



**Potentially Preventable  
Complications  
in Texas**

**Calendar Year 2014 Report**

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**As Required by  
Section 98.1046, Health and  
Safety Code**



**TEXAS**  
Health and Human  
Services

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Texas Department of  
State Health Services

**Department of State Health  
Services  
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# 1. Executive Summary

Public reporting of Potentially Preventable Complications (PPC) for non-exempt hospitals is required by the Texas Legislature under Section [98.1046](#), Texas Health and Safety Code (HSC).

PPCs are harmful events or negative outcomes that develop after hospital admission and may result from processes involved in care and treatment rather than from natural progression of the underlying illness. Therefore, these complications are potentially preventable. In analyzing 2014 hospital inpatient discharge data provided from the Texas Health Care Information Collection program (THCIC), the following trends were observed:

- Overall, six percent (6.0%) of inpatient stays (single patient visit or admission through discharge) in 2014 had at least one PPC.
- Approximately 77.9% of non-exempt\* acute care hospitals ( $n=274$ ) had fewer or equal numbers of PPC stays than expected and 22.1% ( $n=78$ ) had higher numbers of PPC stays than expected.
- Approximately 68.2% ( $n=240$ ) of non-exempt acute care hospitals had a number of PPC stays that was lower than or equal to the statewide average of 6.0 PPC stays per 100 at-risk admissions.
- Approximately 31.8% ( $n=112$ ) of non-exempt acute care hospitals had more PPC stays than the statewide average.

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\* According to the United States Department of Health and Human Services, Centers for Medicare and Medicaid Services (CMS), exempt hospitals are those that are not required to report diagnosis present on admission (POA) indicators. Because the PPC methodology requires POA indicators to identify PPCs, only non-exempt acute care hospitals were included in this report.

## 2. Introduction

Potentially Preventable Complications (PPCs) are harmful events or negative outcomes that develop after hospital admission and may result from processes involved in care and treatment rather than from natural progression of the underlying illness.<sup>1</sup> Therefore, these complications are potentially preventable. Ideally, all PPCs should be preventable with the provision of quality care. However, in practice, varying levels of PPCs are observed. As such, PPCs are an important measure for quantifying the quality of health care.

The Department of State Health Services (DSHS) is required to publicly report information on Texas hospitals regarding risk-adjusted outcome rates for PPCs. The outcome rates are determined by DSHS to be the most effective measures of quality and efficiency. In publishing the report, DSHS may not disclose the identity of a patient or health care professional.

This report presents data analysis on PPCs for calendar year 2014.

## 3. Background

In an effort to improve health care quality in Texas, public reporting of PPC results was required by the Texas Legislature under Section 98.1046, Texas HSC (S.B. 7, 82<sup>nd</sup> Legislature, First Called Session, 2011).

The data source for this report is the *Texas Hospital Inpatient Discharge Research Data File, 2014* (Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. August, 2015).<sup>2</sup> This dataset was collected by the THCIC overseen by DSHS. The data was collected in accordance with [Chapter 108, Texas HSC](#).

This report used the 3M™ PPC methodology to identify PPCs.<sup>3</sup> To enable comparisons of performance across hospitals, each hospital's actual PPC stays were compared with the number of PPC stays that could be expected given the hospital's patient case mix ([Appendix B: Methods](#)).

## 4. Results

### Calculation Method Overview

This report used the 3M™ PPC methodology to identify admissions at risk and PPCs. The 3M™ PPC methodology analyzes data contained in hospital discharge records, including patient age, sex, discharge status, length of stay, and diagnosis and procedure codes. This methodology also relies on the POA indicator for each diagnosis. The 3M™ PPC methodology includes approximately 1,600 complications that are potentially preventable ([Appendix B: Methods](#)).

In 2014, a total of 2,947,191 inpatient records were captured from 637 hospitals in Texas. Out of the 637 hospitals that submitted data in 2014, 352 hospitals were included in the analysis. All hospital admissions are considered at risk for PPC, with the exception of non-acute care admissions, admissions to hospitals that are exempt from reporting diagnosis present-on-admission (POA) indicators, and other admissions meeting the exclusion criteria listed in the 3M™ PPC Methodology ([Appendix B: Methods](#)). In 2014, 269 hospitals were exempt from reporting POA indicators that are necessary for conducting PPC processing. Also, sixteen (16) hospitals that had fewer than 30 admissions in 2014 were excluded because low numbers of admissions can yield unreliable PPC rates.

The POA reporting exemption comes from guidelines provided by the United States Department of Health and Human Services, Centers for Medicare and Medicaid Services (CMS). Six facility types (Exempt Hospital Types) are required to be exempted from POA reporting: Critical Access Hospitals, Inpatient Rehabilitation Hospitals, Cancer Hospitals, Inpatient Psychiatric Hospitals, Long-Term Care Hospitals, and Children's or Pediatric Hospitals ([Appendix B: Methods](#)).

