2011 and 2017, participation rates decreased the most in Wichita Falls, Longview, and Abilene HRRs. Waco and Corpus Christi HRRs saw the least decrease in the participation rate.



Note: HRRs are shown in the order of the number of active physicians from left to right.

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

HRR	2011 Participation rate	2013 Participation rate	2015 Participation rate	2017 Participation rate	Change in 2011 - 2017
Houston	41.8%	37.3%	32.1%	30.9%	-10.88%
Dallas	43.7%	38.5%	35.6%	35.2%	-8.55%
San Antonio	43.9%	39.9%	34.7%	34.2%	-9.69%
Austin	43.3%	39.8%	36.1%	34.7%	-8.55%
Fort Worth	44.6%	39.3%	35.5%	35.7%	-8.88%
Tyler	56.2%	53.7%	45.4%	45.3%	-10.83%
El Paso	45.6%	41.5%	35.2%	35.6%	-10.02%
Temple	46.8%	42.9%	39.9%	39.6%	-7.22%
Corpus Christi	45.2%	44.1%	39.3%	39.6%	-5.62%
McAllen	46.9%	42.1%	38.7%	39.2%	-7.71%
Lubbock	56.9%	53.6%	47.3%	47.9%	-9.02%
Beaumont	49.8%	48.2%	39.4%	39.3%	-10.52%
Harlingen	43.6%	40.5%	36.8%	36.9%	-6.71%
Amarillo	58.3%	53.1%	49.1%	47.9%	-10.42%
Waco	46.0%	50.6%	42.1%	41.8%	-4.17%
Bryan	51.6%	51.7%	48.9%	43.9%	-7.65%
Odessa	54.7%	51.7%	47.9%	48.2%	-6.45%
Abilene	56.2%	51.5%	46.8%	43.8%	-12.47%
Longview	57.9%	54.3%	44.5%	45.1%	-12.82%
Wichita Falls	52.3%	47.8%	42.5%	38.1%	-14.21%
San Angelo	61.9%	61.9%	51.6%	56.2%	-5.73%
Victoria	55.5%	54.3%	46.6%	46.1%	-9.34%

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

4.4 CLAIMS PER PHYSICIAN BY HRR (2005 - 2017)

- Harlingen and El Paso HRRs had the highest number of claims per physician in 2017.
- Fort Worth and San Antonio HRRs had higher numbers of claims per physician among the large metro areas. There were significant improvements in Dallas, Austin, and Houston HRRs while improvements in Fort Worth and San Antonio HRRs were less substantial.
- The number of claims per physician increased in Harlingen HRR since 2005.
- Since 2005, the number of claims per physician decreased the most in Longview, San Angelo, Tyler, and Bryan HRRs.

HRRs with a large gain (large decrease in the number of claims per physician) tended to have already favorable access levels in 2005. The HRRs with the highest number in 2017 were also among the highest in 2005.

Among the HRRs with the highest number of claims per physician in 2017, Odessa, McAllen, and Fort Worth HRRs experienced substantial improvements, while Harlingen, El Paso, and San Antonio HRRs did not.

HRR	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Change in 2005–2017
Harlingen	26.8	26.0	25.9	26.0	25.8	26.7	26.4	28.0	27.7	28.1	27.6	26.4	27.9	3.9%
El Paso	27.6	29.5	31.0	31.7	28.6	28.6	27.3	26.7	26.0	26.0	26.7	25.7	24.8	-10.1%
Fort Worth	24.3	25.8	26.1	22.7	21.3	20.9	20.9	20.8	20.6	20.8	20.5	20.0	20.3	-16.5%
San Antonio	21.0	21.9	21.6	20.4	19.5	20.3	19.5	20.4	20.0	20.1	19.8	19.4	18.8	-10.5%
McAllen	22.0	20.3	22.0	19.5	19.3	19.6	19.9	19.9	20.6	20.5	19.3	18.9	18.0	-18.2%
Odessa	25.5	25.9	25.5	23.5	20.2	21.1	22.4	22.3	21.1	20.7	18.0	16.5	17.0	-33.6%
Waco	22.8	24.1	22.4	22.2	19.7	17.2	20.4	18.3	16.6	17.6	17.2	17.9	17.0	-25.6%
Amarillo	16.5	16.7	18.7	16.4	15.8	16.1	17.0	16.2	15.9	15.6	15.5	15.8	16.4	-0.2%
Wichita Falls	16.2	16.0	17.7	15.0	15.2	16.7	15.0	14.6	14.0	13.9	14.1	13.9	15.3	-5.8%
Lubbock	17.3	16.4	17.3	17.2	16.3	16.7	16.7	17.3	16.8	17.0	15.4	15.8	15.0	-13.4%
Abilene	17.2	18.8	18.1	17.2	17.3	16.4	16.8	16.3	14.8	14.6	14.2	14.7	14.5	-15.4%
Corpus Christi	20.6	19.7	18.8	17.8	17.2	17.8	19.3	17.8	17.8	17.0	16.4	15.1	14.1	-31.5%
Beaumont	17.9	17.9	17.1	16.9	15.5	16.5	17.0	15.8	14.0	13.8	14.8	13.9	14.0	-21.8%
Temple	18.6	19.1	19.1	18.3	16.3	14.0	14.2	14.0	13.7	13.0	13.3	13.2	13.1	-29.5%
Houston	16.3	16.9	16.9	15.8	14.8	14.0	14.1	14.8	14.3	14.5	13.9	13.2	13.0	-20.3%
Dallas	18.5	17.7	16.8	15.7	14.2	13.9	13.6	13.8	13.7	13.8	13.1	13.0	13.0	-30.1%
Austin	16.0	16.3	15.0	12.8	12.5	11.9	11.6	11.7	11.9	12.1	12.1	12.5	12.4	-22.4%
Victoria	16.7	16.9	15.8	14.1	13.3	15.5	14.6	14.7	13.3	13.8	13.5	12.4	11.8	-29.6%
Longview	21.1	21.4	19.9	17.7	16.0	15.7	15.1	15.6	12.8	12.3	12.8	10.5	10.3	-51.2%
Bryan	15.3	14.4	14.5	12.3	11.8	12.0	12.0	11.8	10.8	10.7	9.0	10.2	9.6	-37.5%
San Angelo	16.8	15.4	14.8	14.2	12.4	13.0	11.8	11.8	10.4	10.2	9.9	8.2	9.0	-46.6%
Tyler	15.3	15.2	15.3	13.5	12.9	11.8	11.2	10.7	9.7	10.2	9.9	9.3	8.9	-41.8%

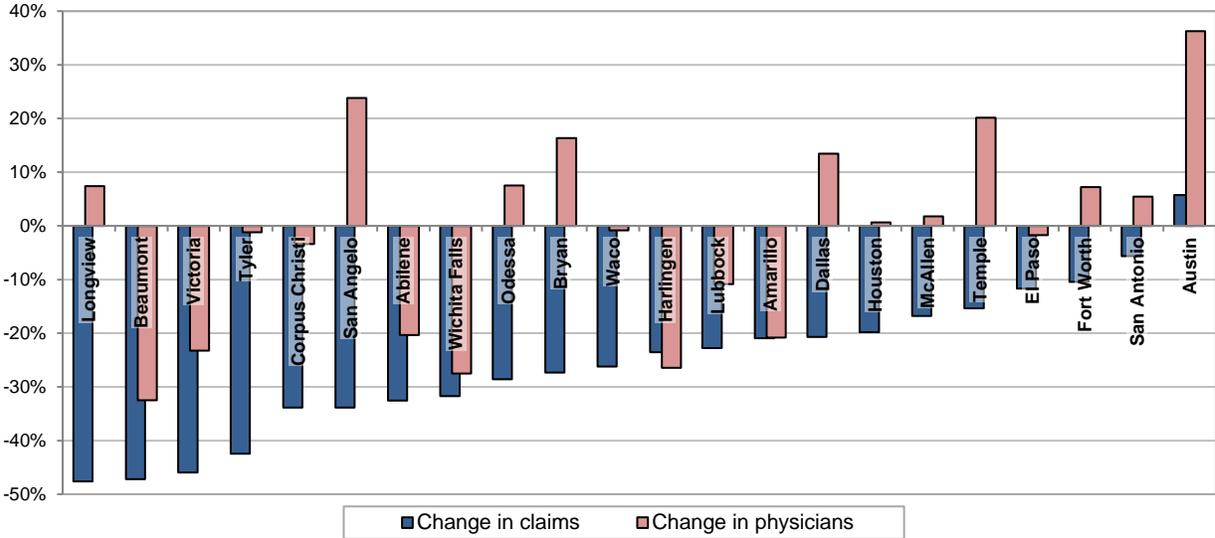
Note: Five largest metro areas are highlighted.

