Hospital Emergency Department Data Collection 2016–2017

As Required by

The 2018-19 General Appropriations Act,

House Bill 1, 84th Legislature, Regular Session, 2015 (Article II, Department of State Health Services, Rider 12)

TEXAS
Health and Human Services

Texas Department of State Health Services

Contents

Executive Summary

The 2018-19 General Appropriations Act, House Bill 1, 85th Legislature, Regular Session, 2015 (Article II, Department of State Health Services, Rider 12), required the Department of State Health Services (DSHS) to collect emergency department (ED) data as set forth in the Texas Health and Safety Code, Chapter 108. DSHS must use the data to measure and report potentially preventable emergency department visits (PPV), including potentially preventable mental health and substance abuse (MHSA) emergency department visits.

The report must be submitted annually to the Office of the Governor, Legislative Budget Board, and chairs of each house of public health oversight committees. This report is a continuation from the 2014-15 and 2016-17 biennia.

For this report, DSHS analyzed aggregated 2016 and 2017 ED data. The analysis provides some general statistics, overall numbers, top diagnosis codes, top clinical conditions, percentage of visits by payer source, differentials between years, and a comparison of average total charges by payer source.

Results of this report suggest emergency department visits remain a significant source of healthcare access for Texans. In 2016 and 2017, EDs in Texas saw over 10 million total visits. These visits a mixture of chronic comorbidities, infectious diseases (especially respiratory viruses), acute symptomatology such as abdominal and chest pain, and general injuries such as sprains. While acute injuries and infections are often considered more appropriate conditions for treatment in the ED setting, the presence of common chronic conditions among ED patients may provide opportunities for disease prevention and control strategies. For example, "essential (primary) hypertension" was the most frequent diagnosis reported for 2016 and 2017 for all ED visits.

The top diagnosis code for ED patients that were admitted as inpatients with MHSA diagnoses is "Alcohol dependence with withdrawal, unspecified", indicating substance abuse issues are contributing to inpatient admissions alongside traditional common physical health conditions. The most frequent reported diagnosis code for ED patients, which were not admitted, and had MHSA diagnoses is "Anxiety disorder, unspecified." Similar to the high prevalence of hypertension across all ED visits, anxiety disorders are common mental health comorbidities and

may thus be amenable to public health and population health interventions to yield better symptom control and reduce ED visits.

The most frequent actual clinical condition reported for a visit to the ED is "Other upper respiratory infections (coughing, sneezing, runny nose, fever, etc.)." This may reflect the burden of general respiratory infectious diseases, particularly influenza, which would be amenable to interventions related to vaccinations and infectious disease control. The most frequent clinical condition for ED patients with MHSA diagnoses is "Anxiety disorders," again highlighting the high burden of anxiety disorders among persons accessing care in the ED setting.

While the most frequent payer source reported for all ED visits is "Private Insurance," the most frequent payer source reported for ED visits with MHSA diagnoses is "Self-pay or Uninsured." Low income persons may be seeking management of mental health and substance abuse issues in the ED setting versus accessing an outpatient provider. "Medicare" covered patients have the highest reported average of total charges for all ED visits and with MHSA diagnoses.

For future reports, DSHS intends to include more thorough analyses to join population and public health prevention activities with the ED data trends. Connecting with chronic disease and mental health/substance abuse programs within and outside of Texas Health and Human Services would allow for better alignment of current primary, secondary, and tertiary prevention activities to the data trends described in ED data. Conclusions could be drawn that inform how the ED setting could be better used to promote population health and public health. Further reports may also consider the intersection between common physical chronic comorbidities and mental health and substance comorbidities, as this may be a patient population in particular need of targeted interventions to control physical and mental health symptoms and reduce ED visits.

1. Introduction

The 2018–19 General Appropriations Act, House Bill 1, 85th Legislature, Regular Session, 2015 (Article II, Department of State Health Services, Rider 12), specified that the Department of State Health Services (DSHS) shall collect emergency department (ED) data as set forth in Texas Health and Safety Code, Chapter 108. DSHS uses the data to measure and report potentially preventable emergency visits (PPV), including mental health and substance abuse ED visits. DSHS must submit an annual report to the Office of the Governor, Legislative Budget Board, and chairs of each house of public health oversight committees. This rider is a continuation from the 2014-15 and 2016-17 biennia.

DSHS analyzed aggregated 2016 and 2017 ED data for this report. In previous years, DSHS anticipated it would utilize 3M™ PPV methodology to provide detailed analysis once a sufficient amount of data was available. This product requires two full years of data—a benchmark year and a second year of data—to make comparisons to reflect the quality of care provided in hospital EDs. Although DSHS began collecting ED data in 2015, a significant change[1] in medical coding systems on October 1, 2015, made 2015 data incomparable with 2016 or newer data. This made 2015 data unable to serve as a benchmark for PPV analysis.

DSHS reviewed the 3M™ PPV methodology again as the 2017 data became available and discovered this methodology requires health plan policy and enrollment information. DSHS has neither the data collection resources nor statutory authority needed to collect health plan policy and enrollment information for all Texas residents. Using a different methodology, DSHS was able to analyze aggregated 2016 and 2017 ED data for this report. The report includes some general statistics, overall numbers, top diagnosis codes, top clinical conditions, percentage of visits by payer source, differentials between years, and a comparison of average total charges by payer source.

[1] Federal requirements necessitated the change in the medical diagnosis and inpatient procedure coding system, from the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) to the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS).

2. Background

Potentially Preventable Visits (PPVs) are emergency department (ED) visits that may result from a lack of adequate access to care, education, or ambulatory care coordination. PPVs are identified by patients presenting with ambulatory-sensitive conditions. Ambulatory-sensitive conditions commonly include, but are not limited to, a range of chronic disease conditions, as well as dehydration, bacterial pneumonia, and other indicators. With adequate patient monitoring, education, and follow up, ambulatory-sensitive conditions may be adequately addressed to reduce the overall number of PPVs in Texas.

The Department of State Health Services (DSHS) collects inpatient and outpatient data (including the emergency department data) from 580 hospitals and 400 ambulatory surgical centers in Texas. DSHS began collecting ED data from about 495 hospitals with EDs on January 1, 2015, per the rules established in 25 Texas Administrative Code, Sections 421.71–421.78, and in conjunction with the collection of inpatient and outpatient data.

Due to a federal change in medical coding systems (from the ICD-9-CM to the ICD-10-CM and ICD-10-PCS) on October 1, 2015, DSHS was unable to include 2015 data in this report as the data became incomparable with that of 2016 and 2017.

The PPV methodology, developed by 3M™ Health Information Systems, requires two full years of data and data that is not captured by DSHS, such as health plan policy and enrollment information. DSHS has neither the data collection resources nor statutory authority needed to collect health plan policy and enrollment information for all Texas residents. Thus, the Department was unable to use the 3M™ PPV software and had to use a different method to create this report. DSHS will investigate other measurement tools for future ED visit reports. It should be further noted that although DSHS is able to collect Medicaid data for those claims first identified as a Medicaid payer at the time of the ED visit, Medicaid data in this report may differ from data collected by the actual Medicaid program. This is due to the difficulty and major expense associated with monitoring all changes in payer source retrospectively. Thus, this report only contains those ED visits first identified with charges to Medicaid.

This report provides information about 2016 and 2017 hospital-based ED visits and ED visits where the patients are reported with one or more mental health and substance abuse (MHSA) disorder diagnoses. Further, this report includes differential and builds on 2015 and 2016 DSHS reports that addressed data collection and provided some preliminary aggregated data.

3. Hospital Emergency Department Data in Texas, 2016–2017

Overview of Hospital ED Data in Texas, 2016–2017

In calendar year 2017, Texas saw 10,911,294 hospital emergency department (ED) visits, increasing 2.5 percent from 2016 (N=10,648,466). In 2017, 1,522,417 (or 14.0 percent) of ED visits were severe enough to admit the patient (inpatient). Most 2017 ED visits were not admitted (outpatient): 9,388,877, or 86.0 percent. In 2016, 13.8 percent of ED visits were inpatient and 86.2 percent were outpatient, indicating an increase in hospital admissions.

The number of ED visits varied each quarter. Table 1 shows 2016 data, where the first quarter[2] had the highest number of ED visits (N=2,693,892), while the fourth quarter[3] had the least number of visits (N=2,620,642). Similarly, Table 2 depicts 2017 data, where the fourth quarter had the highest number of ED visits (N=2,873,008) and the third quarter[4] had the least number of visits (N=2,596,438).

Table 1. Overview of Hospital Emergency Department Visits in Texas, 2016

	Quarter 1 N (%)	Quarter 2 N (%)	Quarter 3 N (%)	Quarter 4 N (%)	Total N (%)
Visit Resulting in Inpatient Admission	371,490 (13.8%)	365,988 (13.6%)	365,894 (13.8%)	369,004 (14.1%)	**1,472,376 (13.8%)**
Outpatient (including observation)	2,322,402 (86.2%)	2,315,976 (86.4%)	2,286,074 (86.2%)	2,251,638 (85.9%)	**9,176,090 (86.2%)**
Total	**2,693,892 (100.0%)**	**2,681,964 (100.0%)**	**2,651,968 (100.0%)**	**2,620,642 (100.0%)**	**10,648,466 (100.0%)**

Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2016. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. February 2018.

[2] First Quarter represents the months of January through March.
[3] Fourth Quarter represents the months of October through December.
[4] Third Quarter represents the months of July through September.

Table 2. Overview of Hospital Emergency Department Visits in Texas, 2017

	Quarter 1 N (%)	Quarter 2 N (%)	Quarter 3 N (%)	Quarter 4 N (%)	Total N (%)
Visit Resulting in Inpatient Admission	388,946 (14.1%)	374,810 (14.0%)	367,910 (14.2%)	390,751 (13.6%)	**1,522,417 (14.0%)**
Outpatient (including observation)	2,368,735 (85.9%)	2,309,357 (86.0%)	2,228,528 (85.8%)	2,482,257 (86.4%)	**9,388,877 (86.0%)**
Total	**2,757,681 (100.0%)**	**2,684,167 (100.0%)**	**2,596,438 (100.0%)**	**2,873,008 (100.0%)**	**10,911,294 (100.0%)**

Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2017. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September 2018.