The remaining records went through a series of steps to cleanse the data ([Appendix B: Methods](#)). After data cleansing and processing, 83.7% of the total records were included in the PPC analysis, which accounted for 2,466,315 records (i.e., 2,466,315 inpatient stays).



In order to enable comparisons of performance across hospitals, hospital PPC results were risk-adjusted using 3M™ All Patient Refined Diagnosis-Related Groups (APR-DRGs), a diagnosis and procedure code classification system for inpatient services, and 3M™ Severity of Illness (SOI) categories.<sup>4</sup> The APR-DRG classification system is designed to reflect the clinical complexity and severity of each case, and the SOI reflects the extent of physiologic or functional deterioration. The levels of severity are: 1 - Minor, 2 - Moderate, 3 - Major and 4 - Extreme.

For each hospital, the actual-to-expected ratio was calculated as the actual number of PPC stays divided by the risk-adjusted number of PPC stays ([Appendix B: Methods](#)).

According to the 3M™ PPC methodology, the overall PPC summary statistic is expressed as a percentage (i.e., number of occurrences per 100 events), calculated by dividing the number of PPC stays by the number of admissions at risk and multiplying by 100.

## Results Overview

Of the 2,466,315 inpatient stays included in the PPC analysis, 1,976,450 were classified as at-risk for a PPC by the 3M™ PPC Methodology. Of these, a total of 118,025 had at least one PPC, resulting in a statewide average of approximately 6.0 PPC stays per 100 at-risk admissions, or six percent.

Among the 352 hospitals included in the analysis, 240 (68.2%) had a number of PPC stays that was lower than or equal to the statewide average of 6.0 PPC stays per 100 at-risk admissions and 112 (31.8%) had a number of PPC stays that was higher than the statewide average. Seventy-five percent of hospitals had fewer than 6.4 PPC stays per 100 at-risk admissions (See [Appendix A: Table A1](#) for further details).

[Table 1](#) and [Figure A1](#) show the number and percentage of hospitals grouped by calculated Actual-to-Expected ratios. The categories used (e.g., “lower than expected”, “about as expected”, “higher than expected”) provide a qualitative description of each performance grouping, and follow the methodology of the Texas Medicaid PPC reports.<sup>5</sup> In 2014, 352 hospitals

were included in the statewide PPC analysis. Approximately 77.9% of hospitals ( $n=274$ ) performed about as expected or had fewer PPC stays than expected, whereas 22.1% of hospitals ( $n=78$ ) had more PPC stays than expected.

**Table 1: Number and Percentage of Hospitals by PPC Actual-to-Expected Ratio, Texas, 2014**

<b>Actual-to-Expected Ratio</b>	<b>Actual-to-Expected Ratio Interpretation</b>	<b>Number of Hospitals</b>	<b>% of Hospitals</b>
less than 0.75	Much lower than expected	138	39.2%
0.75-0.89	Lower than expected	58	16.5%
0.90-1.10	About as expected	78	22.2%
1.11-1.25	Higher than expected	41	11.6%
more than 1.25	Much higher than expected	37	10.5%
<b>Total Hospitals</b>		<b>352</b>	<b>100.0%</b>

Source: *Texas Hospital Inpatient Discharge Research Data File, 2014*. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. August, 2015.

Detailed PPC performance indicators for each hospital are presented in [Table A2](#). Additionally, [Table A3](#) shows PPC results for hospitals that have indicated to DSHS that they are long-term acute care facilities having an average length-of-stay of 20 days or longer. The lengths of stay for long-term acute care hospitals are considerably longer than those for other acute care hospitals.

For both [Tables A2](#) and [A3](#), hospitals with fewer than 40 at-risk stays or fewer than 5 PPC stays were masked for some statistics to protect patient confidentiality under HSC, Section [98.1046 \(c\)](#).

## 5. Conclusion

A total of 2,466,315 inpatient records from the 2014 Texas hospital inpatient discharge database were used for analyzing and reporting PPC results. Overall, 6.0% of inpatient visits in 2014 had at least one PPC.

The reader should be aware that this report is cross sectional in nature, using only calendar year 2014 data. The number of PPCs and the PPC rate will vary from hospital to hospital and year by year. The 3M™ PPC methodology utilized in this report accounts for differences in the types of diagnoses and procedures and different severity of illness subclasses when adjusting for risk. However, there may be other factors that affect PPCs that are not accounted for by the current methodology.<sup>6,7</sup>

The Department of State Health Services will continue to calculate PPCs for Texas hospitals each year to enable comparisons over time, using the same methodology. The reader is advised to be aware that attempting any comparison of the PPC results in this report with those based on data from other states or national databases may not be correct or valid due to potential differences in the way data are collected, prepared, and analyzed.