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

4.5 RATES OF CHANGE IN CLAIMS AND PARTICIPATING PHYSICIANS BY HRR (2005 - 2017)

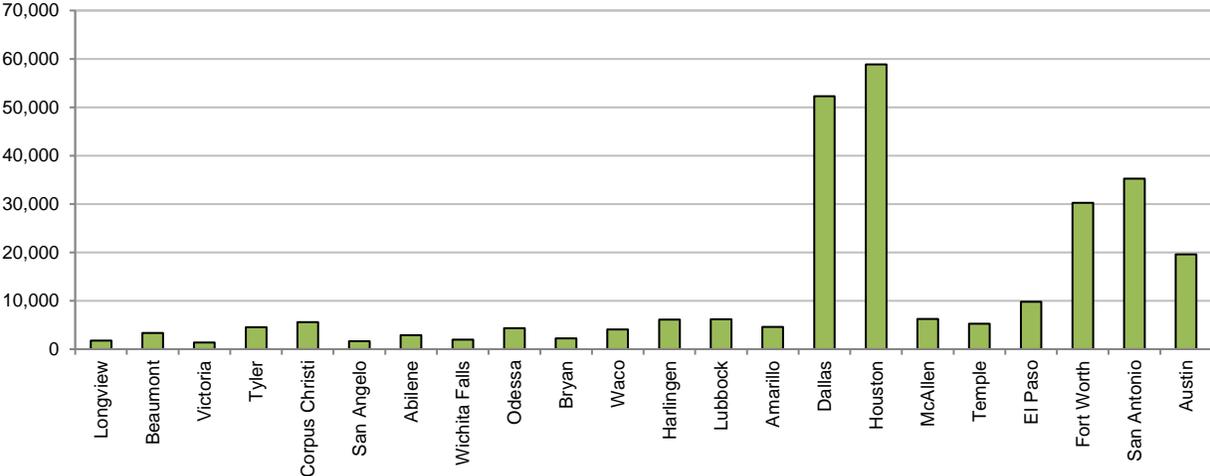
- Since 2005, the number of claims decreased in all HRRs except Austin HRR. The number of participating physicians increased in 11 HRRs.
- Five of the largest metro areas saw increases in the number of participating physicians.

In the figure below, HRRs with the largest decline in the number of claims are shown from left to right. The number of physicians decreased significantly in Beaumont and Victoria HRRs, where claims also decreased substantially. San Angelo, Temple, Bryan, and Dallas HRRs saw a significant increase in the number of physicians along with a decreasing number of claims. Austin HRR was the only region with growth in both claims and physicians.



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

Total Number of Claims Treated in 2017 by HRR

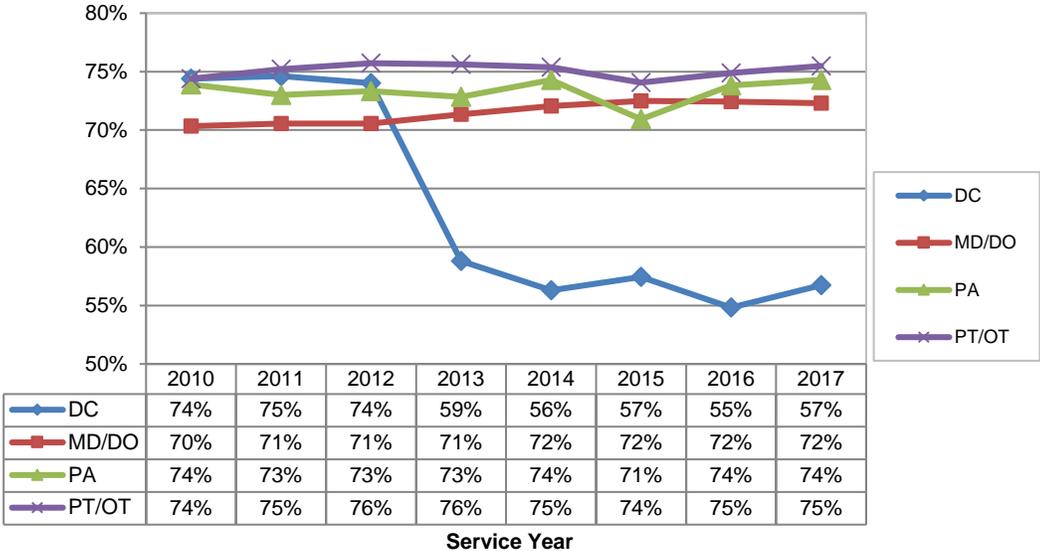


Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2018.

4.6 GEOGRAPHIC DISTRIBUTION OF HEALTH CARE PROVIDERS BY HRR

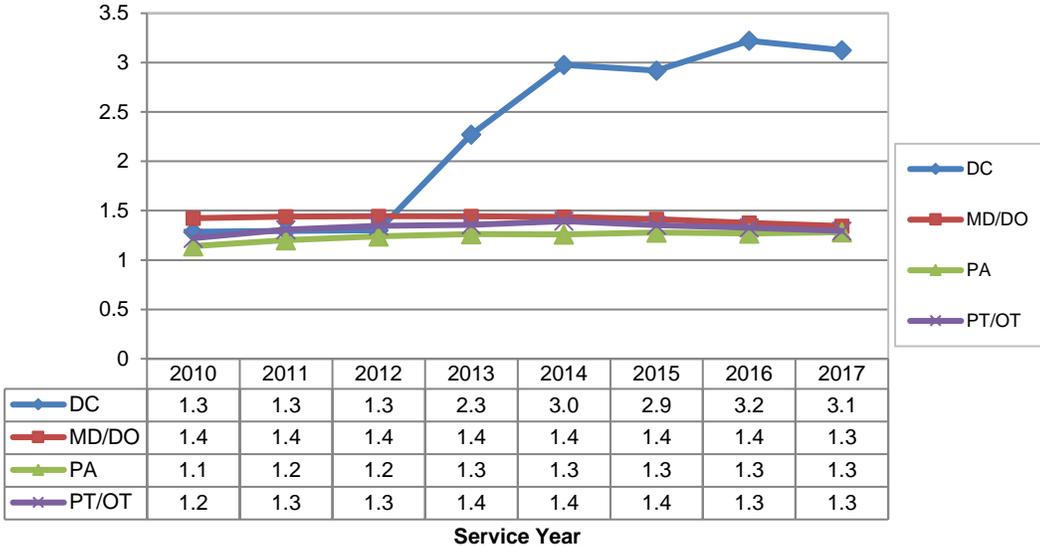
- For all health care providers, about 70 to 75 percent of their services and claims were in the five largest metro areas.
- Since 2013, chiropractors provided an increasing number of services in smaller HRR areas. On average, a DC provided services in three HRRs (involving some travel), mostly disability examination services.

Percentage Share of HCP Services in the Five Largest Metro HRRs



Note: Service HRR is determined by facility location. A health care provider may provide services in multiple HRRs.
 Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2018.

Average Number of Serviced HRRs per HCP



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

5. TIMELINESS OF CARE

Timeliness of care is a measure of initial access to medical care, and it is calculated as the number of days between the date of injury and the first visit to a physician or health care provider for non-emergency medical treatment.³ Because access to referral data is limited, this report focuses on the initial access only.

As a measure of access to medical care, timeliness of care is affected by physician availability and participation rates as well as such non-supply factors as type of injury, travel preferences, and dispute and denial processes. Therefore, timeliness of care presented in this section goes beyond physician participation in understanding access to medical care.

In this section, we calculated measurements using services in injury years (new injuries) and only non-emergency services. We excluded all claims that had an emergency room service as their first medical treatment. We considered medical services for the first six months after the injury. For example, for injury year 2016, we examined services provided between January 1, 2016, and June 30, 2017. We also excluded injury and occupational illness cases whose first treatment occurred more than six months after the injury.

KEY FINDINGS

- Overall, initial access (timeliness of care) measures show that workers' compensation patients received non-emergency treatments faster in injury year 2016 than in 2005.
- About 84 percent of claims received initial non-emergency care in seven days or less in injury year 2016, up from 81 percent in 2005. The share of claims receiving same-day treatment increased from 39 percent in injury year 2005 to 44 percent in 2016. Claims with delays of 29 days or more decreased from 6 percent in injury year 2005 to 5 percent in 2016.
- Delayed initial care is correlated with higher total medical costs. In injury year 2016, claims with greater than seven days delay had on **average 39 percent more medical costs** in the first six months after injury.
- Claims with **extremity** injuries received first treatment faster than those with neck, low back, and shoulder injuries.
- Smaller HRRs have a higher percentage of delayed cases, but these areas are often affected by a few extreme values.
- Large metro areas generally show about 10 percent or less of their claims traveling out of their area for first treatment. Smaller HRRs have higher number of claims traveling outside of their HRR, some over 40 percent. The majority of out-of-HRR trips were for primary care physicians.

