




# **Hospital Emergency Room Data Collection**

**As Required By  
The 2014-15 General Appropriations Act, S.B. 1, 83<sup>rd</sup> Texas Legislature,  
Regular Session, 2013 (Article II, Department of State Health Services,  
Rider 93)**



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## **Executive Summary**

The 2014-15 General Appropriations Act, Senate Bill (S.B.) 1, 83<sup>rd</sup> Texas Legislature, Regular Session, 2013 (Article II, Department of State Health Services, Rider 93), required the Department of State Health Services (DSHS) to collect emergency room (ER) data as set forth in Chapter 108, Health and Safety Code (HSC). DSHS is required to use the data to measure and report potentially preventable ER visits (PPV), including potentially preventable mental health and substance abuse ER visits (PPV(MH-SA)). DSHS must also submit a report to the Office of the Governor, Legislative Budget Board (LBB), and chairs of each house of public health oversight committees.

The first year of reportable ER data is expected to be available as separate quarterly public use data files before the end of the 2017. While DSHS collected ER data for an entire year, additional data is needed to accurately reflect the quality of care provided in hospital ERs. The 3M software utilized to collect and analyze the data for the PPV reports requires two full years of data – a benchmark year and a second year of data to make comparisons. Even though DSHS began collecting data in 2015, a significant change in coding systems during that year makes 2015 data incomparable with 2016 data. Federal requirements necessitated the change in coding systems, 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). The change occurred on October 1, 2015.

Even though DSHS does not have two years of comparable data for detailed information concerning PPVs, DSHS was able to analyze aggregated ER data, which is included in this report. The information provides some general statistics, overall numbers, selected breakdowns of top diagnosis codes, top clinical conditions, percentage of visits by payer source, and a comparison of average total charges by payer source. This information and more will be made available on the Texas Health Data website <http://healthdata.dshs.texas.gov/> as staff can make the data available.

DSHS anticipates the first in-depth PPV and PPV(MH-SA) reports to be available in the summer of 2019, which utilize data from 2016 and 2017.

## **Background**

The 2014-15 General Appropriations Act, S.B. 1, 83<sup>rd</sup> Texas Legislature, Regular Session, 2013 (Article II, DSHS, Rider 93) specified that DSHS shall collect ER data as set forth in Chapter 108, HSC. DSHS is required to use the data to measure and report PPV, including (PPV(MH-SA)) ER visits. DSHS must also submit a report to the Office of the Governor, LBB, and chairs of each house of public health oversight committees.

DSHS currently collects inpatient and outpatient data from 580 hospitals and 400 ambulatory surgical centers. DSHS began collecting ER data from hospitals 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. DSHS released the first complete quarter of ER data in January 2016 as part of the Inpatient and Outpatient Public Use Files following the final certification of the data as required by law. Once available, the data may be requested using the order forms at <http://www.dshs.state.tx.us/thcic/hospitals/Inpatientpudf.shtm> and <http://www.dshs.state.tx.us/thcic/OutpatientFacilities/OutpatientPUDF.shtm>.

In December 2014 and December 2015, DSHS previously published reports on the expected structure and timeline for future PPV reports. This is an addendum to those reports, which includes aggregated ER data for 2016.

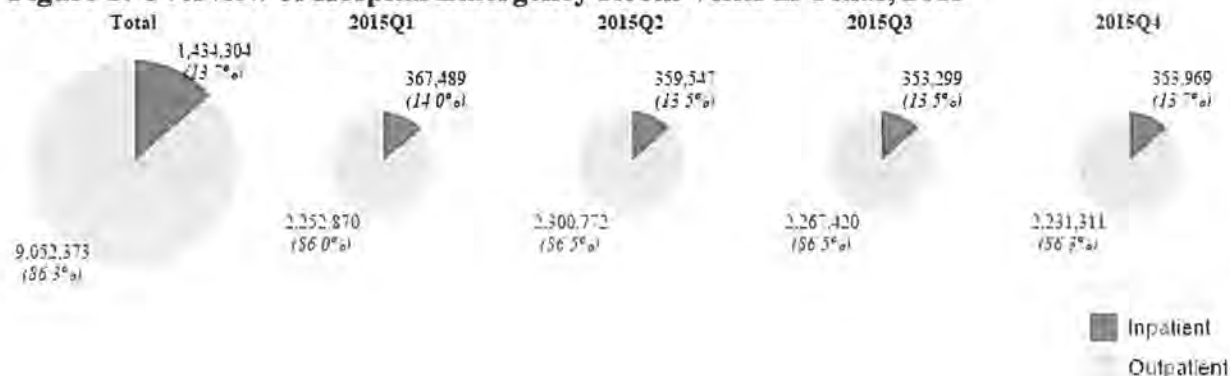
## **Hospital Emergency Room Data Collection**