Overview of Hospital ED Data for MHSA in Texas, 2016–2017

In calendar year 2017, there were 296,522 hospital ED visits for mental health and substance abuse (MHSA) in Texas, increasing 0.3 percent from 2016 (N=295,739). In 2017, 44,128 (or 14.9 percent) of the ED visits for MHSA were severe enough to admit the patient (inpatient) into the hospital. Most of the ED visits for MHSA were not admitted (outpatient) at 252,394 (85.1 percent). In 2016, 14.3 percent of ED visits for MHSA resulted in inpatient admissions, and 85.7 percent were outpatient, indicating an increase in hospital admissions.

The number of ED visits varied quarterly. In 2016, (Table 3) the third quarter[5] had the highest number of ED visits (N=77,456), while the first quarter[6] had the least number of visits (N=70,659). In 2017, (Table 4) the second quarter had the highest number of ED visits (N=77,281), while the fourth quarter[7] had the least number of visits (N=70,663).

[5] Third Quarter represents the months of July through September.
[6] First Quarter represents the months of January through March.
[7] Fourth Quarter represents the months of October through December.

Table 3. Overview of Hospital Emergency Department Visits for MHSA in Texas, 2016

	Quarter 1 N (%)	Quarter 2 N (%)	Quarter 3 N (%)	Quarter 4 N (%)	Total N (%)
Visit Resulting in Inpatient Admission	9,788 (13.9%)	11,072 (14.4%)	10,942 (14.1%)	10,623 (15.0%)	**42,425 (14.3%)**
Outpatient (including observation)	60,871 (86.1%)	65,637 (85.6%)	66,514 (85.9%)	60,292 (85.0%)	**253,314 (85.7%)**
Total	**70,659 (100.0%)**	**76,709 (100.0%)**	**77,456 (100.0%)**	**70,915 (100.0%)**	**295,739 (100.0%)**

Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2016. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. February 2018.

Table 4. Overview of Hospital Emergency Department Visits for MHSA in Texas, 2017

	Quarter 1 N (%)	Quarter 2 N (%)	Quarter 3 N (%)	Quarter 4 N (%)	Total N (%)
Visit Resulting in Inpatient Admission	11,029 (15.2%)	11,619 (15.0%)	10,835 (14.3%)	10,642 (15.1%)	**44,128 (14.9%)**
Outpatient (including observation)	61,743 (84.8%)	65,662 (85.0%)	64,971 (85.7%)	60,018 (84.9%)	**252,394 (85.1%)**
Total	**72,772 (100.0%)**	**77,281 (100.0%)**	**75,806 (100.0%)**	**70,663 (100.0%)**	**296,522 (100.0%)**

Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2017. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September 2018.

Top Five Diagnosis Codes for Hospital ED Visits in Texas, 2016–2017

In 2016 and 2017, the most frequent diagnostic code reported for both inpatient and outpatient ED visits was "Essential (primary) hypertension (I10)" (Table 5, Table 6). The second most frequently reported inpatient and outpatient diagnosis codes were "Hyperlipidemia, unspecified (E785)" and "Other long term (current) drug therapy (Z79899)," respectively.

Table 5. Top Five Diagnosis Codes for Hospital Emergency Department Visits in Texas, 2016

Type	Rank[8]	Diagnosis Code & Description[9]	Count
Visits Resulting in Inpatient Admission	1	I10, Essential (primary) hypertension	583,079
	2	E785, Hyperlipidemia, unspecified	409,251
	3	I2510, Chronic ischemic heart disease without angina pectoris	277,528
	4	N179, Acute kidney failure, unspecified	245,014
	5	E119, Type 2 diabetes mellitus without complications	222,028
Outpatient (including observation)	1	I10, Essential (primary) hypertension	1,763,446
	2	Z79899, Other long term (current) drug therapy	811,547
	3	E119, Type 2 diabetes mellitus without complications	728,535
	4	F17210, Nicotine dependence, cigarettes, uncomplicated	565,224
	5	F17200, Nicotine dependence, unspecified, uncomplicated	466,873

Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2016. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. February 2018.

[8] Rank diagnosis code collected by number within each type.
[9] Diagnosis Code are all-listed ICD-10-CM diagnostic codes (25 fields) from the data source

Table 6. Top Five Diagnosis Codes for Hospital Emergency Department Visits in Texas, 2017

Type	Rank[10]	Diagnosis Code & Description[11]	Count
Visits Resulting in Inpatient Admission	1	I10, Essential (primary) hypertension	501,770
	2	E785, Hyperlipidemia, unspecified	428,879
	3	I2510, Chronic ischemic heart disease without angina pectoris	288,209
	4	N179, Acute kidney failure, unspecified	261,159
	5	Z87891, Personal history of nicotine dependence	234,671
Outpatient (including observation)	1	I10, Essential (primary) hypertension	1,767,755
	2	Z79899, Other long term (current) drug therapy	929,503
	3	E119, Type 2 diabetes mellitus without complications	722,385
	4	F17210, Nicotine dependence, cigarettes, uncomplicated	626,638
	5	Z87891, Personal history of nicotine dependence	505,177

Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2017. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September 2018.

Top Five Diagnosis Codes for MHSA ED Visits in Texas, 2016–2017

The most frequent diagnostic code reported for both MHSA inpatient and outpatient ED visits was "Alcohol dependence with withdrawal (unspecified) (F10239)" and

[10] Rank diagnosis code collected by number within each type.
[11] Diagnosis Codes are all-listed ICD-10-CM diagnostic codes (25 fields) from the data source

"Anxiety disorder (unspecified)" respectively for 2016–2017 (Table 7, Table 8). The second most frequently reported inpatient diagnosis code was "Major depressive disorder, recurrent severe without psychotic features (F332)", and "Major depressive disorder, single episode, unspecified (F329)" was the second most frequently reported diagnosis code for outpatient visits.

Table 7. Top Five Diagnosis Codes for Hospital Emergency Department Visits for MHSA in Texas, 2016

Type	Rank[12]	Diagnosis Code & Description[13]	Count
Visits Resulting in Inpatient Admission	1	F10239, Alcohol dependence with withdrawal, unspecified	3,760
	2	F332, Major depressive disorder, recurrent severe without psychotic features	3,534
	3	F250, Schizoaffective disorder, bipolar type	2,213
	4	F10231, Alcohol dependence with withdrawal delirium	2,047
	5	F329, Major depressive disorder, single episode, unspecified	1,868
Outpatient (including observation)	1	F419, Anxiety disorder, unspecified	44,540
	2	F329, Major depressive disorder, single episode, unspecified	24,980
	3	F10129, Alcohol abuse with intoxication, unspecified	20,672
	4	F411, Generalized anxiety disorder	13,665
	5	F410, Panic disorder without agoraphobia	8,307

Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2016. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. February 2018.

[12] Rank diagnosis code collected by number within each type.
[13] Diagnosis Code are all-listed ICD-10-CM diagnostic codes (25 fields) from the data source

Table 8. Top Five Diagnosis Codes for Hospital Emergency Department Visits for MHSA in Texas, 2017

Type	Rank[14]	Diagnosis Code & Description[15]	Count
Visits Resulting in Inpatient Admission	1	F10239, Alcohol dependence with withdrawal, unspecified	4039
	2	F332, Major depressive disorder, recurrent severe without psychotic features	3,972
	3	F250, Schizoaffective disorder, bipolar type	2,653
	4	F10231, Alcohol dependence with withdrawal delirium	2,051
	5	F329, Major depressive disorder, single episode, unspecified	1,921
Outpatient (including observation)	1	F419, Anxiety disorder, unspecified	48,512
	2	F329, Major depressive disorder, single episode, unspecified	24,012
	3	F10129, Alcohol abuse with intoxication, unspecified	20,878
	4	F411, Generalized anxiety disorder	11,506
	5	F410, Panic disorder without agoraphobia	9,211

Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2017. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September 2018.

Top Five Conditions for Hospital ED Visits in Texas, 2016–2017

To categorize ED data into clinically meaningful condition groups, DSHS used the Clinical Classifications Software developed by the United States Department of Health and Human Services, Agency for Healthcare Research and Quality. This tool allows researchers to group conditions and make it easier to understand patterns. It