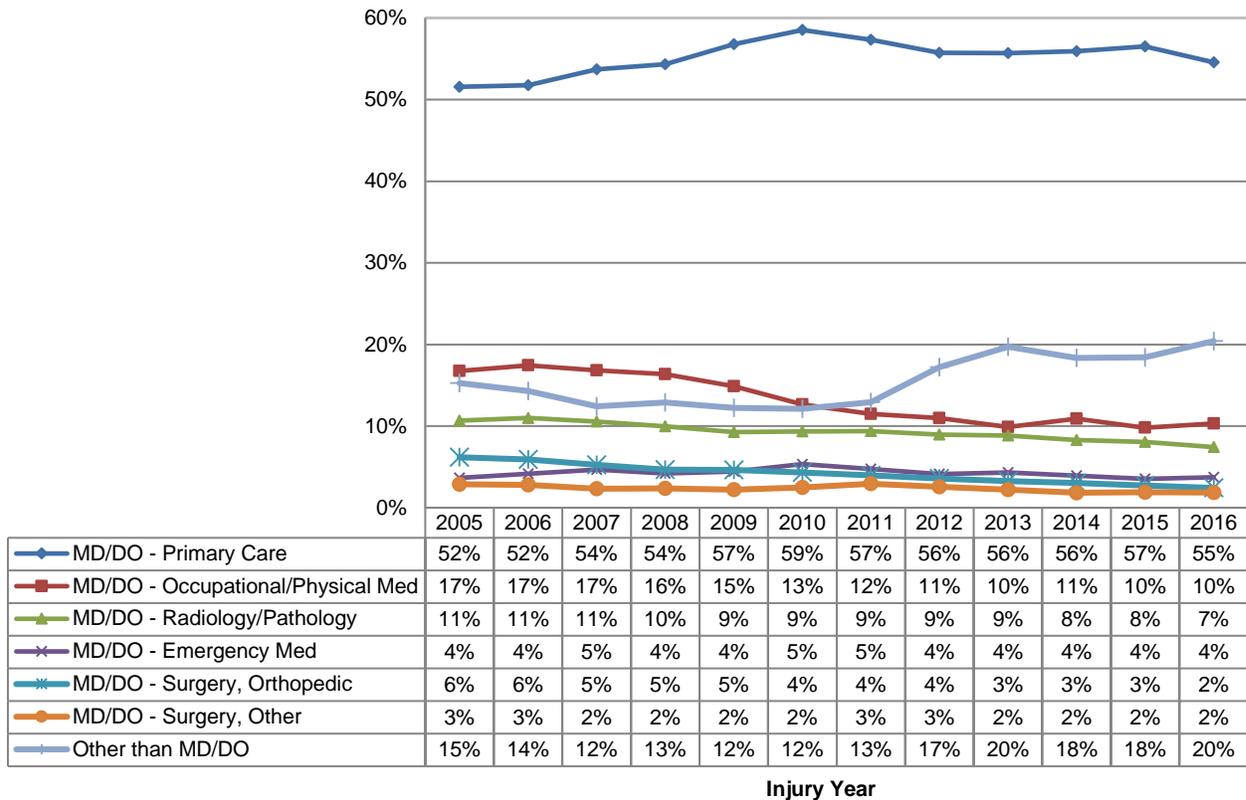
³ These average numbers of days have been updated in 5.3, 5.4, and 5.10 for this 2018 report to correct errors. In previous reports, duplicate service bills were erroneously included when calculating mean values. Absolute numbers changed upward and somewhat proportionately, but the long term trends did not change from previous reports.

5.1 SHARES OF TREATING DOCTOR TYPES DELIVERING FIRST TREATMENT

- The majority of claimants saw a Primary Care physician on their first treatment day, and this rate has increased from 52 percent in injury year 2005 to 55 percent in 2016.
- About 10 percent of new claims saw Occupational/Physical Medicine specialists on the first day of treatment in injury year 2016, decreasing from 17 percent in 2005.
- About 2 percent of the claims saw Orthopedic Surgeons in the first day in injury year 2016, compared to 6 percent in 2005.

This measure shows percentage shares of claims by the type of physician that they saw on their first day of treatment. When a patient was treated by multiple doctors with different specialties, each unique specialty is counted.

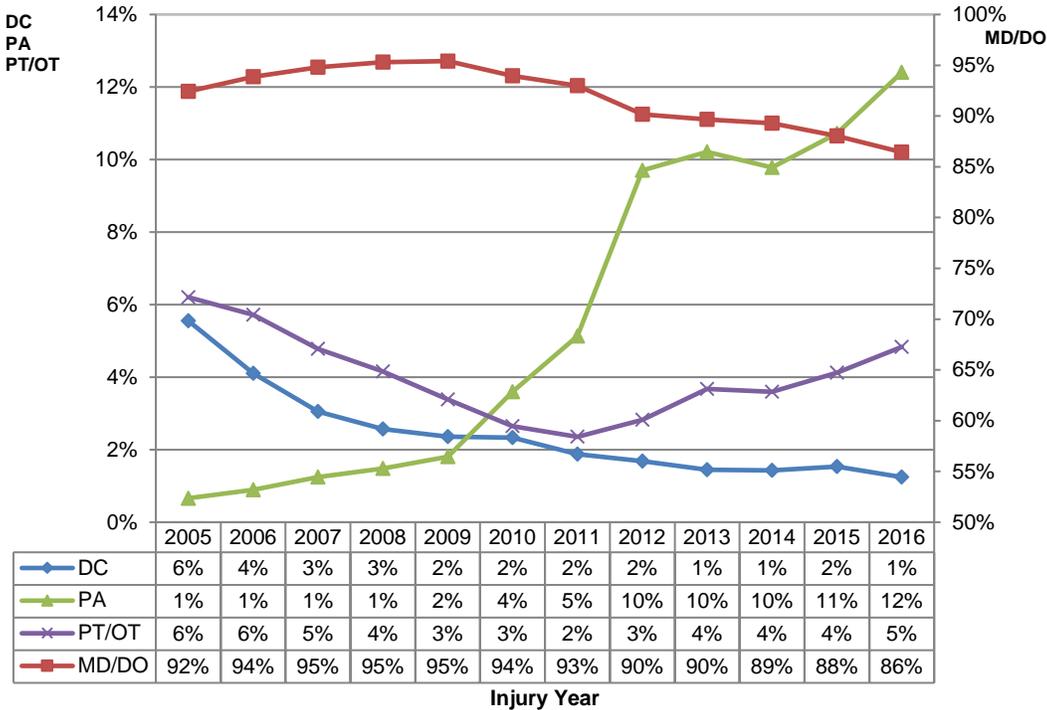
55 percent of the claims saw a Primary Care physician in injury year 2016. Occupational and Physical Medicine specialists were the second most important group for first treatment. In injury year 2005, 17 percent of the claims saw Occupational/Physical Medicine specialists, but this decreased to 10 percent in 2016. Less claimants were seeing Radiology/Pathology and surgeons on their first day while the share of claims seeing non-physician health care providers (Other than MD/DO) increased from 15 percent in injury year 2005 to 20 percent in 2016.



Note: A claim may see multiple health care providers, and the sum of the percentages may exceed 100 percent.
 Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2018.

5.2 SHARES OF HEALTH CARE PROVIDERS TYPES DELIVERING FIRST TREATMENT

- In injury year 2016, about 86 percent of the new claims saw an MD/DO physician on their first visit.
- The percentage of claims treated first by a PA increased rapidly from just 1 percent in injury year 2005 to about 12 percent in 2016.
- The share of claims seeing a DC on their first visit decreased from 6 percent in injury year 2005 to 1 percent in 2016.
- The share of claims seeing a PT or OT also decreased from 6 percent in injury year 2005 to 5 percent in 2016.