## **List of Acronyms**

<b>Acronym</b>	<b>Full Name</b>
AIDS	Acquired Immune Deficiency Syndrome
APR-DRG	All-Payer Refined - Diagnosis Related Group
CHS	Center for Health Statistics
CMS	Centers for Medicare and Medicaid Services
DSHS	Department of State Health Services
HIV	Human Immunodeficiency Virus
HSC	Health and Safety Code
POA	Diagnosis Present on Admission
PPC	Potentially Preventable Complication
RDF	Research Data File
SOI	Severity of Illness
THCIC	Texas Health Care Information Collection

## Appendix A: Tables

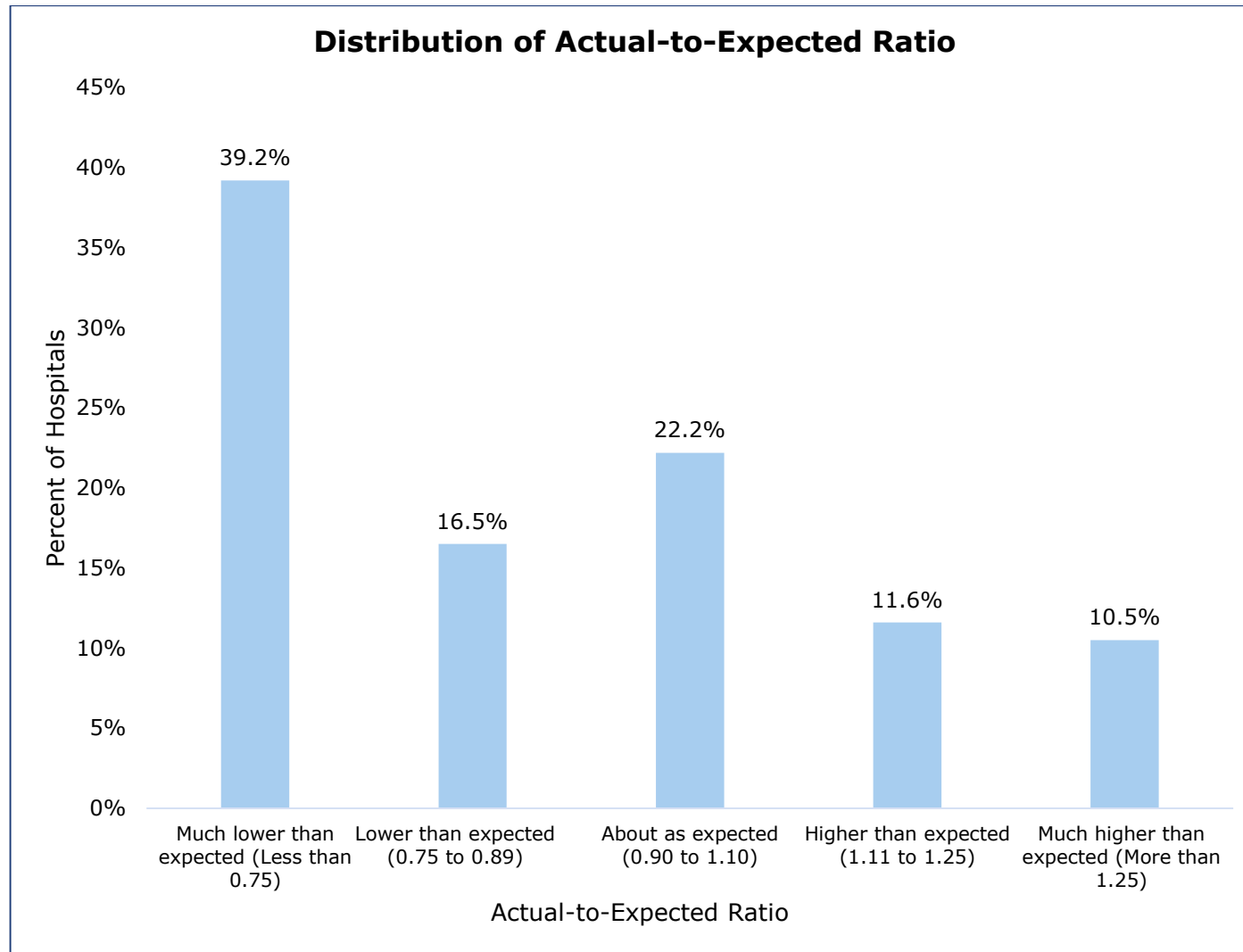
**Table A1: PPC Performance Indicators for Texas Hospitals, 2014**

<b>Total Admissions</b>	<b>Records Processed</b>	<b>Admissions at Risk</b>	<b>PPC Stays</b>	<b>PPC Stays/ 100 At-risk Admissions</b>	<b>Actual-to-Expected Ratio</b>
<b>2,947,191</b>	<b>2,466,315</b>	<b>1,976,450</b>	<b>118,025</b>	<b>6.0</b>	<b>1.00</b>

Source: *Texas Hospital Inpatient Discharge Research Data File, 2014*. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. August, 2015.

Note: Table A1 shows statewide totals and/or averages for all PPC indicators.

**Figure A1: Distribution of PPC Actual-to-Expected Ratio for Texas Hospitals, 2014**



Source: *Texas Hospital Inpatient Discharge Research Data File, 2014*. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. August, 2015.