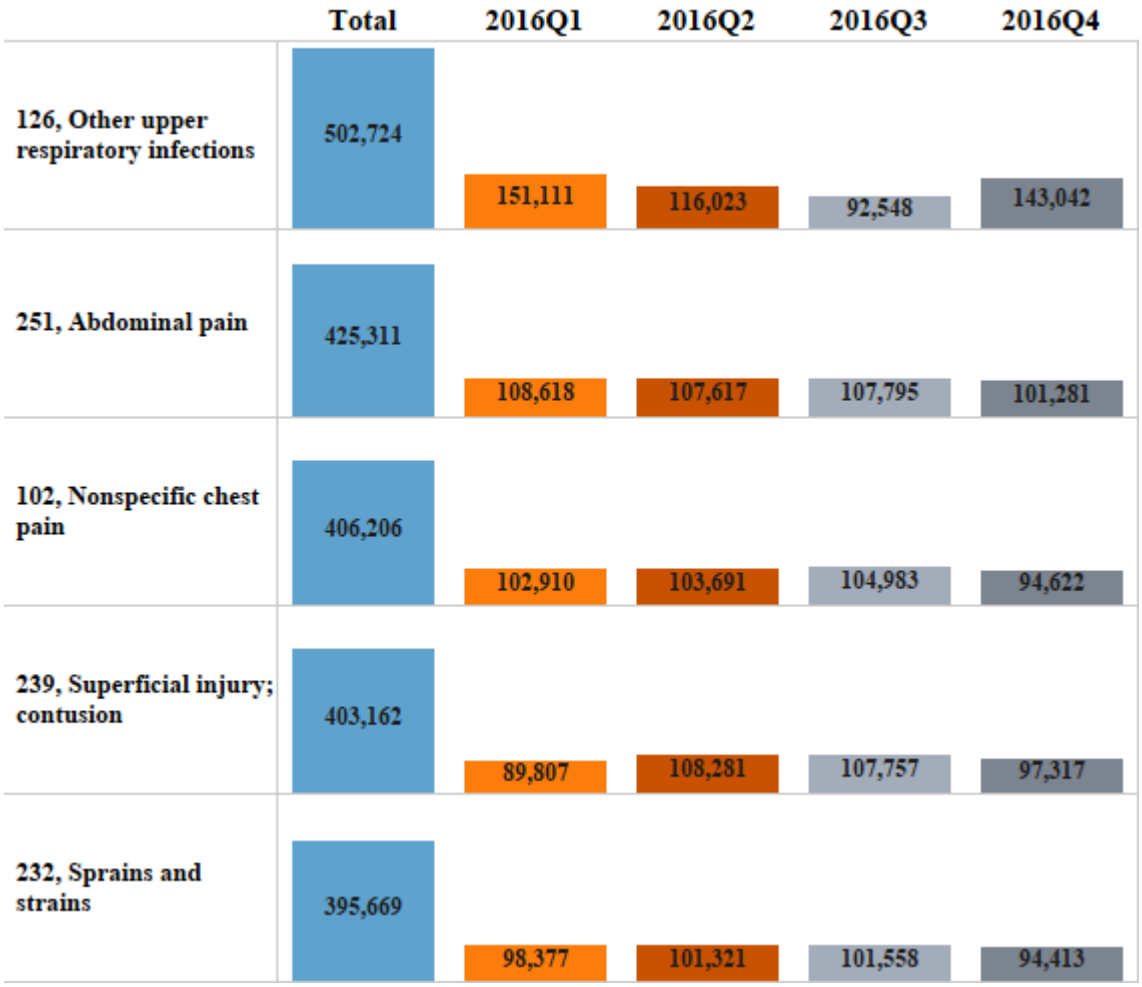
[14] Rank diagnosis code collected by number within each type.
[15] Diagnosis Codes are all-listed ICD-10-CM diagnostic codes (25 fields) from the data source

enables health plans, policy makers, and researchers to look at the use of resources. The tool also provides a way to look at outcomes of particular conditions. The top five clinical conditions in 2016 and 2017 were:

1. Other upper respiratory infections (coughing, sneezing, runny nose, fever)
2. Abdominal pain (pain in the belly)
3. Nonspecific chest pain (pain in the chest area, which could be intense, persistent, or come and go)
4. Superficial injury; contusion (a minor bump or contact of skin that may damage the underlying skin, generally causing a bruise)
5. Sprains and strains (pain in joints or muscles, usually from activity)

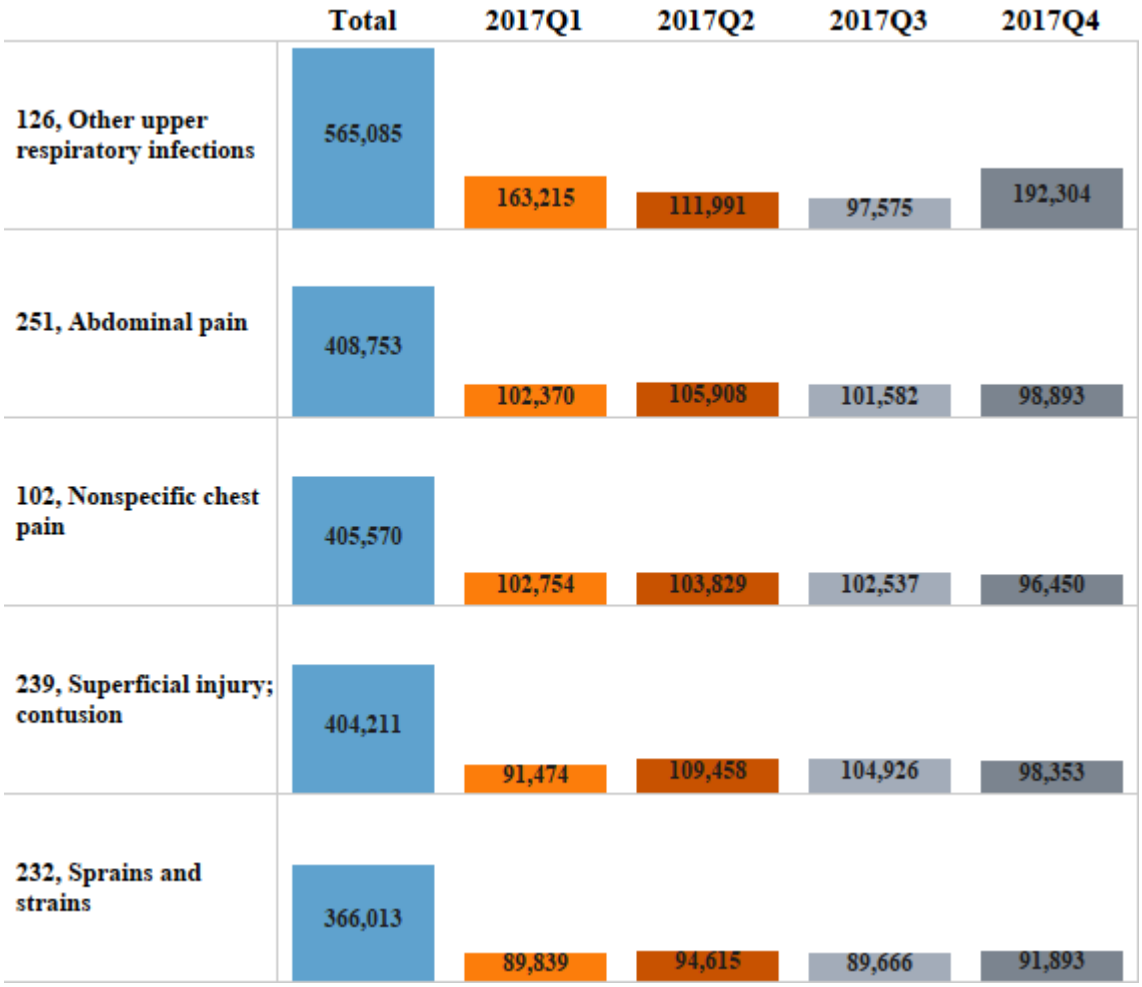
The variations in quarterly reporting are shown in Figure 1 and Figure 2 below.

Figure 1. Top Five Conditions for Hospital Emergency Department Visits in Texas, 2016



Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2016. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. February 2018. Name and clinical software identification number are given for each condition.

Figure 2. Top Five Conditions for Hospital Emergency Department Visits in Texas, 2017



Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2017. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September 2018. Name and clinical software identification number are given for each condition.

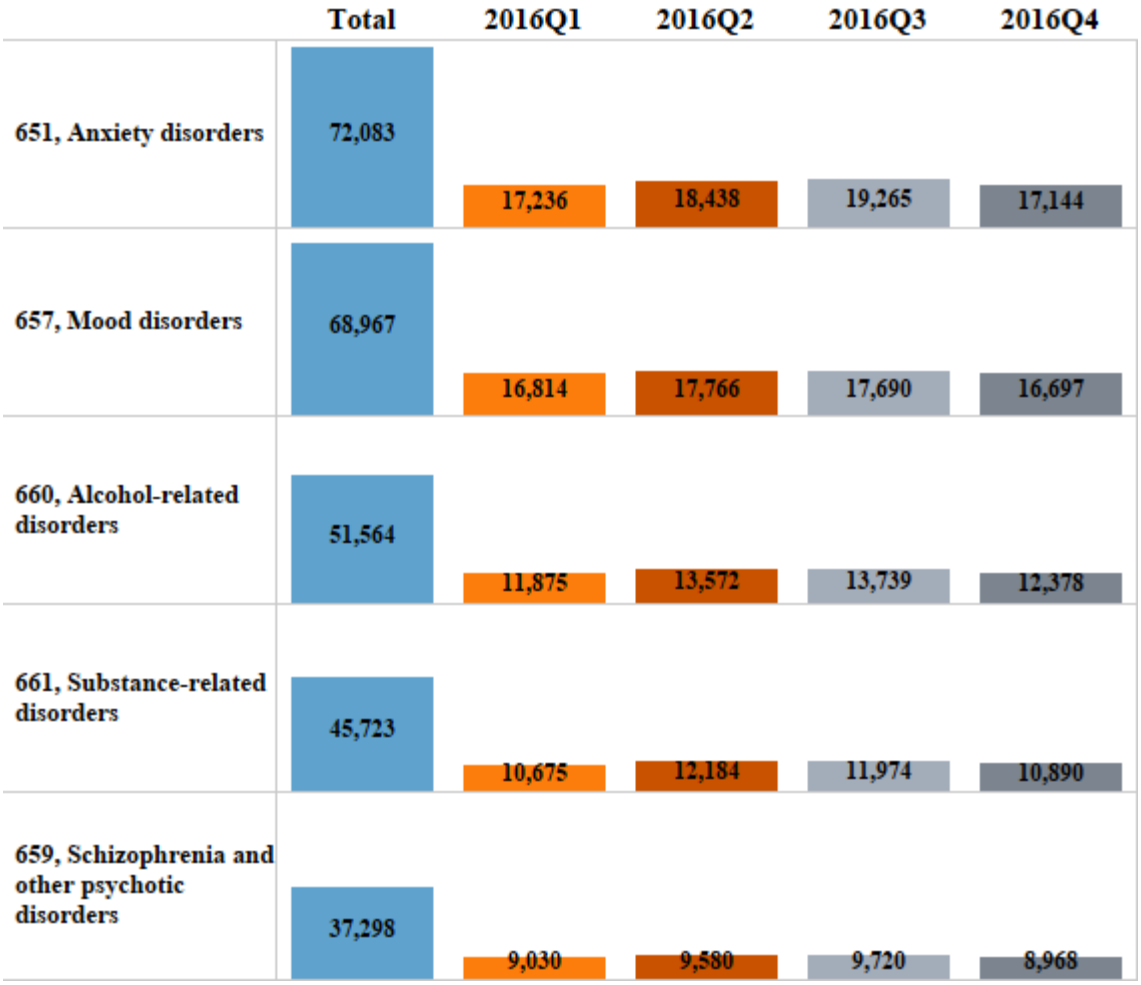
Top Five Conditions for Hospital ED Visits for MHSA in Texas, 2016–2017