### **Overview of Hospital Emergency Room Visits in Texas, 2015**

In calendar year 2015, approximately 10,486,677 Hospital ER visits occurred in Texas. In Figure 1, the data indicates 1,434,304 (or 13.7 percent) of ER visits were severe enough to require the patient be admitted (Inpatient) to the hospital, while 9,052,373 (or 86.3 percent) of the ER visits were not admitted (Outpatient), but may have required additional follow ups. Some of those ER visits required the patient stay in the hospital for observation. Those patients that enter the ER and remain for observation are not technically admitted, but charges are still incurred for their stay or for additional testing.

There are minor variations in the number of ER visits quarterly. Second (2<sup>nd</sup>) Quarter (March – June) had the highest number of ER visits (2,300,772), while 4<sup>th</sup> Quarter (October – December) had the least amount of visits (2,231,311). Additional years of data will allow further determination about data.

**Figure 1. Overview of Hospital Emergency Room Visits in Texas, 2015**



**Data Source:** Two data sources are used for the analysis: 1) Texas hospital inpatient discharge public user data file, 2015Q1-2015Q4, and 2) Texas outpatient surgical and radiological procedure public user data file, 2015Q1-2015Q4. Texas Health Care Information Collection, Center for Health Statistics, DSHS.

### **Top Five Diagnosis Codes for Hospital Emergency Room Visits in Texas, 2015**

Observing the top five diagnosis codes by quarter for 2015 (Table 1), the most frequent diagnostic code reported for ER visits for the 1<sup>st</sup> Quarter to 3<sup>rd</sup> Quarter was, “Unspecified Essential Hypertension (4019). The diagnosis code reported the most in 4<sup>th</sup> Quarter was, “Essential (Primary) Hypertension (I10).”

*NOTE: The medical diagnosis [and inpatient procedure] coding system changed on October 1, 2015 to the International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM) [and International Classification of Diseases, 10th Revision, Procedural Coding System (ICD-10-PCS)]. The change to the new coding system is significant and does not allow for comparing or trending of data prior to October 1, 2015 to after that date. In this case, code 4019 “Unspecified essential hypertension” in ICD-9-CM may or may not be analogous to code I10 “Essential (primary) hypertension” used in ICD-10-CM. Also, code 3051 “Tobacco use disorder” in the ICD-9-CM code set may or may not be analogous to the following codes in ICD-10-CM: F17210, “Nicotine dependence, cigarettes, uncomplicated” and F17200, “Nicotine dependence, unspecified, uncomplicated.”*

The most frequently reported inpatient diagnosis codes had a similar pattern, with some variation in codes for the 5<sup>th</sup> highest reported between Acute kidney failure (5849) and Tobacco use disorder (3051). The top five ER visit diagnosis codes for patients who were not admitted to the hospital (outpatient) are similar for each quarter with one notable exception due to the change in coding systems to ICD-10-CM, which has greater specificity in coding.