**Table A2: Hospital Level PPC Report, Texas, 2014 – Part I**

Numbers of total stays, at-risk stays, and PPC stays were masked for low-volume [*lv*] hospitals (i.e., those with fewer than 40 at-risk stays or fewer than 5 PPC stays).

- a. Stays at risk refer to stays that do not meet any of the exclusion criteria for PPC processing.
- b. Actual-to-Expected Ratio refers to actual PPC stays / expected PPC stays. Expected PPC stays were calculated based on statewide norms. For each hospital, the number of expected PPC stays within each APR-DRG / Severity of Illness category = the statewide norm for each category times the stays at risk within that category. The Expected PPC Stays are the sum of expected numbers across all APR-DRG / Severity of Illness categories.

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk <sup>a</sup>	Actual PPC Stays	Actual-to-Expected Ratio <sup>b</sup>	Actual-to-Expected Ratio Interpretation
Anderson	Palestine, TX	Palestine Regional Medical Center	629001	5,515	4,677	195	0.76	Lower than expected
Angelina	Lufkin, TX	CHI St Lukes Health Memorial Lufkin	129000	6,559	5,718	418	1.10	About as expected
		Woodland Heights Medical Center	481000	5,841	4,601	370	1.35	Much higher than expected
Atascosa	San Antonio-New Braunfels, TX	South Texas Regional Medical Center	334002	1,657	1,328	52	0.53	Much lower than expected
Austin	Houston-The Woodlands-Sugar Land, TX	CHI St Joseph Health Bellville Hospital	552000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.09	Much lower than expected
Bastrop	Austin-Round Rock, TX	Seton Smithville Regional Hospital	424500	260	241	7	0.58	Much lower than expected
Bee	Beeville, TX	CHRISTUS Spohn Hospital-Beeville	429001	2,330	1,925	76	0.95	About as expected
Bell	Killeen-Temple, TX	Metroplex Hospital	397001	6,551	5,096	206	0.75	Lower than expected
		Scott & White Medical Center Temple	537000	20,815	17,388	1,247	1.13	Higher than expected
		Seton Medical Center Harker Heights	971000	4,014	3,003	156	0.72	Much lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk <sup>a</sup>	Actual PPC Stays	Actual- to- Expected Ratio <sup>b</sup>	Actual-to- Expected Ratio Interpretation
Bexar	San Antonio- New Braunfels, TX	Baptist Emergency Hospital Hausman	101100	/v	/v	/v	0.00	Much lower than expected
		Baptist Emergency Hospital Overlook	972810	/v	/v	/v	0.00	Much lower than expected
		Baptist Emergency Hospital Thousand Oaks	647000	/v	/v	/v	0.00	Much lower than expected
		Baptist Emergency Hospital Westover Hills	973000	/v	/v	/v	0.00	Much lower than expected
		Baptist Medical Center	114001	18,329	15,878	1,218	1.15	Higher than expected
		CHRISTUS Santa Rosa Hospital Alamo Heights	973930	/v	/v	/v	0.23	Much lower than expected
		CHRISTUS Santa Rosa Hospital-Westover Hills	339002	9,035	7,312	525	1.17	Higher than expected
		CHRISTUS Santa Rosa Medical Center	339001	4,206	3,930	186	0.59	Much lower than expected
		CHRISTUS Santa Rosa-Alamo Heights	339003	/v	/v	/v	0.18	Much lower than expected
		Foundation Surgical Hospital-San Antonio	852100	747	747	11	0.25	Much lower than expected
		Methodist Ambulatory Surgery Hospital-Northwest	681001	453	453	11	0.41	Much lower than expected
		Methodist Hospital	154000	38,096	30,228	1,783	1.10	About as expected
		Methodist Specialty & Transplant Hospital	154001	8,324	7,692	392	0.88	Lower than expected
		Methodist Stone Oak Hospital	874100	11,011	8,643	524	0.87	Lower than expected
		Methodist Texsan Hospital	154003	3,569	3,386	353	0.93	About as expected
		Metropolitan Methodist Hospital	283000	18,097	13,526	748	0.96	About as expected
		Mission Trail Baptist Hospital	081001	6,502	5,946	396	1.04	About as expected
Nix Health Care System	396002	9,096	8,719	313	1.06	About as expected		