The top five clinical MHSA conditions in 2016 and 2017 were:

1. Anxiety disorders
2. Mood disorders
3. Alcohol-related disorders
4. Substance-related disorders
5. Schizophrenia and other psychotic disorders

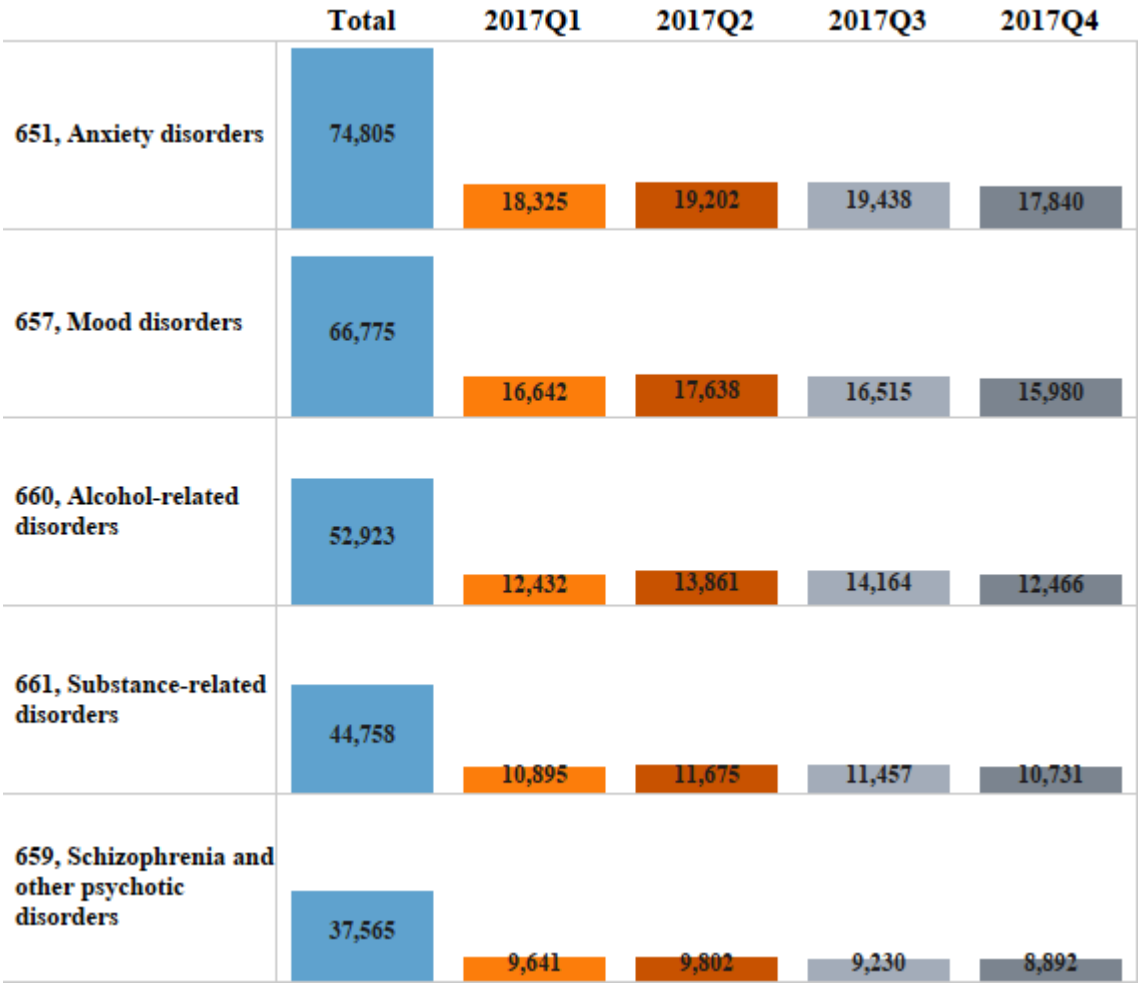
The variations in quarterly reporting are shown in Figure 3 and Figure 4 below.

Figure 3. Top Five Conditions for Hospital Emergency Department Visits for MHSA in Texas, 2016



Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2016. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. February 2018. Name and clinical software identification number are given for each condition.

Figure 4. Top Five Conditions for Hospital Emergency Department Visits for MHSA in Texas, 2017



Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2017. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. February 2018. Name and clinical software identification number are given for each condition.

ED Visits by Expected Payment Source in Texas, 2016–2017

The data collected on payment source is less precise but provides relevant information regarding the payer source at the time the patient was first seen in the hospital ED. This report does not reflect any changes in payer source that occurred after the patient was seen in the ED. The rankings by payer source for 2016 and 2017 remained the same. In 2017, the most frequent payer source was Private Insurance (30.0 percent), followed by Self-Pay or Uninsured (23.7 percent), Medicaid (23.2 percent), and Medicare (20.7 percent). Figures 5 and 6 and the tables in Appendix A provide detailed reviews of payment sources for all ED visits.

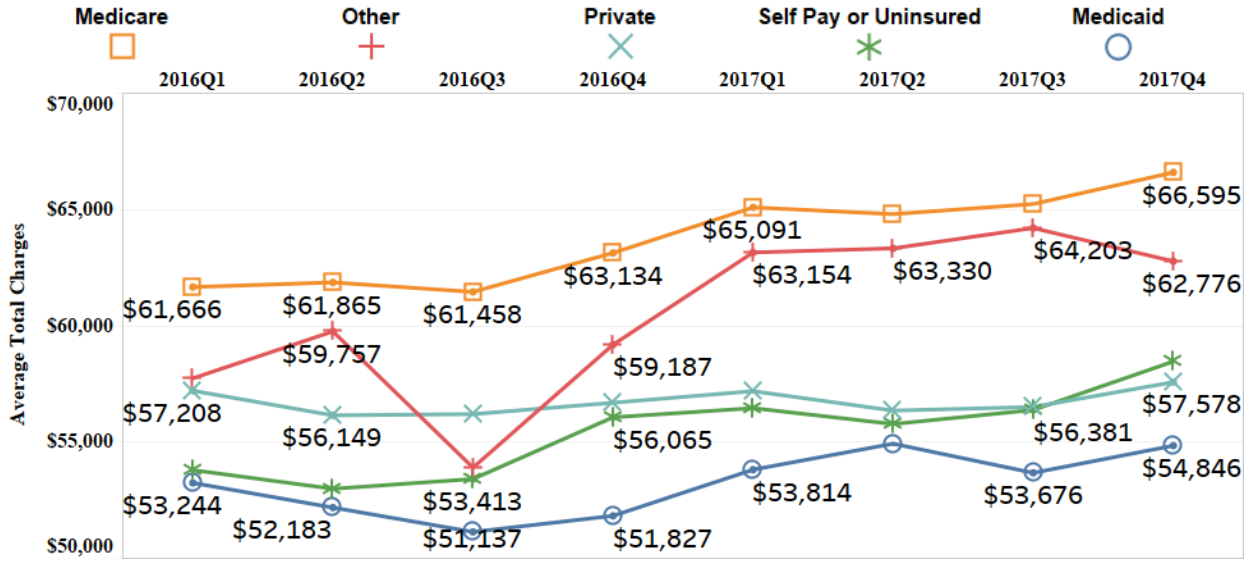
ED Visits by Expected Payment Source for MHSA in Texas, 2016–2017

Similarly, the ranking by payer source for 2016 and 2017 are the same for patients with MHSA diagnoses. In 2017, the most common payer source for MHSA patients was Self-Pay or Uninsured (38.3 percent), followed by Private Insurance (24.2 percent), Medicaid (17.0 percent), and Medicare (15.3 percent). Figures 7 and 8 and the tables in Appendix B provided detailed reviews of payment sources for MHSA patients seen in Texas EDs.

Average Total Charges of Expected Payer Sources of ED Visits

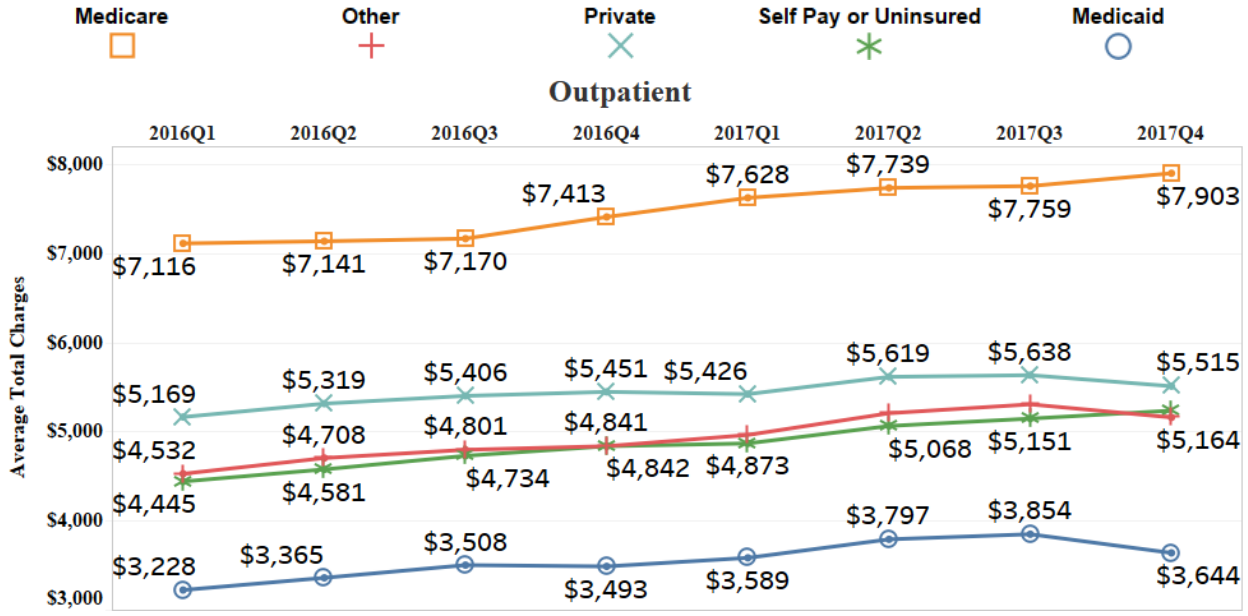
The average total charges for ED visits varied for patients admitted to the hospital (Figure 9) and for those discharged home or elsewhere (Figure 10). Medicare and Self-Pay or Uninsured saw an increase in average total charges for ED visits from 2016 to 2017, which occurred in both inpatient admissions and outpatient visits. In both settings, Medicare had the highest average of total charges and Medicaid saw the lowest average total charges.