**Table 1 Top Five Diagnosis Codes for Hospital Emergency Room Visits in Texas, 2015**

QTR	Type	Rank*	Diagnosis Code & Description**	Count
2015Q1	Inpatient	1	4019, Unspecified essential hypertension	130,911
		2	2724, Other and unspecified hyperlipidemia	104,193
		3	25000, Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled	69,881
		4	4280, Congestive heart failure, unspecified	68,805
		5	5849, Acute kidney failure, unspecified	57,554
	Outpatient	1	4019, Unspecified essential hypertension	370,445
		2	3051, Tobacco use disorder	256,956
		3	V5869, Long-term (current) use of other medications	184,682
		4	25000, Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled	182,695
		5	4659, Acute upper respiratory infections of unspecified site	125,458
2015Q2	Inpatient	1	4019, Unspecified essential hypertension	129,787
		2	2724, Other and unspecified hyperlipidemia	103,545
		3	25000, Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled	68,944
		4	4280, Congestive heart failure, unspecified	65,559
		5	3051, Tobacco use disorder	58,123
	Outpatient	1	4019, Unspecified essential hypertension	389,167
		2	3051, Tobacco use disorder	276,941
		3	V5869, Long-term (current) use of other medications	203,714
		4	25000, Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled	193,651
		5	7840, Headache	101,338
2015Q3	Inpatient	1	4019, Unspecified essential hypertension	125,653
		2	2724, Other and unspecified hyperlipidemia	99,975
		3	25000, Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled	65,963
		4	4280, Congestive heart failure, unspecified	59,481
		5	5849, Acute kidney failure, unspecified	59,192
	Outpatient	1	4019, Unspecified essential hypertension	395,969
		2	3051, Tobacco use disorder	286,234
		3	V5869, Long-term (current) use of other medications	202,607
		4	25000, Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled	198,371
		5	5990, Urinary tract infection, site not specified	101,410
2015Q4	Inpatient	1	I10, Essential (primary) hypertension	146,220
		2	E785, Hyperlipidemia, unspecified	95,769
		3	I2510, Chronic ischemic heart disease without angina pectoris	64,774
		4	E119, Type 2 diabetes mellitus without complications	58,935
		5	N179, Acute kidney failure, unspecified	56,594



QTR	Type	Rank*	Diagnosis Code & Description**	Count
	Outpatient	1	I10, Essential (primary) hypertension	406,540
		2	Z79899, Other long term (current) drug therapy	191,108
		3	E119, Type 2 diabetes mellitus without complications	168,316
		4	F17210, Nicotine dependence, cigarettes, uncomplicated	111,989
		5	F17200, Nicotine dependence, unspecified, uncomplicated	101,010
<p>* Rank diagnosis code collected by number within each quarter and type.</p> <p>** Diagnosis Code are all-listed diagnostic codes (25 fields), ICD-9-CM for 1<sup>st</sup> – 3<sup>rd</sup> Quarters and ICD-10-CM for 4<sup>th</sup> Quarter from the data source</p> <p><b>Data Source:</b> Two data sources are used for the analysis: 1) Texas hospital inpatient discharge public user data file, 2015Q1-2015Q4, and, 2) Texas outpatient surgical and radiological procedure public user data file, 2015Q1-2015Q4. Texas Health Care Information Collection, Center for Health Statistics, DSHS</p>				

### Top Five Conditions for Hospital Emergency Room Visits in Texas, 2015

The Clinical Classifications Software (CCS)<sup>1</sup> is a tool for clustering patient diagnoses and procedures into a manageable number of clinically meaningful categories. The Agency for Healthcare Research and Quality (AHRQ) developed the tool to allow researchers the ability to group conditions and make it easier to quickly understand patterns of diagnoses and procedures. This will enable health plans, policy makers, and researchers to be able to analyze utilization and outcomes associated with particular illnesses and procedures. This tool was used to categorize the patient conditions that brought the patient into hospital emergency department. The top five overall clinical conditions are:

- 1) Other upper respiratory infections;
- 2) Abdominal pain;
- 3) Sprains and strains;
- 4) Superficial injury; confusion; and
- 5) Nonspecific chest pain.

The variations in quarterly reporting are listed in [Figure 2](#) below.