Hospital County	Metropolitan/Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk <sup>a</sup>	Actual PPC Stays	Actual-to-Expected Ratio <sup>b</sup>	Actual-to-Expected Ratio Interpretation
		North Central Baptist Hospital	677001	17,753	13,663	648	1.06	About as expected
		Northeast Baptist Hospital	134001	13,462	11,664	760	0.99	About as expected
		Northeast Methodist Hospital	154002	7,408	6,696	428	0.98	About as expected
		South Texas Spine & Surgical Hospital	786800	975	975	11	0.15	Much lower than expected
		Southwest General Hospital	228001	9,943	7,868	358	1.02	About as expected
		St Lukes Baptist Hospital	503001	16,620	12,207	904	1.11	Higher than expected
		University Hospital	158000	24,805	19,401	1,303	0.93	About as expected
		Victory Medical Center Landmark	209100	494	494	19	0.55	Much lower than expected
		Victory Medical Center Southcross	820600	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.78	Lower than expected
Bowie	Texarkana, TX-AR	CHRISTUS St Michael Health System	788001	13,694	11,118	763	0.96	About as expected
		Wadley Regional Medical Center	144000	7,643	6,162	367	0.89	Lower than expected
Brazoria	Houston-The Woodlands-Sugar Land, TX	CHI St Lukes Health Brazosport	436000	4,980	4,213	85	0.37	Much lower than expected
		UTMB Angleton Danbury Medical Center	126000	2,147	1,616	56	0.81	Lower than expected
Brazos	College Station-Bryan, TX	Baylor Scott & White Hospital College Station	206100	4,010	3,037	190	0.84	Lower than expected
		College Station Medical Center	071000	6,225	4,696	301	1.13	Higher than expected
		Physicians Centre Hospital	717500	314	314	6	0.34	Much lower than expected
		St Joseph Regional Health Center	002001	14,982	12,741	562	0.65	Much lower than expected
Brown	Brownwood, TX	Brownwood Regional Medical Center	058000	3,925	3,146	198	1.04	About as expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk <sup>a</sup>	Actual PPC Stays	Actual- to- Expected Ratio <sup>b</sup>	Actual-to- Expected Ratio Interpretation
Cameron	Brownsville- Harlingen, TX	Harlingen Medical Center	788002	5,472	4,580	123	0.35	Much lower than expected
		Valley Baptist Medical Center	400000	18,068	14,489	721	0.91	About as expected
		Valley Baptist Medical Center-Brownsville	314001	11,710	9,310	382	1.02	About as expected
		Valley Regional Medical Center	019000	11,618	8,806	510	1.37	Much higher than expected
Cass	Not Available	Christus St Michael Hospital Atlanta	788003	629	568	23	0.78	Lower than expected
Cherokee	Jacksonville, TX	East Texas Medical Center- Jacksonville	416000	2,138	1,660	55	0.86	Lower than expected
Childress	Not Available	Childress Regional Medical Center	026000	922	684	38	0.86	Lower than expected
Collin	Dallas-Fort Worth- Arlington, TX	Baylor Scott & White Medical Center Centennial	806300	4,328	3,471	284	1.52	Much higher than expected
		Baylor Scott & White Medical Center McKinney	971900	7,549	5,539	287	0.93	About as expected
		Baylor Scott & White Medical Center-Frisco	787400	6,966	4,528	165	0.53	Much lower than expected
		Baylor Scott & White Medical Center-Plano	814001	5,658	5,141	340	0.85	Lower than expected
		Bush Renner	549001	5,575	4,169	240	0.97	About as expected
		Columbia Medical Center- McKinney	246000	9,448	8,063	434	1.11	Higher than expected
		Forest Park Medical Center Frisco	971800	596	596	26	0.66	Much lower than expected
		Heart Hospital Baylor Plano	844000	3,996	3,946	936	0.93	About as expected
		Medical Center-Plano	214000	16,894	13,501	867	1.12	Higher than expected
		Methodist McKinney Hospital	937000	626	622	22	0.46	Much lower than expected
		Star Medical Center	973390	136	136	7	0.58	Much lower than expected