Figure 9. Average Total Charges Inpatient Emergency Department Visits by Expected Payer Sources in Texas, 2016–2017



Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2016 and 2017. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. February 2018 and September 2018, respectively.

Figure 10. Average Total Charges for Outpatient Emergency Department Visits by Expected Payer Sources in Texas, 2016–2017

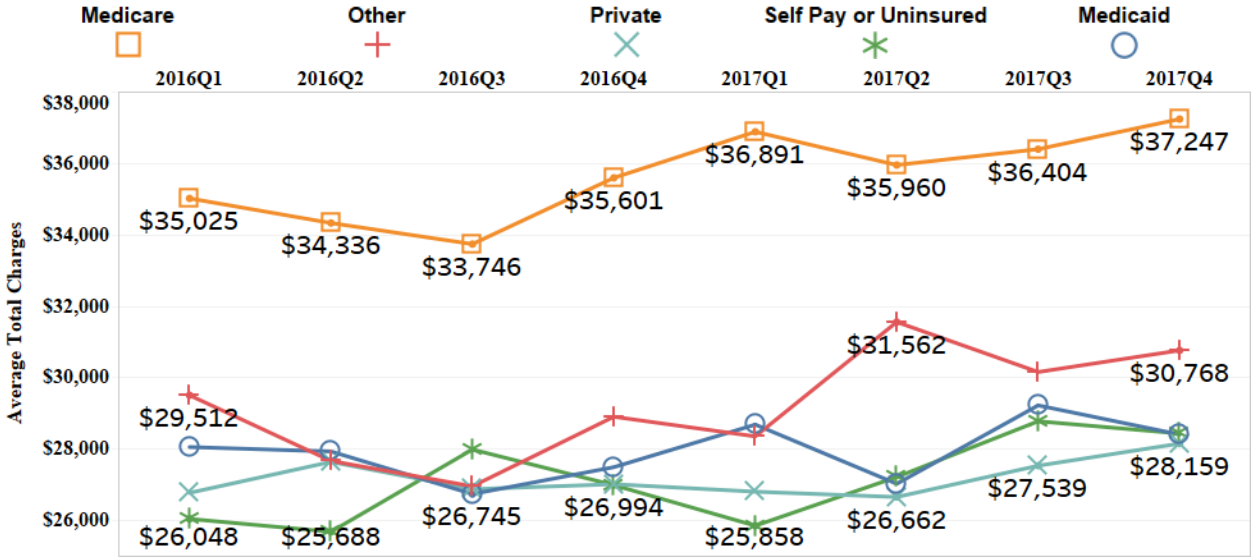


Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2016 and 2017. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. February 2018 and September 2018, respectively.

Average Total Charges of Expected Payer Sources of ED Visits for MHSA

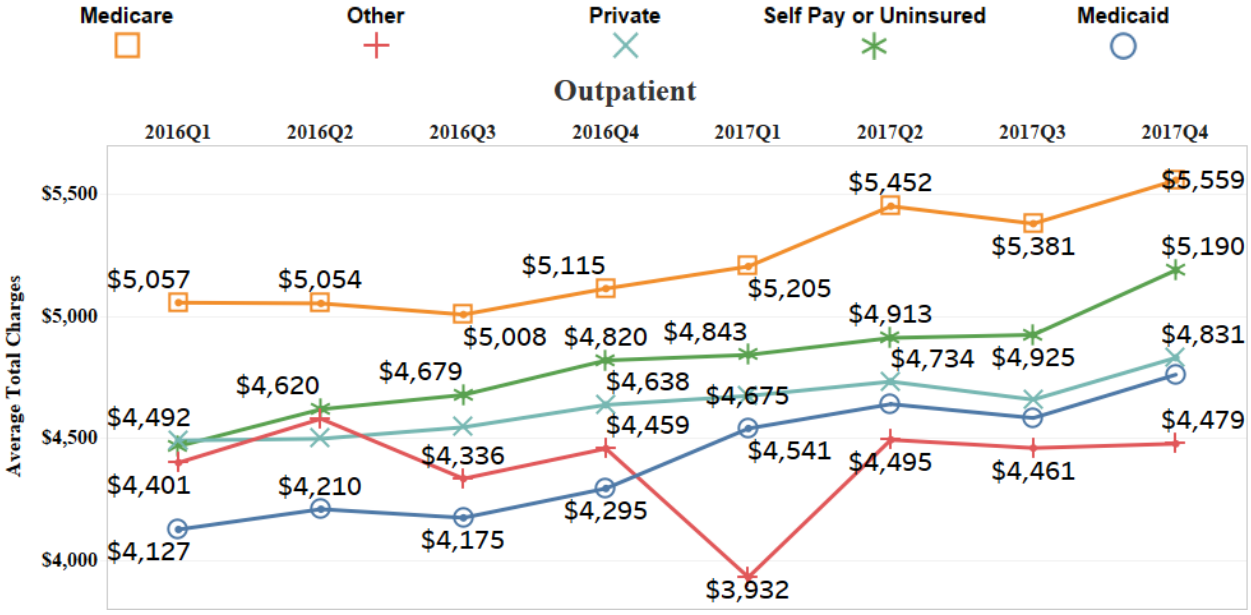
The average total charges for ED visits varied for those MHSA patients admitted to the hospital (Figure 11) and those discharged to home or elsewhere (Figure 12). In both inpatient out outpatient settings, the average total charges for MHSA ED visits increased for Medicare and Self-Pay or Uninsured from 2016 to 2017. In both years, Medicare had the highest average of total charges for patients with an MHSA diagnosis that resulted in inpatient admissions and outpatient visits.

Figure 11. Average Total Charges for MHSA Inpatient Emergency Department Visits by Expected Payer Sources in Texas, 2016–2017



Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2016 and 2017. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. February 2018 and September 2018, respectively.

Figure 12. Average Total Charges for MHSA Outpatient Emergency Department Visits by Expected Payer Sources in Texas, 2016–2017



Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2016 and 2017. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. February 2018 and September 2018, respectively.

4. Conclusion

Emergency department (ED) visits remain a significant source of healthcare access in Texas. More than 10 million total visits occurred in 2016 and 2017 across Texas. These visits appear to be a mixture of chronic comorbidities, infectious diseases (especially respiratory viruses), acute symptomatology such as abdominal and chest pain, and general injuries such as sprains. While acute injuries and infections are often considered more appropriate conditions for treatment in the ED setting, the presence of common chronic conditions among ED patients may provide opportunities for primary, secondary, and tertiary prevention strategies.

For future reports, DSHS intends to include more thorough analyses to join population and public health prevention activities with the ED data trends. Connecting with chronic disease and mental health/substance abuse programs within and outside of Texas Health and Human Services would allow for better alignment of current primary, secondary, and tertiary prevention activities to the data trends described in ED data. Conclusions could be drawn that inform how the ED setting could be better used to promote population health and public health. Further reports may also consider the intersection between common physical chronic comorbidities and mental health and substance comorbidities, as this may be a patient population in particular need of targeted interventions to control physical and mental health symptoms and reduce ED visits.

List of Acronyms

Acronym	Full Name
3M	Minnesota, Mining and Manufacturing Corporation
DSHS	Department of State Health Services
ED	Emergency Department
ICD-9-CM	International Classification of Diseases, Ninth Revision, Clinical Modification
ICD-10-CM	International Classification of Diseases, Tenth Revision, Clinical Modification
ICD-10-PCS	International Classification of Diseases, Tenth Revision, Procedure Coding Systems
MHSA	Mental Health and Substance Abuse
N	Number of Observations
PPV	Potentially Preventable Emergency Department Visits

Appendix A. Tables

Table A. Emergency Department Visits by Expected Payment Source in Texas, 2016[16]