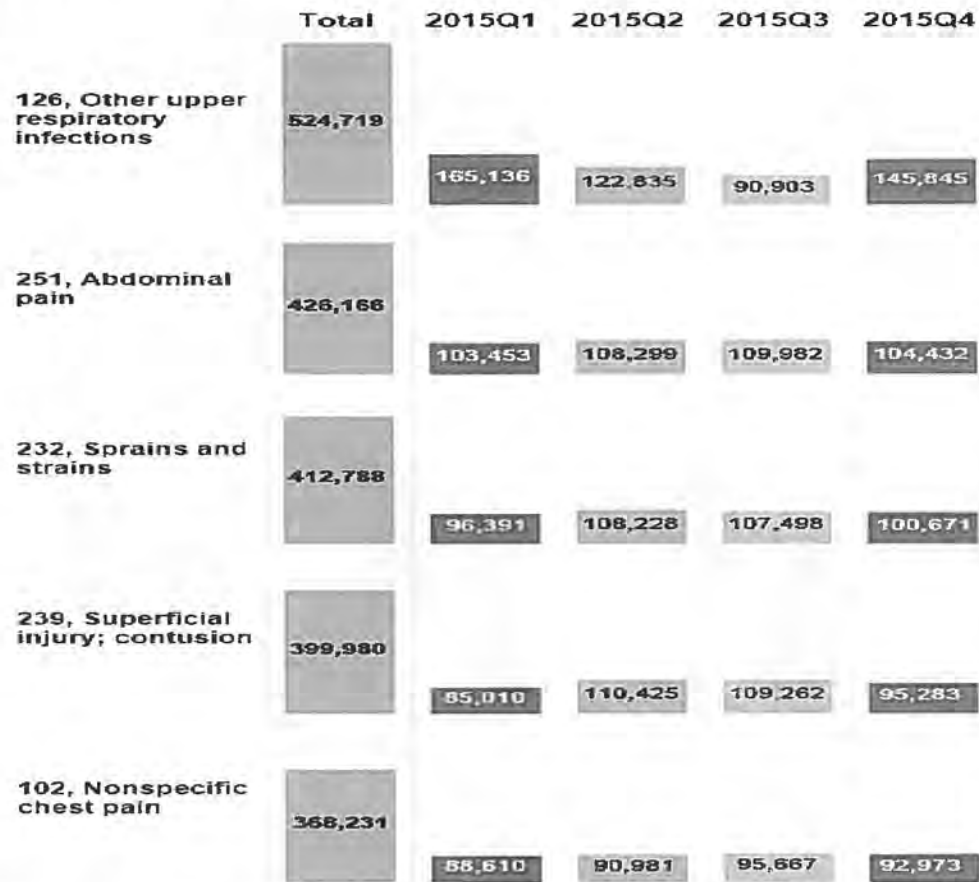
<sup>1</sup> HCUP Clinical Classifications Software (CCS). Healthcare Cost and Utilization Project (HCUP). U.S. Agency for Healthcare Research and Quality, Rockville, MD.

<https://www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp#download> (2015Q1-2015Q3),

<https://www.hcup-us.ahrq.gov/toolssoftware/ccs10/ccs10.jsp> (2015Q4). Accessed December 1, 2016.