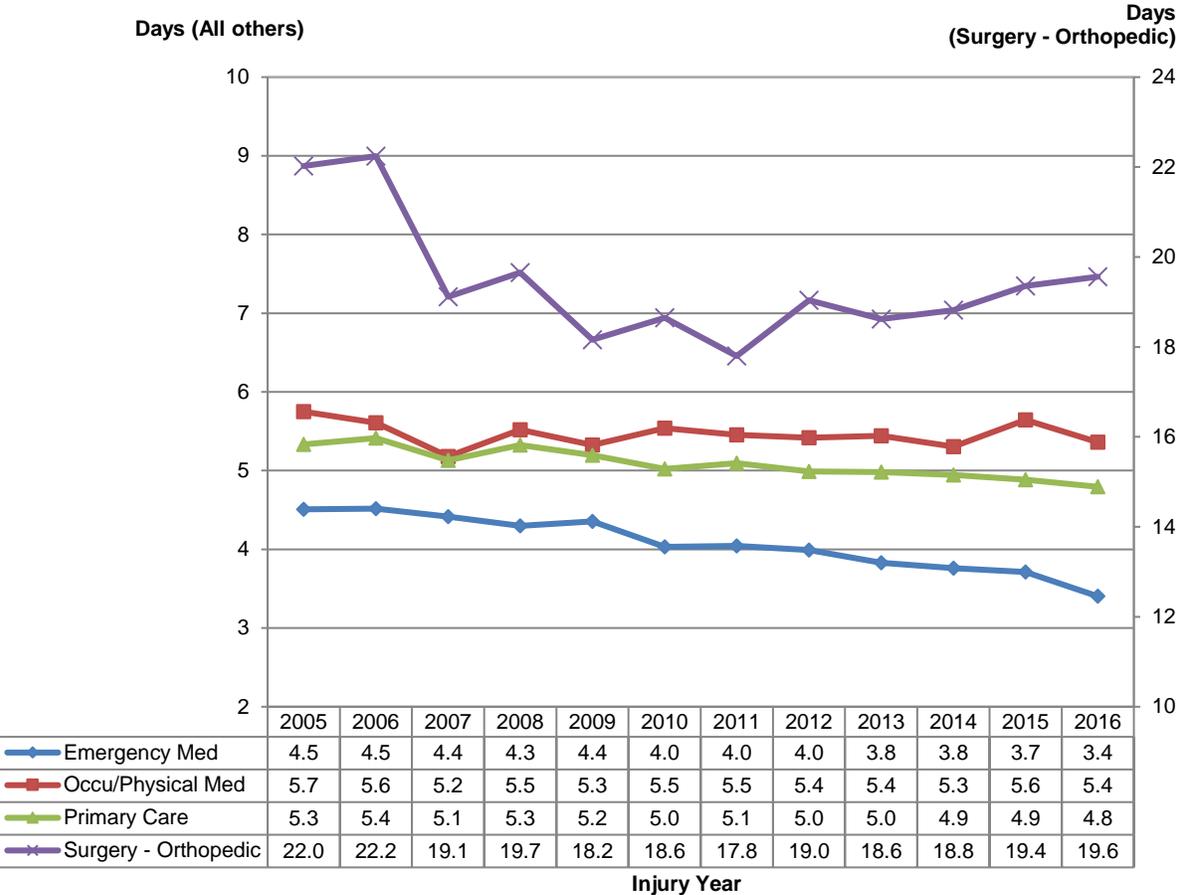


Notes: MD/DO numbers are shown on the right scale. All other health care providers are shown on the left scale. An injured employee may see multiple health care providers on the first day. As a result, the sum of the percentages may exceed 100 percent.

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

5.3 AVERAGE NUMBER OF DAYS FROM INJURY TO FIRST TREATMENT BY PHYSICIAN

- In injury year 2016, workers’ compensation claimants who saw physicians in Primary Care, Emergency Medicine, and Occupational/Physical Medicine specialties received initial non-emergency medical treatment within an average of three to five days from the date of injury. This delay has decreased slightly since 2005. This average number of days between the injury date and the first treatment is affected by the outliers. The median days are mostly one day or less from injury date.⁴
- Claimants whose first treatment was by an Orthopedic Surgeon decreased from 22 days for their first treatment in injury year 2005, to 20 days in 2016. The median was eight days in injury year 2016.

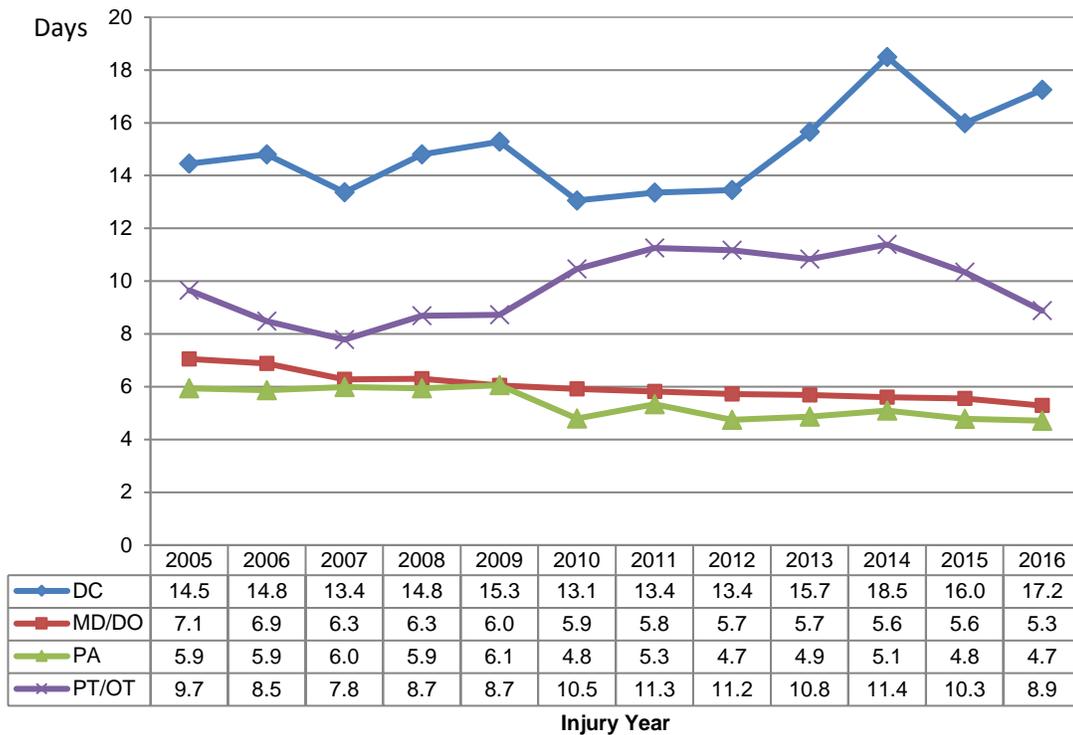


Note: Surgery – Orthopedic numbers are shown on the right scale. All other physicians are shown on the left scale.
 Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2018.

⁴ The share of extreme values or outliers affects the averages, and these outliers are what indicate the access-to-care condition. Median number of days between injury and first treatment does not vary between provider types, or year to year.

5.4 AVERAGE NUMBER OF DAYS FROM INJURY TO FIRST TREATMENT BY TYPE OF HEALTH CARE PROVIDER

- The average number of days between injury and first non-emergency medical treatment for all physicians decreased from 7.1 days in injury year 2005 to 5.3 days in injury year 2016. The median was one day for all injury years.
- The average number of days for PAs were lower than those for physicians at 5.9 days in injury year 2005, which decreased to 4.7 days in injury year 2016. The median was one day or less.
- The average days for PTs and OTs were higher at 8.9 days in injury year 2016. The median was two days.
- Claimants who saw DCs at their first visit took longer.⁵ The average number of days increased from 14.5 days in injury year 2005 to 17.2 days in 2016. The median was four days.



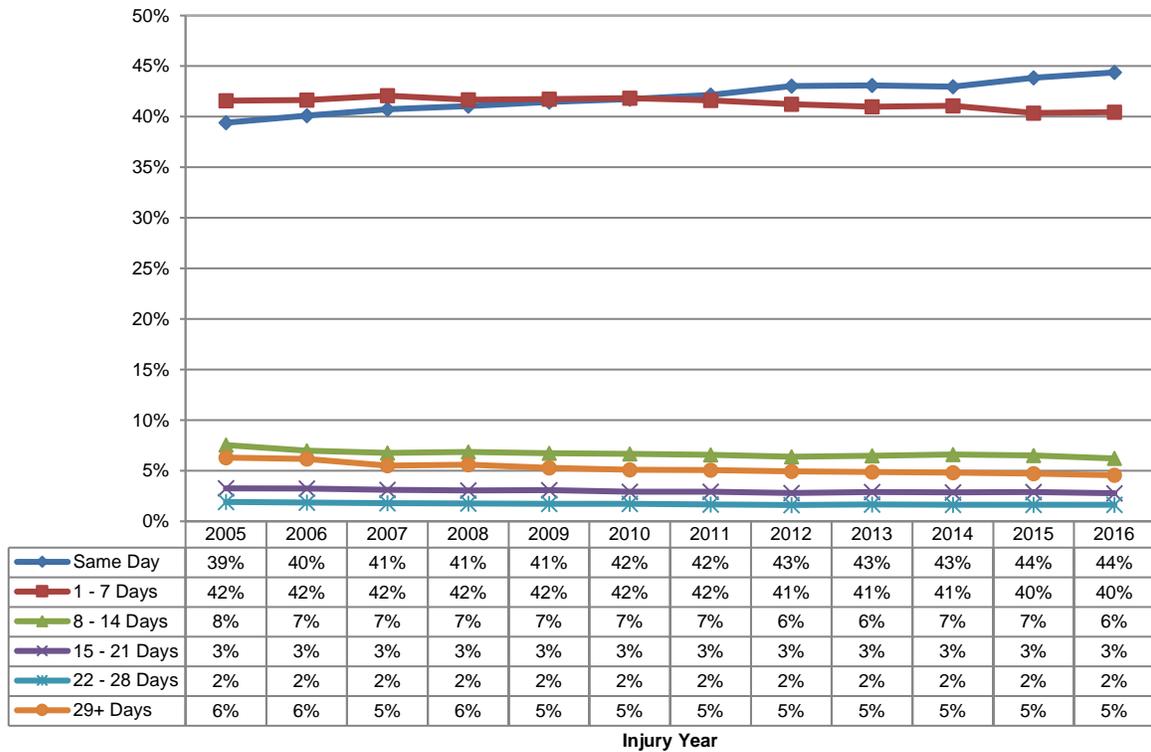
Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2018.