		Medicaid	Medicare	Other	Private health insurance	Self or Uninsured	Unknown Payment	Visits
2016 Q1	Inpatient	48,626 (1.8%)	171,512 (6.4%)	6,193 (0.2%)	97,924 (3.6%)	46,733 (1.7%)	502 (0.0%)	**371,490**
	Outpatient	603,462 (22.4%)	364,872 (13.5%)	59,598 (2.2%)	722,549 (26.8%)	570,507 (21.2%)	1,414 (0.1%)	**2,322,402**
	Subtotal	652,088 (24.2%)	536,384 (19.9%)	65,791 (2.4%)	820,473 (30.5%)	617,240 (22.9%)	1,916 (0.1%)	**2,693,892**
2016 Q2	Inpatient	47,724 (1.8%)	165,549 (6.2%)	6,167 (0.2%)	96,916 (3.6%)	49,245 (1.8%)	387 (0.0%)	**365,988**
	Outpatient	572,110 (21.3%)	371,006 (13.8%)	59,117 (2.2%)	724,215 (27.0%)	588,354 (21.9%)	1,174 (0.0%)	**2,315,976**
	Subtotal	619,834 (23.1%)	536,555 (20.0%)	65,284 (2.4%)	821,131 (30.6%)	637,599 (23.8%)	1,561 (0.1%)	**2,681,964**
2016 Q3	Inpatient	48,227 (1.8%)	162,813 (6.1%)	6,127 (0.2%)	95,824 (3.6%)	52,495 (2.0%)	408 (0.0%)	**365,894**
	Outpatient	541,423 (20.4%)	373,310 (14.1%)	57,189 (2.2%)	710,000 (26.8%)	602,774 (22.7%)	1,378 (0.1%)	**2,286,074**
	Subtotal	589,650 (22.2%)	536,123 (20.2%)	63,316 (2.4%)	805,824 (30.4%)	655,269 (24.7%)	1,786 (0.1%)	**2,651,968**
2016 Q4	Inpatient	49,485 (1.9%)	165,691 (6.3%)	6,011 (0.2%)	96,810 (3.7%)	50,706 (1.9%)	301 (0.0%)	**369,004**
	Outpatient	577,684 (22.0%)	363,398 (13.9%)	55,042 (2.1%)	686,480 (26.2%)	567,806 (21.7%)	1,228 (0.0%)	**2,251,638**
	Subtotal	627,169 (23.9%)	529,089 (20.2%)	61,053 (2.3%)	783,290 (29.9%)	618,512 (23.6%)	1,529 (0.1%)	**2,620,642**
2016	**Totals**	**2,488,741 (23.4%)**	**2,138,151 (20.1%)**	**255,444 (2.4%)**	**3,230,718 (30.3%)**	**2,528,620 (23.7%)**	**6,792 (0.1%)**	**10,648,466 (100%)**

[16] This table shows the detailed number of visits by Expected Payment Source for Figure 5.

Table B. Emergency Department Visits by Expected Payment Source in Texas, 2017[17]

		Medicaid	Medicare	Other	Private health insurance	Self or Uninsured	Unknown Payment	Visits
2017 Q1	Inpatient	50,190 (1.8%)	185,898 (6.7%)	6,789 (0.2%)	96,204 (3.5%)	49,465 (1.8%)	400 (0.0%)	**388,946**
	Outpatient	599,148 (21.7%)	390,942 (14.2%)	62,462 (2.3%)	726,765 (26.4%)	588,124 (21.3%)	1,294 (0.0%)	**2,368,735**
	Subtotal	649,338 (23.5%)	576,840 (20.9%)	69,251 (2.5%)	822,969 (29.8%)	637,589 (23.1%)	1,694 (0.1%)	**2,757,681**
2017 Q2	Inpatient	48,347 (1.8%)	171,587 (6.4%)	6,728 (0.3%)	95,636 (3.6%)	52,096 (1.9%)	416 (0.0%)	**374,810**
	Outpatient	554,546 (20.7%)	382,603 (14.3%)	59,975 (2.2%)	719,652 (26.8%)	591,284 (22.0%)	1,297 (0.0%)	**2,309,357**
	Subtotal	602,893 (22.5%)	554,190 (20.6%)	66,703 (2.5%)	815,288 (30.4%)	643,380 (24.0%)	1,713 (0.1%)	**2,684,167**
2017 Q3	Inpatient	49,812 (1.9%)	164,430 (6.3%)	6,782 (0.3%)	93,079 (3.6%)	53,460 (2.1%)	347 (0.0%)	**367,910**
	Outpatient	520,029 (20.0%)	373,812 (14.4%)	58,799 (2.3%)	687,863 (26.5%)	586,580 (22.6%)	1,445 (0.1%)	**2,228,528**
	Subtotal	569,841 (21.9%)	538,242 (20.7%)	65,581 (2.5%)	780,942 (30.1%)	640,040 (24.7%)	1,792 (0.1%)	**2,596,438**
2017 Q4	Inpatient	53,770 (1.9%)	179,636 (6.3%)	6,706 (0.2%)	95,712 (3.3%)	54,516 (1.9%)	411 (0.0%)	**390,751**
	Outpatient	646,925 (22.5%)	405,165 (14.1%)	63,983 (2.2%)	755,078 (26.3%)	609,519 (21.2%)	1,587 (0.1%)	**2,482,257**
	Subtotal	700,695 (24.4%)	584,801 (20.4%)	70,689 (2.5%)	850,790 (29.6%)	664,035 (23.1%)	1,998 (0.1%)	**2,873,008**
2017	**Totals**	**2,522,767 (23.1%)**	**2,254,073 (20.7%)**	**272,224 (2.5%)**	**3,269,989 (30.0%)**	**2,585,044 (23.7%)**	**7,197 (0.1%)**	**10,911,294 (100%)**

[17] This table shows the detailed number of visits by Expected Payment Source for Figure 6.

Table C. Emergency Department Visits Differences by Expected Payment Source in Texas, 2016 to 2017[18]

		Medicaid	Medicare	Other	Private health insurance	Self or Uninsured	Unknown Payment	Visits
2017Q1 - 2016Q1	Inpatient	1,564	14,386	596	-1,720	2,732	-102	**17,456**
	Outpatient	-4,314	26,070	2,864	4,216	17,617	-120	**46,333**
	Subtotal	-2,750	40,456	3,460	2,496	20,349	-222	**63,789**
2017Q2-2016Q2	Inpatient	623	6,038	561	-1,280	2,851	29	**8,822**
	Outpatient	-17,564	11,597	858	-4,563	2,930	123	**-6,619**
	Subtotal	-16,941	17,635	1,419	-5,843	5,781	152	**2,203**
2017Q3-2016Q3	Inpatient	1,585	1,617	655	-2,745	965	-61	**2,016**
	Outpatient	-21,394	502	1,610	-22,137	-16,194	67	**-57,546**
	Subtotal	-19,809	2,119	2,265	-24,882	-15,229	6	**-55,530**
2017Q4-2016Q4	Inpatient	4,285	13,945	695	-1,098	3,810	110	**21,747**
	Outpatient	69,241	41,767	8,941	68,598	41,713	359	**230,619**
	Subtotal	73,526	55,712	9,636	67,500	45,523	469	**252,366**
2017-2016	**Total Differences**	**34,026**	**115,922**	**16,780**	**39,271**	**56,424**	**405**	**262,828**

[18] This table shows the detailed differences between number of visits by Expected Payment Source for Figure 5 and Figure 6.

Table D. Emergency Department Visits for MHSA by Expected Payment Source in Texas, 2016[19]

		Medicaid	Medicare	Other	Private health insurance	Self or Uninsured	Unknown Payment	Visits
2016 Q1	Inpatient	2,102 (3.0%)	2,637 (3.7%)	349 (0.5%)	2,506 (3.5%)	2,185 (3.1%)	9 (0.0%)	**9,788**
	Outpatient	13,511 (19.1%)	8,074 (11.4%)	1,576 (2.2%)	15,266 (21.6%)	22,397 (31.7%)	47 (0.1%)	**60,871**
	Subtotal	15,613 (22.1%)	10,711 (15.2%)	1,925 (2.7%)	17,772 (25.2%)	24,582 (34.8%)	56 (0.1%)	**70,659**
2016 Q2	Inpatient	2,186 (2.8%)	2,942 (3.8%)	363 (0.5%)	2,817 (3.7%)	2,747 (3.6%)	17 (0.0%)	**11,072**
	Outpatient	14,273 (18.6%)	8,450 (11.0%)	1,712 (2.2%)	15,967 (20.8%)	25,175 (32.8%)	60 (0.1%)	**65,637**
	Subtotal	16,459 (21.5%)	11,392 (14.9%)	2,075 (2.7%)	18,784 (24.5%)	27,922 (36.4%)	77 (0.1%)	**76,709**
2016 Q3	Inpatient	2,159 (2.8%)	2,902 (3.7%)	377 (0.5%)	2,714 (3.5%)	2,784 (3.6%)	6 (0.0%)	**10,942**
	Outpatient	14,080 (18.2%)	8,945 (11.5%)	1,803 (2.3%)	15,725 (20.3%)	25,914 (33.5%)	47 (0.1%)	**66,514**
	Subtotal	16,239 (21.0%)	11,847 (15.3%)	2,180 (2.8%)	18,439 (23.8%)	28,698 (37.1%)	53 (0.1%)	**77,456**
2016 Q4	Inpatient	2,058 (2.9%)	2,750 (3.9%)	411 (0.6%)	2,696 (3.8%)	2,697 (3.8%)	11 (0.0%)	**10,623**
	Outpatient	13,008 (18.3%)	7,949 (11.2%)	1,621 (2.3%)	14,340 (20.2%)	23,324 (32.9%)	50 (0.1%)	**60,292**
	Subtotal	15,066 (21.2%)	10,699 (15.1%)	2,032 (2.9%)	17,036 (24.0%)	26,021 (36.7%)	61 (0.1%)	**70,915**
2016	**Totals**	**63,377 (21.4%)**	**44,649 (15.1%)**	**8,212 (2.8%)**	**72,031 (24.4%)**	**107,223 (36.3%)**	**247 (0.1%)**	**295,739 (100%)**

[19] This table shows the detailed number of visits by Expected Payment Source for Figure 7.