**Figure 2 Top Five Conditions for Hospital Emergency Room Visits in Texas, 2015**

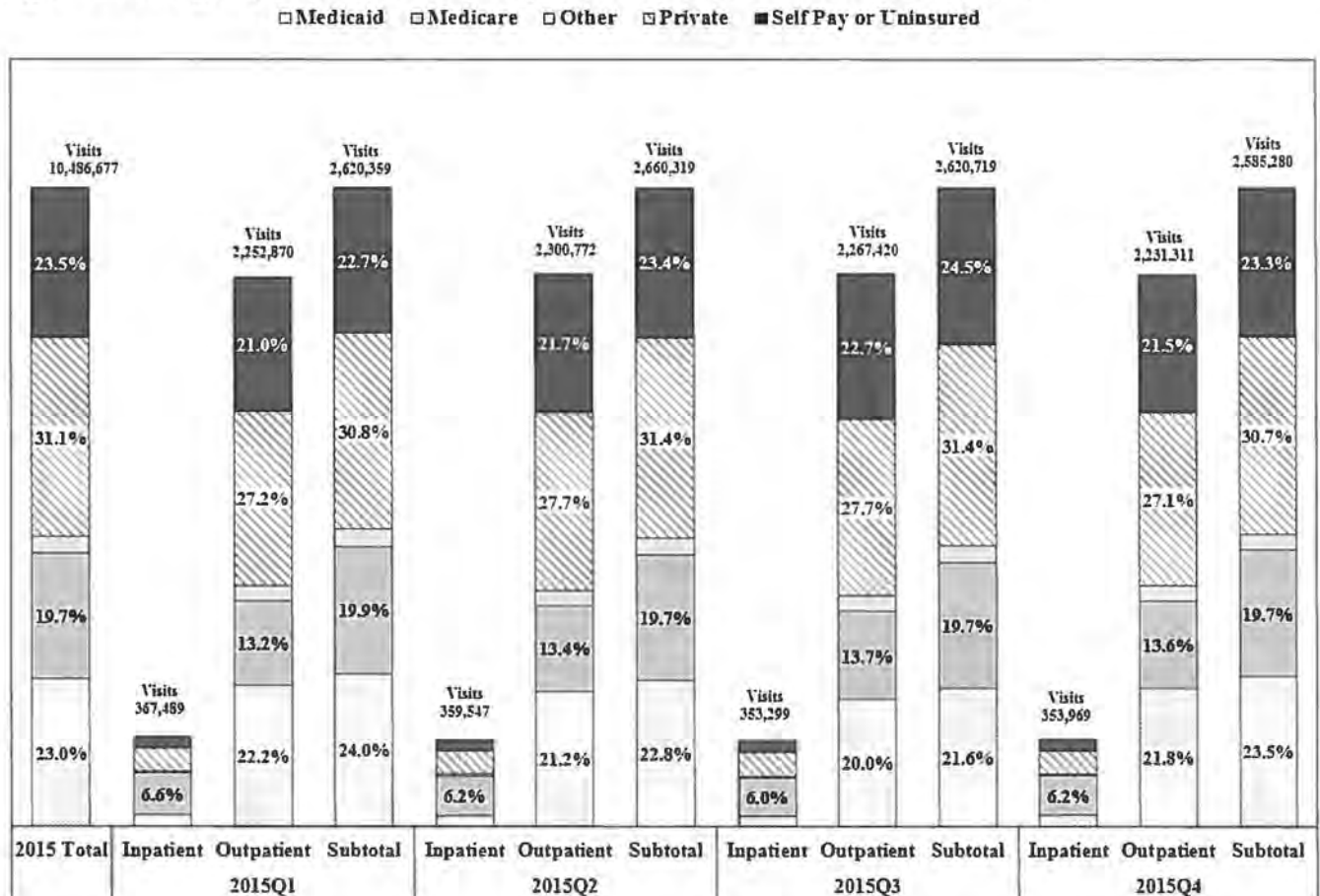


Data Source: Two data sources are used for the analysis: 1) Texas hospital inpatient discharge public user data file, 2015Q1-2015Q4, and 2) Texas outpatient surgical and radiological procedure public user data file, 2015Q1-2015Q4. Texas Health Care Information Collection, Center for Health Statistics, DSHS.

## Emergency Room Visits by Expected Payment Source in Texas, 2015

The data collected on payment source<sup>2</sup> is less precise, but still provides relevant information regarding to the payer source at the time the patient was seen in the hospital ER. Private insurance<sup>3</sup> was reported as the most common primary payers at about 31.1 percent. Self-pay or uninsured was listed as the second highest reported primary payer source at 23.5 percent. Medicaid was reported at 23.0 percent, followed by Medicare at 19.7 percent. See Figure 3.

**Figure 3 Emergency Room Visits by Expected Payment Source in Texas, 2015**



**Data Source:** Two data sources are used for the analysis: 1) Texas hospital inpatient discharge public user data file, 2015Q1-2015Q4, and 2) Texas outpatient surgical and radiological procedure public user data file, 2015Q1-2015Q4. Texas Health Care Information Collection, Center for Health Statistics, DSHS