⁵ The increasing trend since 2012 may be related to a higher participation by DCs in the designated doctor program. Legislative changes in 2011 affected the designated doctor program rules.

5.5 PERCENT OF CLAIMS BY NUMBER OF DAYS FROM INJURY TO FIRST TREATMENT

This measure shows the percentage of claims by the number of days before first non-emergency medical treatment from MDs and DOs in six broad groups.

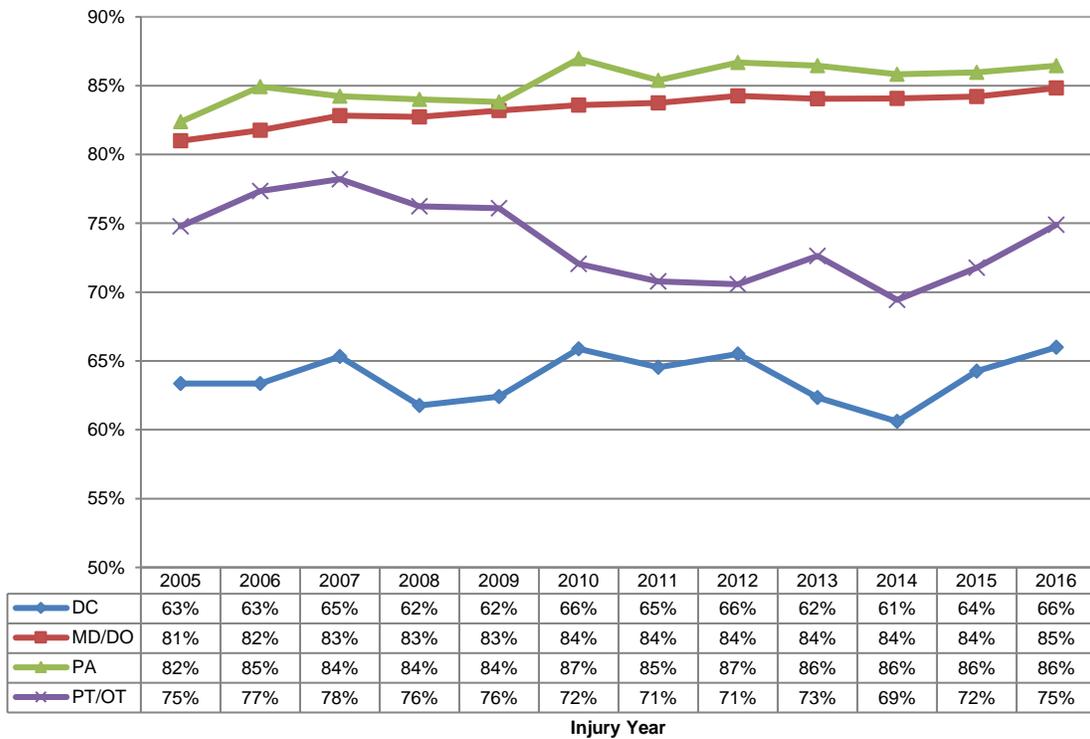
- Claimants who received treatment on the Same Day increased steadily from 39 percent in injury year 2005 to 44 percent in 2016.
- Those receiving treatment on the Same Day or in seven days or less (1-7 Days) accounted for 81 percent in injury year 2005, increasing to 84.8 percent in 2016.
- The shares of claims with delayed treatment (more than seven days from injury) decreased from 19 percent in injury year 2005 to 15 percent in 2016.



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

5.6 PERCENT OF CLAIMS WITH SEVEN DAYS OR LESS BETWEEN INJURY AND FIRST TREATMENT BY TYPE OF HEALTH CARE PROVIDER

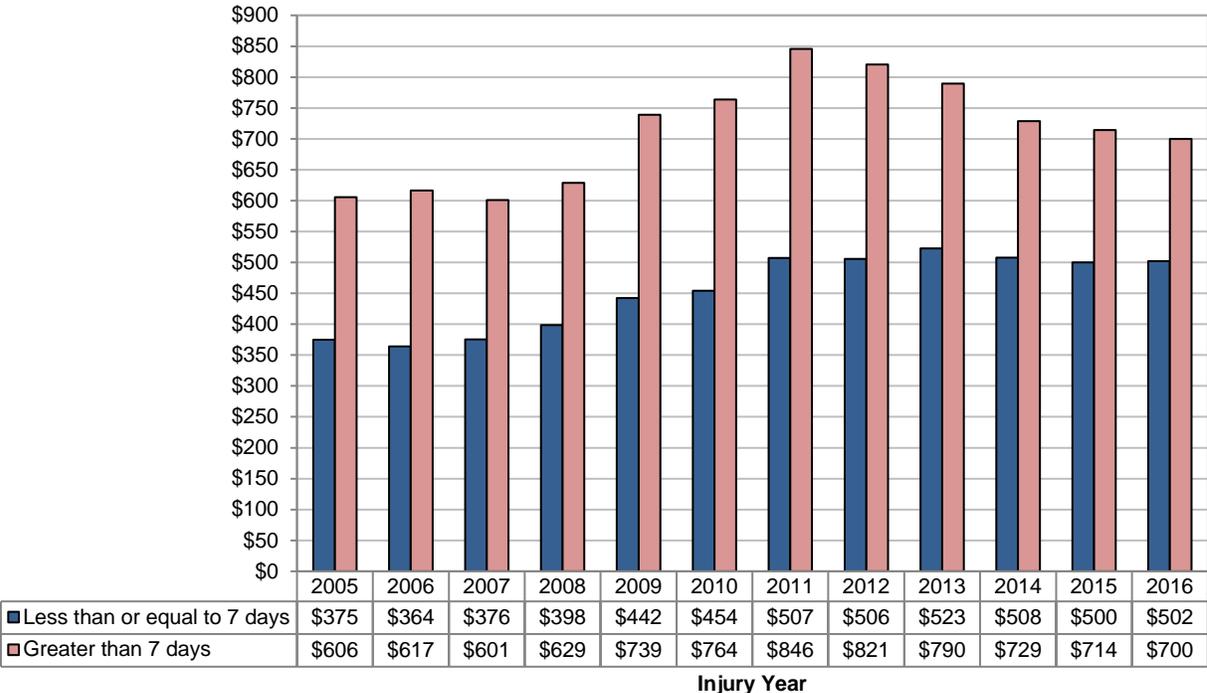
- The share of claimants that received their first non-emergency medical treatment in seven days or less increased from 81 percent in injury year 2005 to 85 percent in injury year 2016 for those who received first treatment from MDs and DOs. For PAs, it also increased from 82 percent in injury year 2005 to 86 percent in 2016.
- Among those receiving first treatment from DCs and PTs/OTs, these shares were lower and fluctuated more compared to those receiving first treatment from MDs/DOs or PAs. Still, even for these groups, access measurements in injury year 2016 were the same or better compared to those in 2005.



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

5.7 MEDIAN COST PER CLAIM BY NUMBER OF DAYS FROM INJURY TO FIRST TREATMENT

- Median medical cost for the delayed group (first non-emergency medical treatment after more than seven days from the date of injury) was \$606, 62 percent higher than that of within seven days (Less than or equal to 7 days) group (\$375) in injury year 2005. In injury year 2016, it was higher by 39 percent.
- Median costs fluctuated more for the delayed group. But the cost decreased significantly since 2011, resulting in the reduced gap between the two groups.