Table E. Emergency Department Visits for MHSA by Expected Payment Source in Texas, 2017[20]

		Medicaid	Medicare	Other	Private health insurance	Self or Uninsured	Unknown Payment	Visits
2017 Q1	Inpatient	2,106 (2.9%)	2,984 (4.1%)	476 (0.7%)	2,602 (3.6%)	2,847 (3.9%)	14 (0.0%)	**11,029**
	Outpatient	10,230 (14.1%)	8,240 (11.3%)	3,376 (4.6%)	14,985 (20.6%)	24,859 (34.2%)	53 (0.1%)	**61,743**
	Subtotal	12,336 (17.0%)	11,224 (15.4%)	3,852 (5.3%)	17,587 (24.2%)	27,706 (38.1%)	67 (0.1%)	**72,772**
2017 Q2	Inpatient	2,128 (2.8%)	3,018 (3.9%)	500 (0.6%)	2,779 (3.6%)	3,170 (4.1%)	24 (0.0%)	**11,619**
	Outpatient	11,195 (14.5%)	8,676 (11.2%)	3,530 (4.6%)	15,894 (20.6%)	26,302 (34.0%)	65 (0.1%)	**65,662**
	Subtotal	13,323 (17.2%)	11,694 (15.1%)	4,030 (5.2%)	18,673 (24.2%)	29,472 (38.1%)	89 (0.1%)	**77,281**
2017 Q3	Inpatient	1,980 (2.6%)	2,755 (3.6%)	484 (0.6%)	2,581 (3.4%)	3,023 (4.0%)	12 (0.0%)	**10,835**
	Outpatient	10,753 (14.2%)	8,682 (11.5%)	3,540 (4.7%)	15,499 (20.4%)	26,442 (34.9%)	55 (0.1%)	**64,971**
	Subtotal	12,733 (16.8%)	11,437 (15.1%)	4,024 (5.3%)	18,080 (23.9%)	29,465 (38.9%)	67 (0.1%)	**75,806**
2017 Q4	Inpatient	1,900 (2.7%)	2,823 (4.0%)	514 (0.7%)	2,488 (3.5%)	2,904 (4.1%)	16 (0.0%)	**10,645**
	Outpatient	10,002 (14.2%)	8,065 (11.4%)	3,093 (4.4%)	14,858 (21.0%)	23,942 (33.9%)	58 (0.1%)	**60,018**
	Subtotal	11,902 (16.8%)	10,888 (15.4%)	3,607 (5.1%)	17,346 (24.5%)	26,846 (38.0%)	74 (0.1%)	**70,663**
2017	**Totals**	**50,294 (17.0%)**	**45,243 (15.3%)**	**15,513 (5.2%)**	**71,686 (24.2%)**	**113,489 (38.3%)**	**297 (0.1%)**	**296,522 (100%)**

[20] This table shows the detailed number of visits by Expected Payment Source for Figure 8.

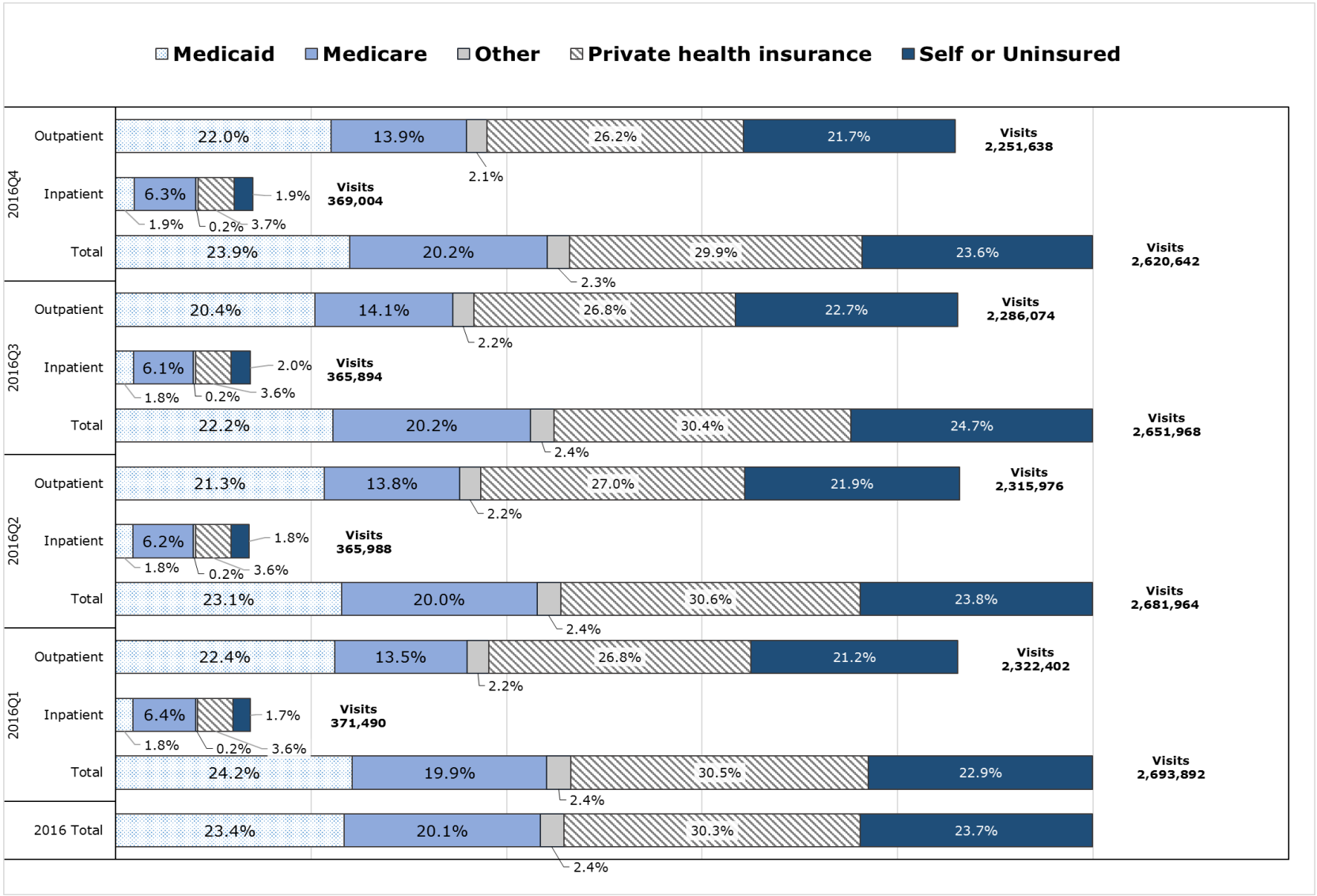
Table F. Emergency Department Visits Differences by Expected Payment Source for MHSA in Texas, 2016 to 2017[21]

		Medicaid	Medicare	Other	Private health insurance	Self or Uninsured	Unknown Payment	Visits
2017Q1 - 2016Q1	Inpatient	4	347	127	96	662	5	**1,241**
	Outpatient	-3,281	166	1,800	-281	2,462	6	**872**
	Subtotal	-3,277	513	1,927	-185	3,124	11	**2,113**
2017Q2- 2016Q2	Inpatient	-58	76	137	-38	423	7	**547**
	Outpatient	-3,078	226	1,818	-73	1,127	5	**25**
	Subtotal	-3,136	302	1,955	-111	1,550	12	**572**
2017Q3- 2016Q3	Inpatient	-179	-147	107	-133	239	6	**-107**
	Outpatient	-3,327	-263	1,737	-226	528	8	**-1,543**
	Subtotal	-3,506	-410	1,844	-359	767	14	**-1,650**
2017Q4- 2016Q4	Inpatient	-158	73	103	-208	207	5	**22**
	Outpatient	-3,006	116	1,472	518	618	8	**-274**
	Subtotal	-3,164	189	1,575	310	825	13	**-252**
2017- 2016	**Total Differences**	**-13,083**	**594**	**7,301**	**-345**	**6,266**	**50**	**783**

[21] This table shows the detailed differences between number of visits by Expected Payment Source for Figure 7 and Figure 8.