Hospital County	Metropolitan/Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk <sup>a</sup>	Actual PPC Stays	Actual-to-Expected Ratio <sup>b</sup>	Actual-to-Expected Ratio Interpretation
		Texas Health Center-Diagnostics & Surgery Plano	815300	580	580	18	0.23	Much lower than expected
		Texas Health Presbyterian Hospital Allen	724200	3,338	2,669	124	0.79	Lower than expected
		Texas Health Presbyterian Hospital-Plano	664000	16,864	12,683	694	0.84	Lower than expected
		Victory Medical Center Craig Ranch	856400	155	154	7	0.97	About as expected
		Victory Medical Center Plano	972910	442	442	10	0.35	Much lower than expected
Comal	San Antonio-New Braunfels, TX	Baptist Emergency Hospital Schertz	973120	lv	lv	lv	0.00	Much lower than expected
		CHRISTUS Santa Rosa Hospital New Braunfels	863300	4,764	3,893	159	0.56	Much lower than expected
		Resolute Health	973850	551	415	15	0.39	Much lower than expected
Coryell	Killeen-Temple, TX	Coryell Memorial Hospital	346000	444	426	121	6.44	Much higher than expected
Dallas	Dallas-Fort Worth-Arlington, TX	Baylor Heart & Vascular Center	784400	1,943	1,922	187	0.97	About as expected
		Baylor Medical Center at Uptown	008001	1,126	1,126	20	0.22	Much lower than expected
		Baylor Scott & White Medical Center Sunnyvale	919000	4,989	3,798	147	0.71	Much lower than expected
		Baylor Scott & White Medical Center White Rock	511000	6,857	5,747	275	0.98	About as expected
		Baylor Scott & White Medical Center-Garland	027000	7,593	6,845	492	1.03	About as expected
		Baylor Scott & White Medical Center-Irving	300000	11,714	9,002	632	1.19	Higher than expected
		Baylor Surgical Hospital at Las Colinas	799500	646	646	10	0.18	Much lower than expected
		Baylor University Medical Center	331000	34,539	26,261	2,121	1.10	About as expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk <sup>a</sup>	Actual PPC Stays	Actual-to-Expected Ratio <sup>b</sup>	Actual-to-Expected Ratio Interpretation
		Crescent Medical Center Lancaster	973180	lv	lv	lv	0.28	Much lower than expected
		Dallas Medical Center	449000	4,013	3,299	119	0.33	Much lower than expected
		Dallas Regional Medical Center	315003	2,471	2,247	53	0.40	Much lower than expected
		Forest Park Medical Center	900000	2,035	2,031	116	0.71	Much lower than expected
		Las Colinas Medical Center	814000	5,697	4,112	222	0.94	About as expected
		Medical City Dallas Hospital	340000	26,082	20,960	1,141	1.04	About as expected
		Methodist Charlton Medical Center	142000	13,874	11,012	708	1.18	Higher than expected
		Methodist Dallas Medical Center	255000	17,049	12,678	694	0.77	Lower than expected
		Methodist Hospital for Surgery	750000	2,228	2,227	167	0.82	Lower than expected
		Methodist Richardson Medical Center	549000	1,958	1,647	52	0.75	Much lower than expected
		North Central Surgical Center	860600	1,220	1,220	27	0.26	Much lower than expected
		Parkland Memorial Hospital	474000	39,721	28,460	2,267	1.15	Higher than expected
		Pine Creek Medical Center	818200	1,149	1,149	21	0.38	Much lower than expected
		Texas Health Presbyterian Hospital Dallas	431000	27,676	21,276	1,690	1.22	Higher than expected
		Texas Institute for Surgery-Texas Health Presbyterian-Dallas	813100	364	364	15	0.38	Much lower than expected
		UT Southwestern University Hospital-St Paul	448001	16,056	11,962	1,004	1.21	Higher than expected
		UT Southwestern University Hospital-Zale Lipshy	653001	5,338	4,953	427	1.07	About as expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk <sup>a</sup>	Actual PPC Stays	Actual- to- Expected Ratio <sup>b</sup>	Actual-to- Expected Ratio Interpretation
		University General Hospital Dallas	908000	790	753	18	0.46	Much lower than expected
		Walnut Hill Medical Center	973750	771	740	41	0.73	Much lower than expected
Denton	Dallas-Fort Worth-Arlington, TX	Baylor Emergency Medical Center at Aubrey	873200	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		Baylor Medical Center Trophy Club	805100	531	528	22	0.70	Much lower than expected
		Baylor Scott & White Medical Center Carrollton	042000	6,744	5,094	336	1.28	Much higher than expected
		Denton Regional Medical Center	336001	9,133	7,624	520	1.08	About as expected
		Medical Center-Lewisville	394000	7,501	5,920	412	1.44	Much higher than expected
		Texas Health Presbyterian Hospital Flower Mound	943000	5,522	4,156	195	0.93	About as expected
		Texas Health Presbyterian Hospital-Denton	820800	9,737	7,479	351	0.88	Lower than expected
		The Heart Hospital Baylor Denton	208100	266	266	36	0.40	Much lower than expected
Ector	Odessa, TX	Basin Healthcare Center	938000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.67	Much lower than expected
		Medical Center Hospital	181000	14,419	11,741	586	0.88	Lower than expected
		Odessa Regional Medical Center	425000	8,016	5,604	342	1.45	Much higher than expected
El Paso	El Paso, TX	Del Sol Medical Center	319000	17,815	14,131	802	1.11	Higher than expected
		El Paso Specialty Hospital	728200	607	607	9	0.25	Much lower than expected
		Foundation Surgical Hospital of El Paso	801300	686	682	21	0.36	Much lower than expected
		Las Palmas Medical Center	180000	10,661	8,512	488	1.11	Higher than expected