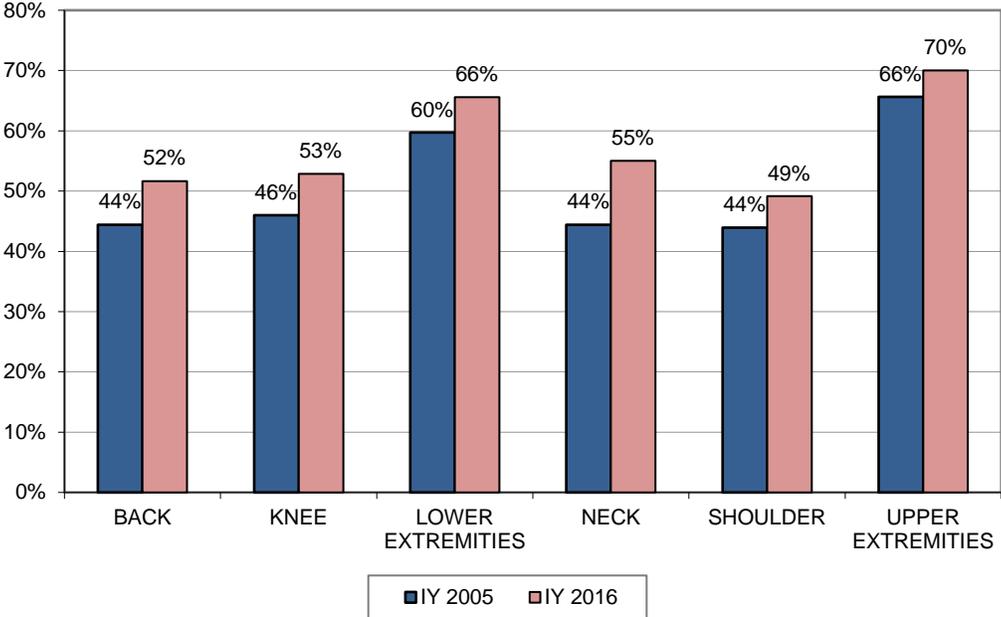
Notes: Medical costs are for services for the first six months after injury. They include all services including emergency services that are received on later days. Figures are in current dollars without any adjustment for inflation.

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

5.8 TIMELINESS OF FIRST TREATMENT BY BODY PART INVOLVED

- In injury year 2016, 70 percent of claimants with an upper extremity injury received their first non-emergency medical treatment within one day. It was 52 percent for back injury claims and 49 percent for shoulder injury claims.
- For all types of injuries, timeliness of treatment in injury year 2016 showed a significant improvement from injury year 2005.

This measurement shows the percentage of claimants who received their first treatment from physicians or other health care providers, either on the same day of injury or on the next day of injury, broken down by the injured body part involved. Claimants with upper or lower extremity injuries visited health care providers faster than others. In injury year 2016, 70 percent of upper extremity and 66 percent of lower extremity injury claimants received their first treatment within one day of injury. For all types of injury, the timeliness of first treatment improved since injury year 2005.

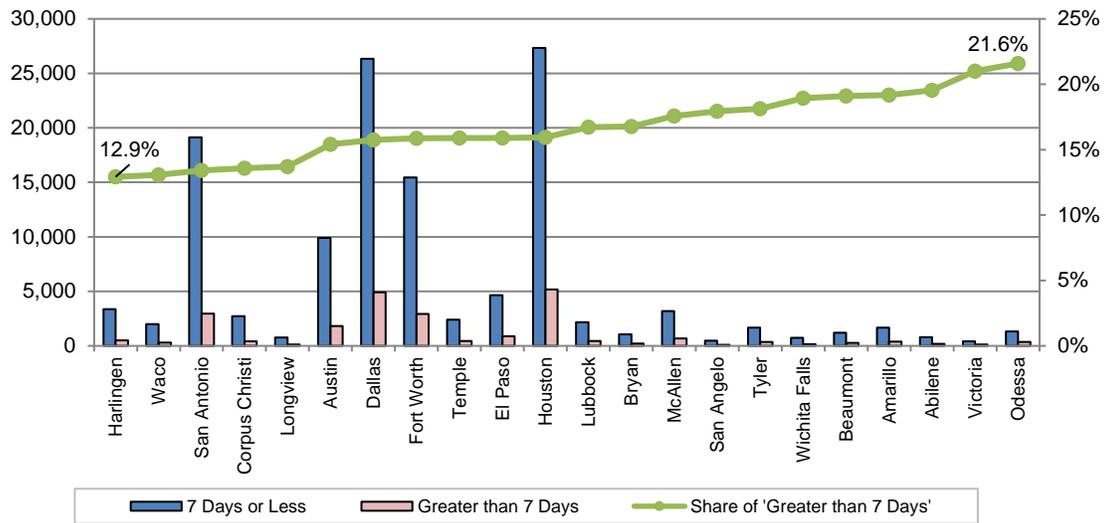


Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2018.

5.9 TIMELINESS OF MEDICAL CARE BY HRR (INJURY YEAR 2016)

- Workers’ compensation claimants in Odessa HRR had the highest chance of delayed treatment in injury year 2016.
- Among large metro areas, Houston HRR had the most delayed cases (5,183) and the highest percentage of delays (15.9 percent).

The line graph shows, from left to right, the percentage of delayed treatment (greater than seven days), which ranges from 12.9 percent for Harlingen HRR to 21.6 percent for Odessa HRR. It also shows the numbers of non-delayed (within seven days) and delayed (more than seven days) claims in bar graphs for each HRR.



HRR	7 Days or Less	Greater than 7 Days	Share of 'Greater than 7 Days'
Harlingen	3,376	501	12.9%
Waco	1,982	298	13.1%
San Antonio	19,138	2,962	13.4%
Corpus Christi	2,731	429	13.6%
Longview	769	122	13.7%
Austin	9,919	1,808	15.4%
Dallas	26,335	4,921	15.7%
Fort Worth	15,450	2,916	15.9%
Temple	2,404	454	15.9%
El Paso	4,638	877	15.9%
Houston	27,319	5,183	15.9%
Lubbock	2,173	436	16.7%
Bryan	1,068	215	16.8%
McAllen	3,192	680	17.6%
San Angelo	467	102	17.9%
Tyler	1,672	370	18.1%
Wichita Falls	728	170	18.9%
Beaumont	1,202	284	19.1%
Amarillo	1,665	395	19.2%
Abilene	791	192	19.5%
Victoria	429	114	21.0%
Odessa	1,322	364	21.6%

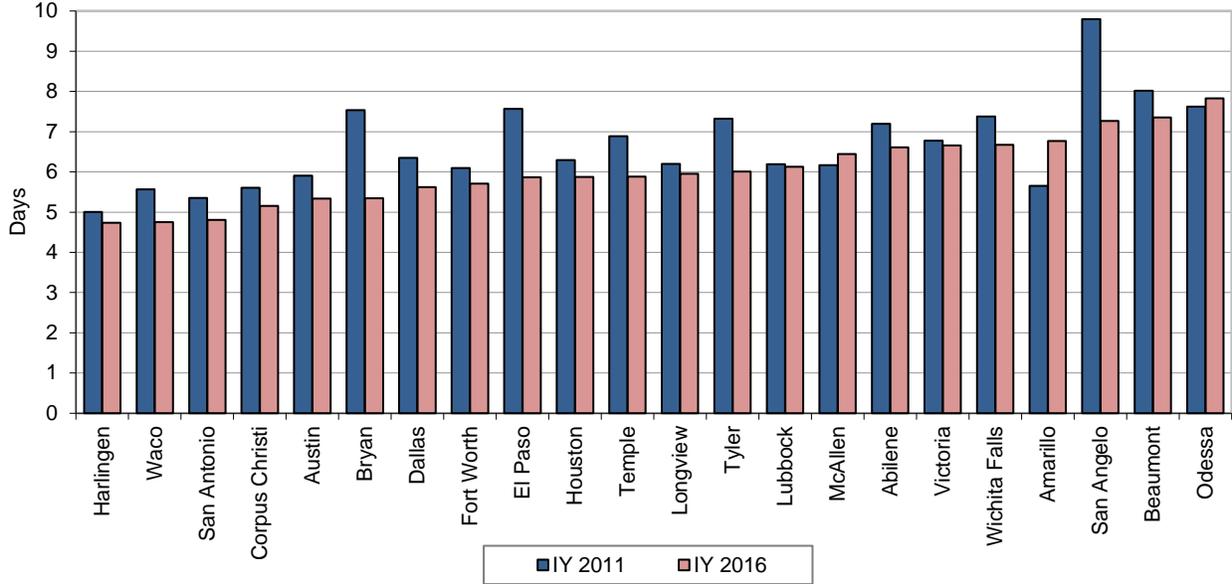
Notes: The figure and the table are in an ascending order of the share of 'greater than seven days' in injury year 2016. For smaller HRRs, these measurements are affected greatly by small changes in the number of participating physicians. Five largest metro HRRs are shaded in the table.