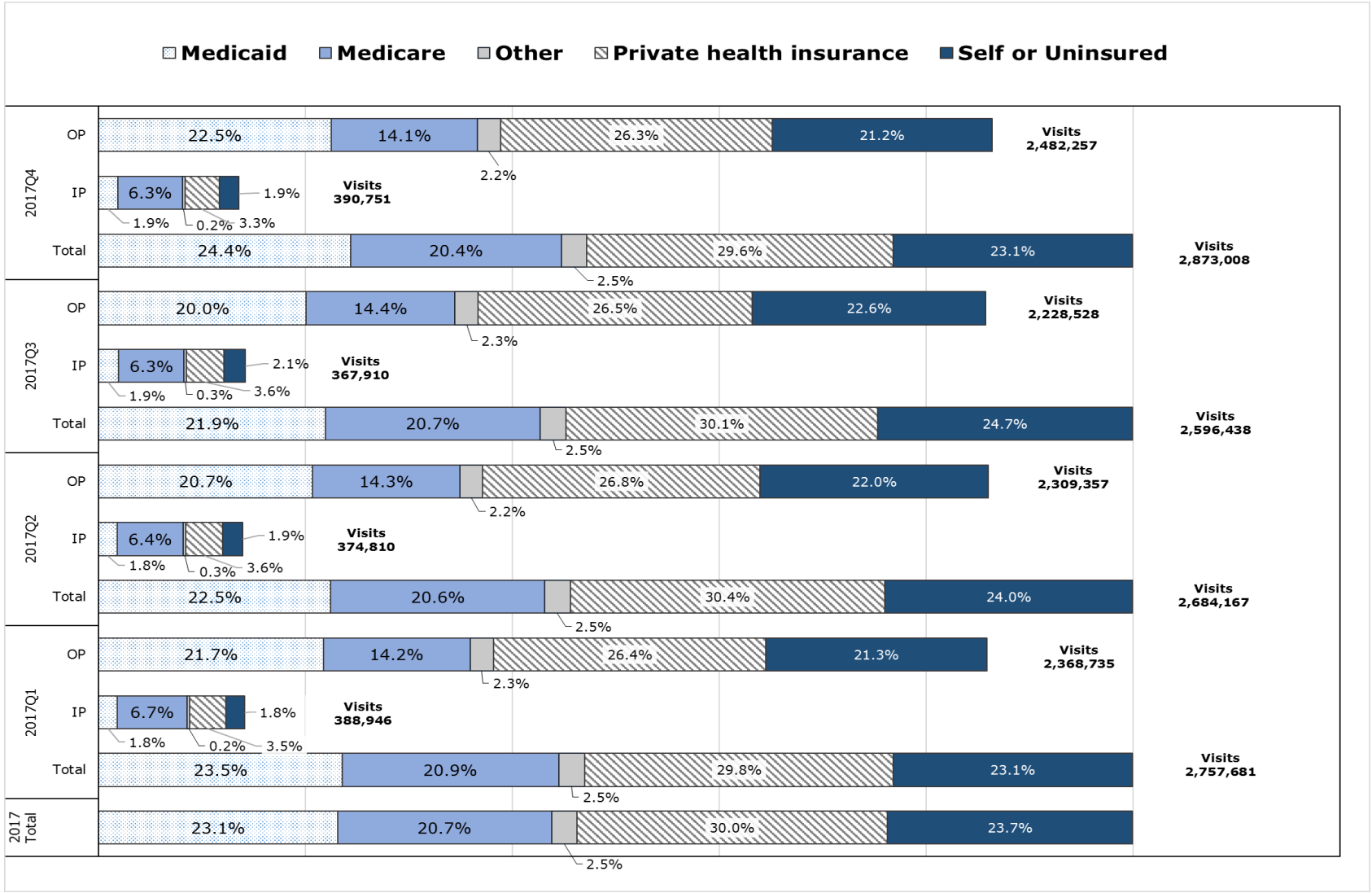
Appendix B. Figures 5-8

Figure 5. Emergency Department Visits by Expected Payment Source in Texas, 2016



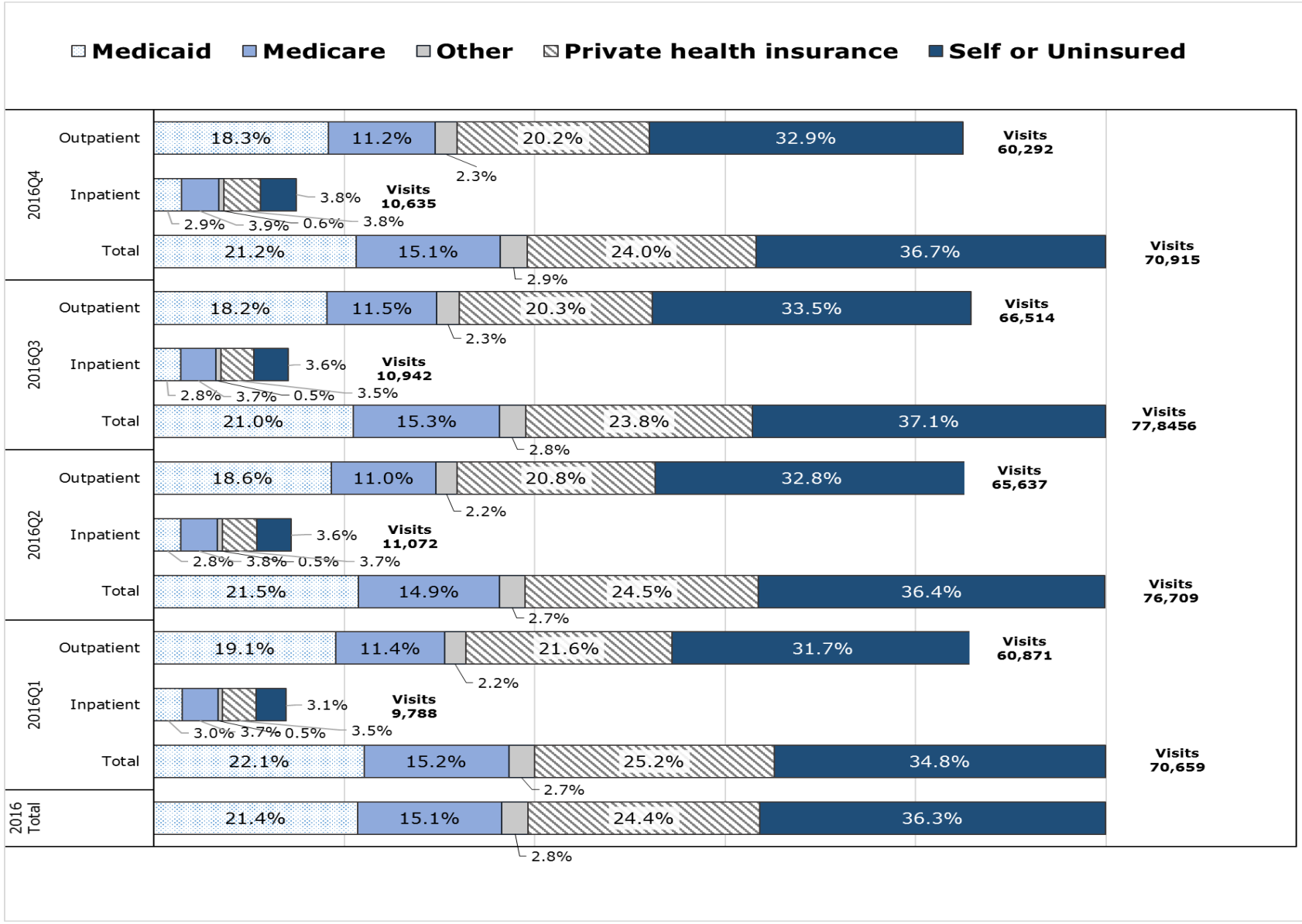
Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2016. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. February 2018.

Figure 6. Emergency Department Visits by Expected Payment Source in Texas, 2017



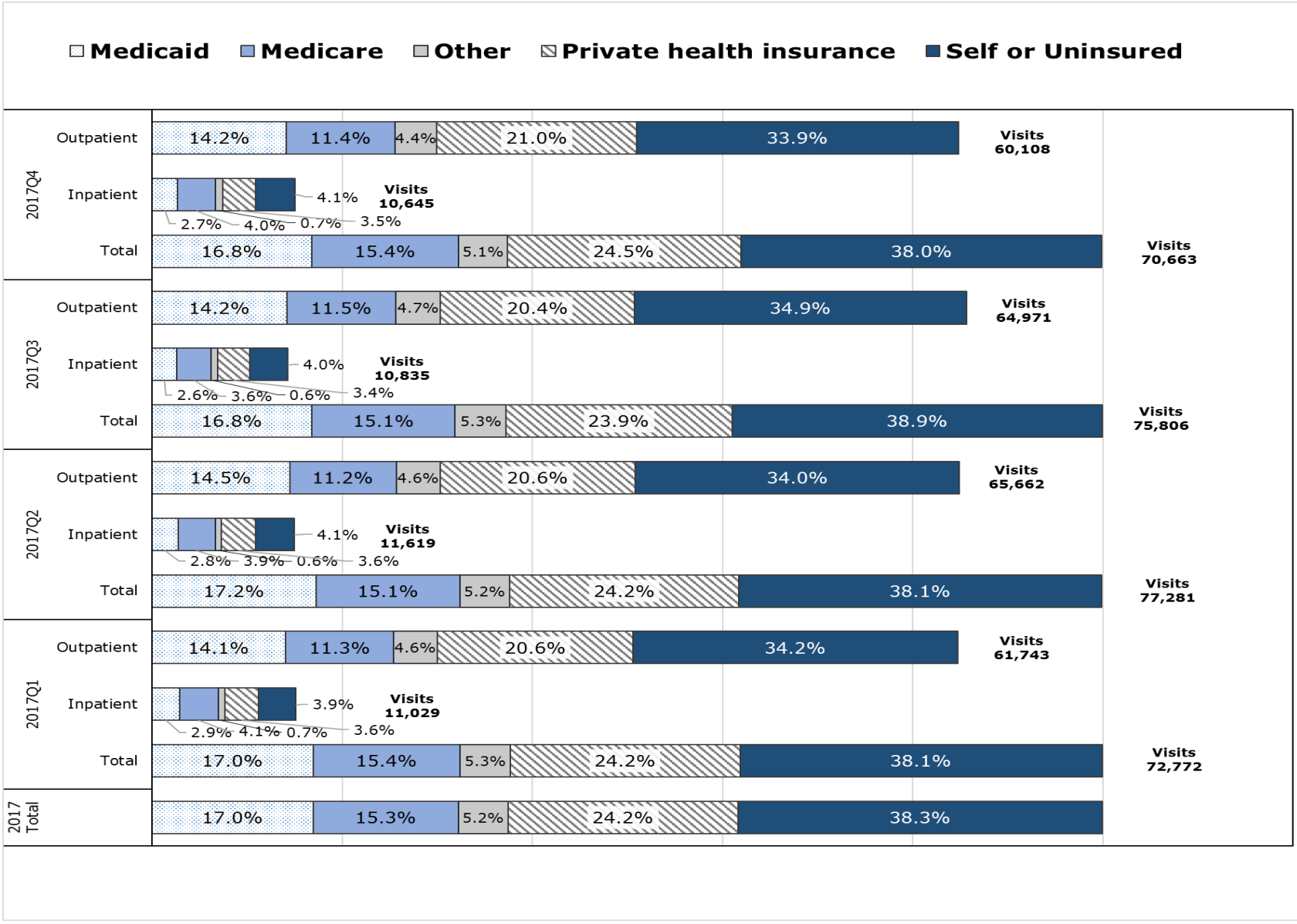
Data Source: Texas Hospital Emergency Department Data Set, First through Fourth 2017. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September 2018.

Figure 7. Emergency Department Visits for MHSA by Expected Payment Source in Texas, 2016



Data Source: Texas Hospital Emergency Department Data Set, First through Fourth Quarters 2016. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. February 2018.

Figure 8. Emergency Department Visits for MHSA by Expected Payment Source in Texas, 2017



Data Source: Texas Hospital Emergency Department Data Set, First through Fourth 2017. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September 2018.