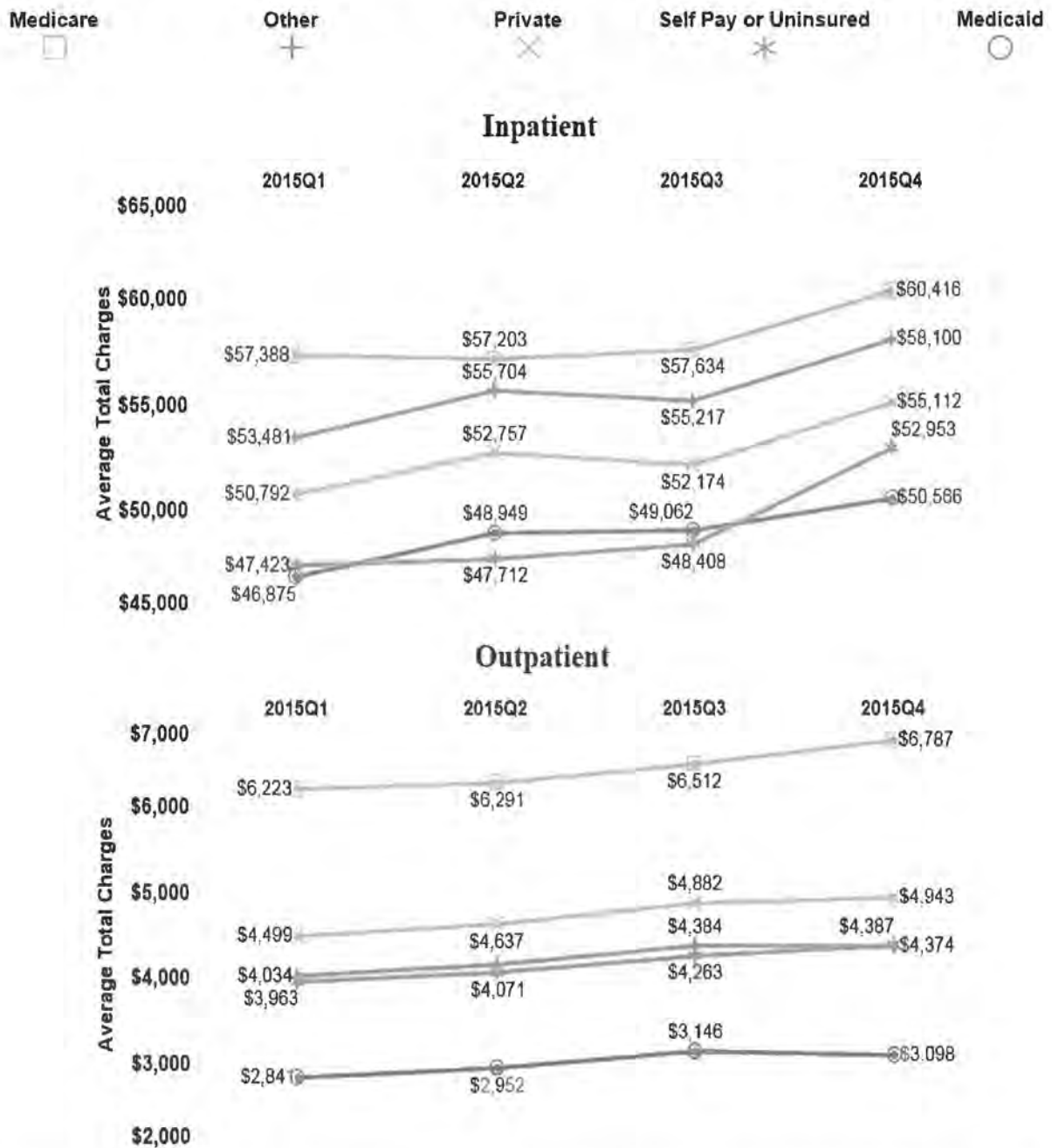
<sup>2</sup> Expected Payment Source refers to the entity or organization which is expected to pay for the visit. It does not refer to the actual or final payment source, only the pay source identified when the facility submits the data to THCIC.

<sup>3</sup> Private insurance is defined as a commercial insurance plan that a patient would be purchasing that did not include payments through the federal or state government plans such as Medicare or Medicaid, or other special government health insurance plans.

## Comparison between Average Total Charges of Expected Payer Sources of Emergency Room Visits

The average total charges for all primary payer sources ER visits slightly increased from the 1<sup>st</sup> quarter to the 4<sup>th</sup> quarter in 2015. See [Figure 4](#).

**Figure 4 Average Total Charges Emergency Room visits by Expected Payer Sources**



**Data Source:** Two data sources are used for the analysis: 1) Texas hospital inpatient discharge public user data file, 2015Q1-2015Q4, and 2) Texas outpatient surgical and radiological procedure public user data file, 2015Q1-2015Q4. Texas Health Care Information Collection, Center for Health Statistics, DSHS

## **Conclusion**

The 2015 ER data collected for this report indicate that hypertension is the most frequent diagnostic code reported for hospital ER visits, both Inpatient and Outpatient. Upper respiratory infections rank highest among conditions for hospital ER visits. Finally, Medicare has the highest average of total charges among expected payer sources. This holds true for Inpatient and Outpatient.

While this data provides valuable information, it is not practical for the in-depth PPV report due to the change in medical diagnosis and procedure coding systems from ICD-9 CM to ICD-10-CM and ICD-10-PCS on October 1, 2015. The coding change impacted the 2015 data to the extent it cannot be compared to future data sets. To establish benchmarks for comparison or for subsequent PPV reports, an additional year of data (2016) is needed for comparison to the following year (2017), before a PPV and PPV(MH-SA) report can be produced.

The collection and analysis of future ER data will provide further insight and allow for more meaningful comparisons and trends over time looking at the access to services, types of clients, and services being provided in Texas ER visits.