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

5.10 AVERAGE NUMBER OF DAYS FROM INJURY TO FIRST TREATMENT BY HRR (INJURY YEAR 2011 - 2016)

- In injury year 2016, the average number of days from injury to first treatment ranged from 4.7 days in Harlingen HRR to 7.8 days in Odessa HRR. These averages are affected by the share of extreme values. The median day was one day for most HRRs.
- Most HRRs in injury year 2016 experienced shorter delays than in 2011.

The average number of days before first treatment in injury year 2016 was lower than in 2011 for all HRRs except Amarillo, McAllen, and Odessa HRRs.



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

HRR \ Injury Year	Harlingen	Waco	San Antonio	Corpus Christi	Austin	Bryan	Dallas	Fort Worth	El Paso	Houston	Temple	Longview	Tyler	Lubbock	McAllen	Abilene	Victoria	Wichita Falls	Amarillo	San Angelo	Beaumont	Odessa
2011	5.0	5.6	5.4	5.6	5.9	7.5	6.3	6.1	7.6	6.3	6.9	6.2	7.3	6.2	6.2	7.2	6.8	7.4	5.7	9.8	8.0	7.6
2013	6.4	5.1	5.1	5.5	5.5	5.0	6.0	6.0	6.4	6.3	5.7	5.8	8.0	7.1	6.0	7.4	5.6	7.2	6.2	8.5	7.0	8.1
2015	5.3	5.6	5.2	6.1	5.6	6.2	6.0	5.7	6.8	5.9	6.3	5.5	6.6	6.3	6.4	8.4	5.6	5.8	6.4	7.4	7.0	7.3
2016	4.7	4.8	4.8	5.2	5.3	5.3	5.6	5.7	5.9	5.9	5.9	6.0	6.0	6.1	6.4	6.6	6.7	6.7	6.8	7.3	7.4	7.8

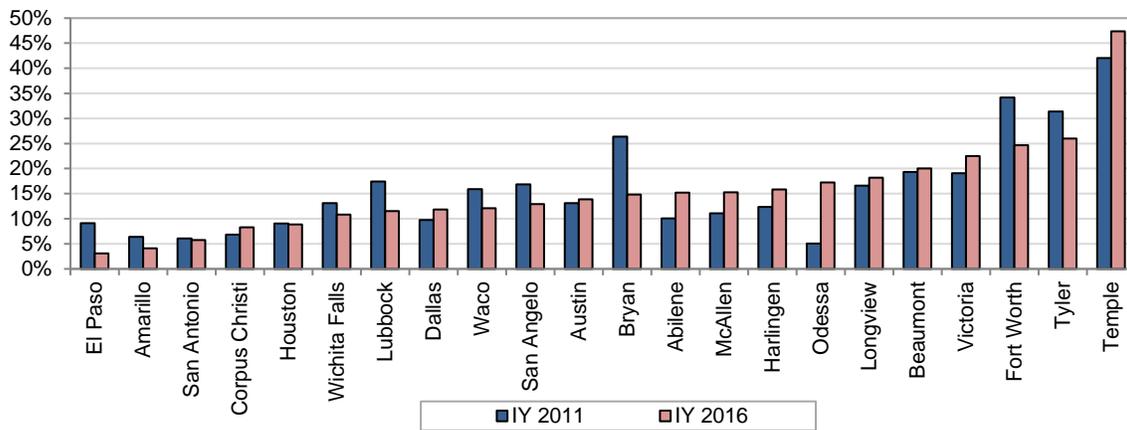
Note: This measure is presented in averages which may be affected by a small number of cases with extreme values. The median number of days for this measure is one day for most HRRs.

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

5.11 SHARE OF CLAIMS TRAVELING OUT OF HRR FOR INITIAL TREATMENT (INJURY YEAR 2011 - 2016)

- In injury year 2016, San Antonio and Houston HRRs had about 10 percent of their claimants traveling out of their area for their first treatment. Fort Worth HRR had 25 percent of claimants traveling to other HRRs.
- Smaller HRRs had a higher number of claimants traveling outside of their HRR, but to a certain degree, out-of-HRR travels may depend on the location and distance between adjacent HRRs.

Percentages are shown from left to right by increasing percentage of claims having at least one “out of HRR” non-emergency services in injury year 2016.



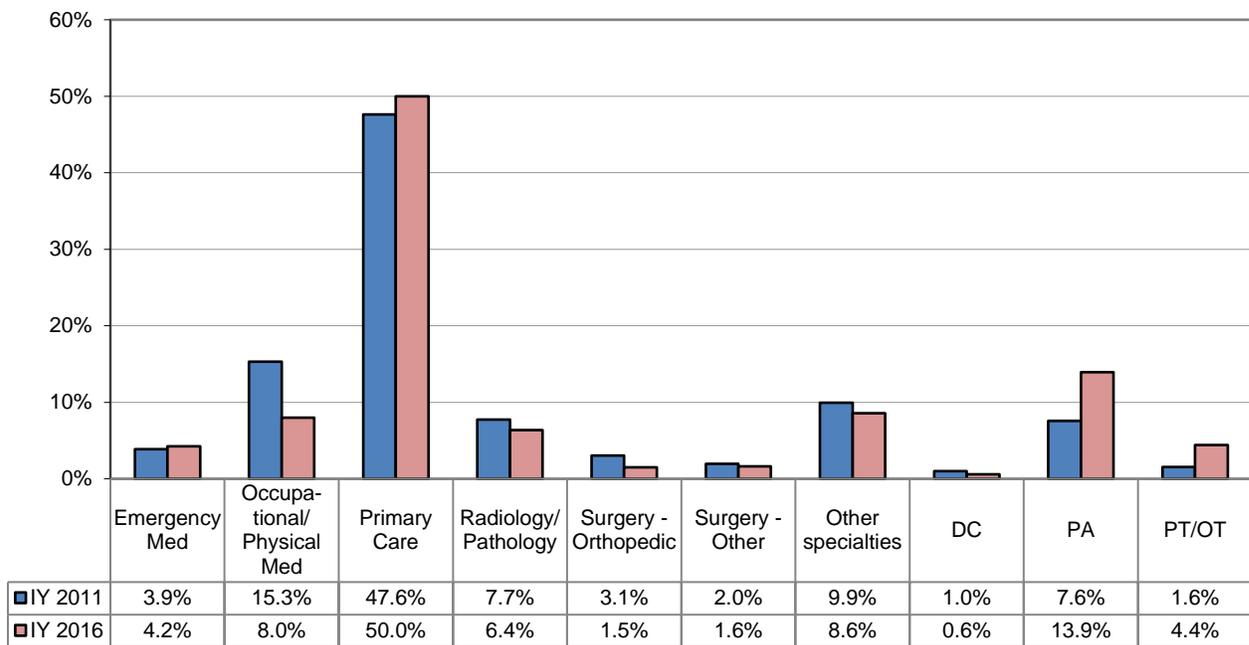
HRR	IY 2011	IY 2013	IY 2015	IY 2016
El Paso	9.1%	4.5%	3.9%	3.1%
Amarillo	6.4%	5.4%	4.6%	4.1%
San Antonio	6.0%	5.6%	5.6%	5.7%
Corpus Christi	6.9%	7.7%	9.8%	8.3%
Houston	9.0%	11.3%	9.0%	8.9%
Wichita Falls	13.1%	11.1%	13.1%	10.8%
Lubbock	17.4%	17.2%	13.6%	11.6%
Dallas	9.8%	10.8%	10.2%	11.8%
Waco	15.9%	16.2%	17.1%	12.1%
San Angelo	16.9%	15.6%	10.2%	12.9%
Austin	13.1%	12.8%	12.3%	13.9%
Bryan	26.4%	17.0%	14.2%	14.8%
Abilene	10.1%	16.3%	16.1%	15.2%
McAllen	11.1%	15.3%	17.6%	15.3%
Harlingen	12.3%	16.1%	18.5%	15.8%
Odessa	5.1%	5.9%	15.1%	17.3%
Longview	16.6%	14.4%	14.4%	18.2%
Beaumont	19.3%	18.7%	17.1%	20.0%
Victoria	19.1%	13.3%	16.5%	22.5%
Fort Worth	34.2%	26.1%	25.1%	24.7%
Tyler	31.4%	27.7%	30.3%	26.0%
Temple	42.0%	50.3%	49.6%	47.3%

Notes: ‘Traveling out of HRR’ are the cases where the patient’s HRR is different from facility HRR. For smaller HRRs, large changes in the five year period may be due to practice changes of a few ‘top 20%’ physicians. Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2018.