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		The Hospitals of Providence East Campus	865000	10,588	8,185	378	0.98	About as expected
		The Hospitals of Providence Memorial Campus	130000	19,206	14,930	550	1.03	About as expected
		The Hospitals of Providence Sierra Campus	266000	11,515	9,480	550	1.01	About as expected
		University Medical Center of El Paso	263000	18,879	13,968	827	1.13	Higher than expected
Ellis	Dallas-Fort Worth-Arlington, TX	Baylor Scott & White Medical Center Waxahachie	285000	3,007	2,800	101	0.58	Much lower than expected
		Ennis Regional Medical Center	714500	2,313	1,599	49	0.29	Much lower than expected
Erath	Stephenville, TX	Texas Health Harris Methodist Hospital-Stephenville	256000	2,172	1,645	81	0.78	Lower than expected
Fayette	Not Available	St Marks Medical Center	823400	1,635	1,283	48	0.36	Much lower than expected
Fort Bend	Houston-The Woodlands-Sugar Land, TX	Houston Methodist Sugar Land Hospital	823000	16,787	13,020	760	0.89	Lower than expected
		Memorial Hermann Katy Hospital	534001	11,602	8,815	404	0.72	Much lower than expected
		Memorial Hermann Sugar Land	609001	6,474	4,946	267	0.98	About as expected
		Memorial Hermann Surgical Hospital First Colony	790500	336	336	10	0.41	Much lower than expected
		Oakbend Medical Center	230000	2,155	1,939	95	1.07	About as expected
		Oakbend Medical Center (Southwest Freeway)	230001	3,425	2,219	103	1.21	Higher than expected
		St Lukes Sugar Land Hospital	869700	2,684	2,372	163	1.19	Higher than expected
Franklin	Not Available	East Texas Medical Center-Mount Vernon	282000	462	442	12	0.85	Lower than expected
Freestone	Not Available	East Texas Medical Center-Fairfield	401000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.18	Much lower than expected

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Frio	Not Available	Nix Community General Hospital	973150	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.58	Much lower than expected
Galveston	Houston-The Woodlands-Sugar Land, TX	Mainland Medical Center	793000	7,235	6,427	403	1.09	About as expected
		UT Medical Branch Hospital	000102	26,427	20,033	1,249	1.18	Higher than expected
Gillespie	Fredericksburg, TX	Hill Country Memorial Hospital	219000	3,227	2,652	158	0.73	Much lower than expected
Gray	Pampa, TX	Pampa Regional Medical Center	832900	1,832	1,580	31	0.39	Much lower than expected
Grayson	Sherman-Denison, TX	Heritage Park Surgical Hospital	100076	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.22	Much lower than expected
		Texoma Medical Center	847000	12,137	10,207	824	1.34	Much higher than expected
		Wilson N Jones Regional Medical Center	297000	4,185	3,558	303	1.28	Much higher than expected
Gregg	Longview, TX	Allegiance Specialty Hospital-Kilgore	031001	292	291	7	0.81	Lower than expected
		CHRISTUS Good Shepherd Medical Center-Longview	029000	16,672	13,436	776	0.92	About as expected
		Longview Regional Medical Center	525000	9,092	7,073	449	1.06	About as expected
Guadalupe	San Antonio-New Braunfels, TX	Guadalupe Regional Medical Center	155000	4,465	3,472	167	0.75	Lower than expected
Hale	Plainview, TX	Covenant Hospital-Plainview	146000	2,258	1,764	67	0.57	Much lower than expected
Harris	Houston-The Woodlands-Sugar Land, TX	Altus Baytown Hospital	973860	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.08	Much lower than expected
		Bay Area Regional Medical Center	973960	908	852	47	1.07	About as expected
		Bayshore Medical Center	349001	14,441	11,459	657	1.24	Higher than expected

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		CHI St Lukes Health Baylor College of Medicine Medical Center	118000	24,151	21,860	2,391	1.25	Much higher than expected
		Clear Lake Regional Medical Center	212000	23,245	18,691	1,111	1.24	Higher than expected
		Cypress Fairbanks Medical Center	606000	10,958	7,817	368	0.93	About as expected
		East Houston Regional Medical Center	458001	8,656	6,700	305	1.10	About as expected
		First Nobilis Hospital	974450	135	135	5	0.31	Much lower than expected
		First Surgical Hospital	840100	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.05	Much lower than expected
		Harris Health System Ben Taub Hospital	459000	26,730	20,203	1,400	1.05	About as expected
		Harris Health System Lyndon B Johnson Hospital	384000	15,199	11,132	627	0.86	Lower than expected
		Houston Hospital for Specialized Surgery	758000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.59	Much lower than expected
		Houston Methodist Hospital	124000	35,536	29,571	2,993	1.17	Higher than expected
		Houston Methodist San Jacinto Hospital	405000	13,127	10,836	869	1.54	Much higher than expected
		Houston Methodist St John Hospital	973640	6,022	5,074	307	1.20	Higher than expected
		Houston Methodist West Hospital	800010	12,292	9,122	495	0.78	Lower than expected
		Houston Methodist Willowbrook Hospital	724700	17,719	13,710	833	1.12	Higher than expected
		Houston Northwest Medical Center	229000	19,785	14,745	795	1.17	Higher than expected
		Houston Orthopedic & Spine Hospital	831900	2,055	2,053	45	0.33	Much lower than expected