5.12 TRAVELING OUT OF HRR FOR INITIAL TREATMENT (INJURY YEAR 2011 - 2016) BY TYPE OF HEALTH CARE PROVIDER

- Most of the claimants travelling out of their own HRR for their first treatment were for Primary Care physicians (48 percent in injury year 2011 and 50 percent in 2016 of all service travels).
- The shares of travels for Occupational and Physical Medicine physicians decreased while travels for Primary Care physicians, PAs, and PTs/OTs increased.
- The relative shares of travels out of HRR decreased for surgeries and Radiology/ Pathology medicine.

Percentages in the figure were calculated considering all instances of travelling for a service out of one’s own HRR. Actual numbers of trips in injury year 2016 were slightly lower than in 2011 because of the decreasing number of claims and services in 2016.



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

6. HEALTH CARE NETWORKS AND TIMELINESS OF CARE

In 2005, the 79th Texas Legislature passed House Bill 7, which authorized the use of workers' compensation health care networks certified by the Texas Department of Insurance (TDI). In March 2006, TDI began certifying workers' compensation health care networks. As of 2017, 30 networks covering 254 Texas counties are certified to provide workers' compensation health care services. Among the certified networks, 19 were treating injured employees as of June 2016.

This study covers networks in 2011 - 2016 injury years, including services up to June 30, 2017. Four certified networks – Coventry, Liberty, Texas Star, and Travelers – had a sufficient number of claims to be analyzed separately. All other smaller networks are grouped into Other Networks. In addition, certain public entities and political subdivisions have the option to contract directly with health care providers. This report includes Alliance, a joint contracting partnership of five political subdivisions (authorized under Chapter 504, Texas Labor Code) that chose to directly contract with health care providers. While not required to be certified by TDI, the Alliance network must still meet TDI's workers' compensation reporting requirements under Chapter 1305, Texas Insurance Code.

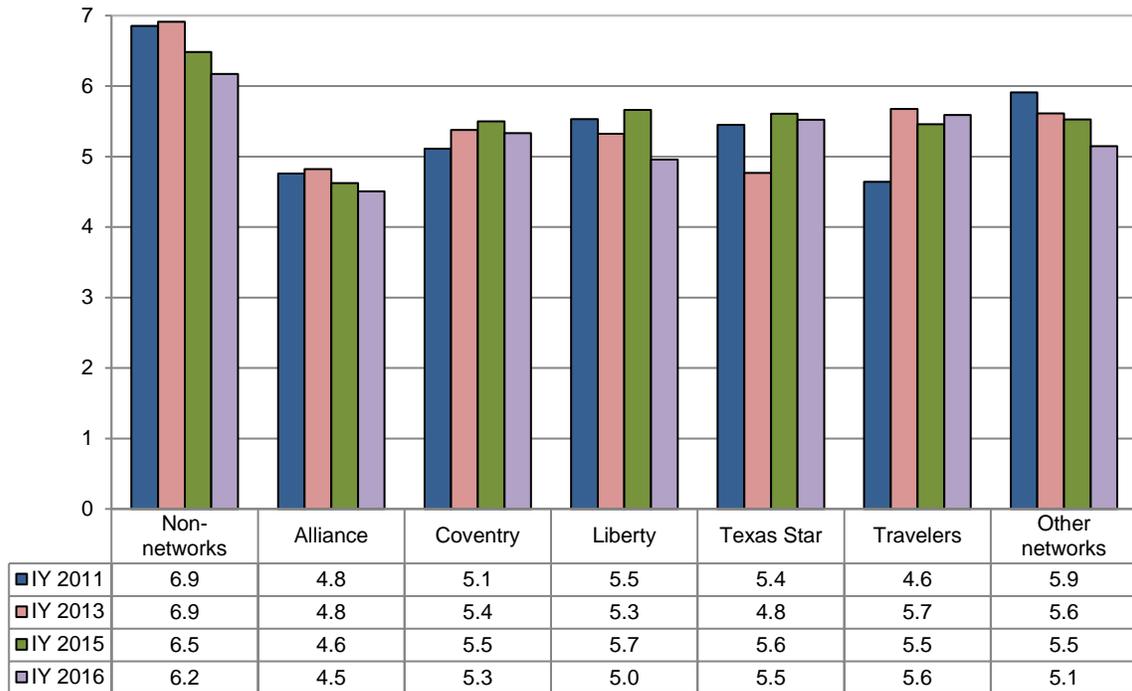
KEY FINDINGS

- Initial access for workers' compensation network patients was significantly better than non-network patients, and many networks showed further improvement from injury year 2011 to 2016.
- The share of claims that received initial treatment within seven days is higher among networks than non-networks. However, the difference between networks and non-networks was smaller in injury year 2016.

6.1 AVERAGE NUMBER OF DAYS BETWEEN INJURY AND FIRST VISIT, BY NETWORK

- Initial access in networks is better than that in non-network workers’ compensation care.
- Some networks show an increasing delay in injury year 2016 even though the number of days is still lower than non-networks.

This measure shows the average number of days between injury date and first visit to a health care provider for the claims in networks compared to all non-network claims. The average delay for non-network claims decreased from 6.9 days in injury year 2011 to 6.2 days in 2016. In comparison, all networks showed lower average delays than non-networks for all the injury years. The number of days increased in injury year 2016 for some networks, which may be related to the changes in the type of claims being enrolled in networks.



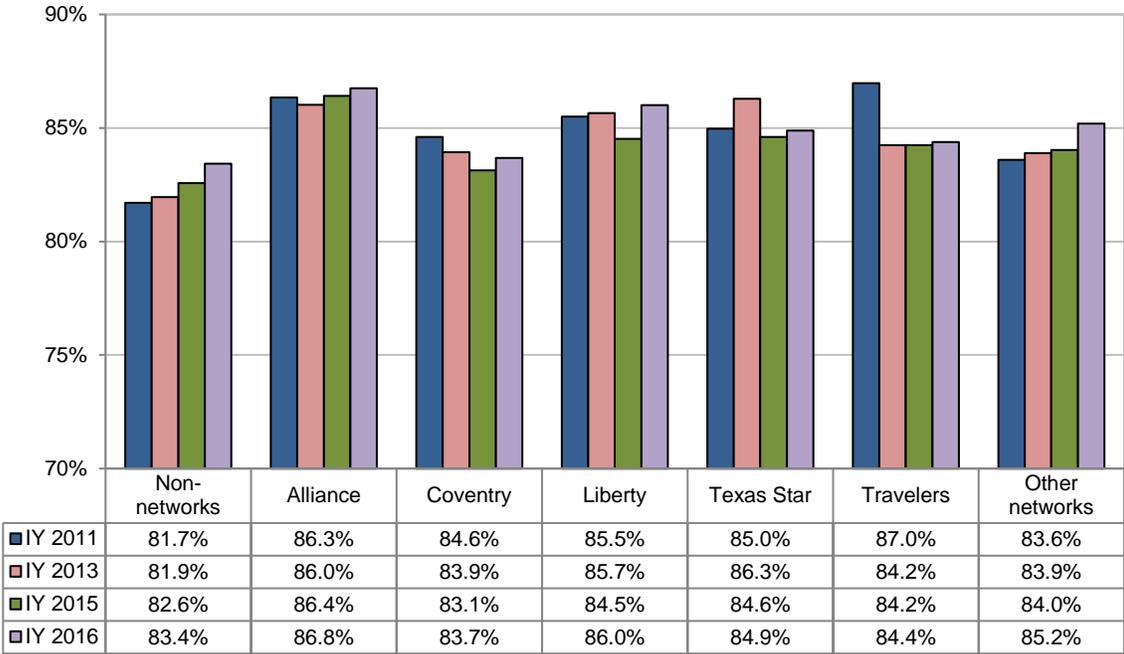
Notes: Network claims were identified using the lists of claims collected via network data calls. Services were considered for six months after injury. Thus injury year 2016 figures include services up to June 30, 2017.

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

6.2 PERCENT OF CLAIMS WITH TIMELY CARE, BY NETWORK

- Workers’ compensation claimants in networks are seeing health care providers faster than those in non-networks.

The figure below shows the percentages of workers’ compensation claimants who saw a health care provider within seven days or less from the injury date. The share of network claims who saw a health care provider within seven days ranged from 84 to 87 percent in injury year 2016, which was slightly higher than the 83.4 percent for non-network claims. For some networks, this share decreased between injury year 2011 and 2016, although it was still higher than non-networks.



Notes: Network claims were identified using the lists of claims collected via network data calls. Services were considered for six months after injury. Thus, injury year 2016 figures include services up to June 30, 2017.

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

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Access to Medical Care in the Texas Workers' Compensation System, 2005 - 2017

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