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		Houston Physicians Hospital	822001	551	551	6	0.14	Much lower than expected
		Memorial Hermann Greater Heights Hospital	172000	13,809	10,562	556	0.94	About as expected
		Memorial Hermann Hospital	347000	40,040	32,079	2,126	1.08	About as expected
		Memorial Hermann Memorial City Medical Center	302000	24,023	19,092	956	0.75	Lower than expected
		Memorial Hermann Northeast	847100	12,727	10,524	568	0.91	About as expected
		Memorial Hermann Southeast Hospital	119000	16,531	14,206	776	1.02	About as expected
		Memorial Hermann Southwest Hospital	407000	21,345	16,506	884	0.85	Lower than expected
		Memorial Hermann Specialty Hospital Kingwood	813800	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.22	Much lower than expected
		North Cypress Medical Center	843200	8,996	8,285	568	1.32	Much higher than expected
		Park Plaza Hospital	390000	3,596	3,228	175	0.91	About as expected
		Riverside General Hospital	460000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		Spring Central Hospital	973330	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		St Anthonys Hospital	909000	<i>lv</i>	<i>lv</i>	<i>lv</i>	1.71	Much higher than expected
		St Joseph Medical Center	838600	18,434	13,126	615	1.16	Higher than expected
		St Joseph Medical Center-Heights	973100	899	823	47	0.93	About as expected
		St Lukes Hospital at the Vintage	740000	3,392	2,805	175	1.02	About as expected
		St Lukes Patients Medical Center	846100	3,422	3,256	198	1.27	Much higher than expected

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		Surgery Specialty Hospitals of America-Southeast Houston	694100	135	135	7	0.82	Lower than expected
		TOPS Surgical Specialty Hospital	674000	768	768	19	0.36	Much lower than expected
		Texas Orthopedic Hospital	792000	3,436	3,436	87	0.28	Much lower than expected
		Tomball Regional Medical Center	076000	9,682	8,278	517	1.23	Higher than expected
		United Memorial Medical Center	030000	904	871	21	0.43	Much lower than expected
		University General Hospital	840200	2,723	2,596	92	0.49	Much lower than expected
		Victory Medical Center Houston	945500	494	494	15	0.75	Much lower than expected
		Victory Surgical Hospital East Houston	972970	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		West Houston Medical Center	337001	14,243	10,964	778	1.32	Much higher than expected
		Westbury Community Hospital	956000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		Westside Surgical Hospital	101300	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		Womans Hospital-Texas	007000	22,540	13,151	629	0.87	Lower than expected
Harrison	Marshall, TX	CHRISTUS Good Shepherd Medical Center-Marshall	020000	4,222	3,513	121	0.59	Much lower than expected
Hays	Austin-Round Rock, TX	Central Texas Medical Center	556000	4,811	3,673	197	0.90	About as expected
		Seton Medical Center Hays	921000	6,933	5,669	370	1.23	Higher than expected
Henderson	Athens, TX	East Texas Medical Center-Athens	374000	6,256	5,116	167	0.75	Much lower than expected

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Hidalgo	McAllen-Edinburg-Mission, TX	Cornerstone Regional Hospital	830000	618	618	15	0.37	Much lower than expected
		Doctors Hospital-Renaissance	797100	39,274	29,121	1,510	1.19	Higher than expected
		Edinburg Regional Medical Center	140002	6,096	5,413	107	0.66	Much lower than expected
		Knapp Medical Center	480000	10,450	8,017	110	0.28	Much lower than expected
		McAllen Medical Center	802001	18,804	16,378	481	0.67	Much lower than expected
		Mission Regional Medical Center	370000	10,794	8,108	399	1.17	Higher than expected
		Rio Grande Regional Hospital	601000	14,979	12,075	601	1.17	Higher than expected
Hill	Not Available	Hill Regional Hospital	383000	1,394	1,107	53	0.83	Lower than expected
Hockley	Levelland, TX	Covenant Hospital-Levelland	307000	928	714	28	0.77	Lower than expected
Hood	Dallas-Fort Worth-Arlington, TX	Lake Granbury Medical Center	424000	3,095	2,517	131	0.78	Lower than expected
Houston	Not Available	East Texas Medical Center-Crockett	185000	1,050	831	18	0.23	Much lower than expected
Howard	Big Spring, TX	Scenic Mountain Medical Center	221000	2,331	1,977	50	0.51	Much lower than expected
Hunt	Dallas-Fort Worth-Arlington, TX	Hunt Regional Medical Center Greenville	085000	6,026	4,904	273	0.85	Lower than expected
Jasper	Not Available	CHRISTUS Southeast Texas - Jasper Memorial	038001	1,543	1,224	32	0.38	Much lower than expected
Jefferson	Beaumont-Port Arthur, TX	Baptist Hospitals of Southeast Texas	389000	15,879	13,812	263	0.38	Much lower than expected
		CHRISTUS Southeast Texas - St Elizabeth	444001	15,696	12,931	617	0.89	Lower than expected

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		CHRISTUS Southeast Texas -St Mary	299001	3,141	2,654	104	0.81	Lower than expected
		Medical Center-Southeast Texas	464002	8,739	7,261	72	0.14	Much lower than expected
		Victory Medical Center Beaumont	973170	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.10	Much lower than expected
Jim Wells	Alice, TX	CHRISTUS Spohn Hospital Alice	689401	3,261	2,727	124	0.54	Much lower than expected
Johnson	Dallas-Fort Worth-Arlington, TX	Texas Health Harris Methodist Hospital Cleburne	323000	4,192	3,364	146	0.89	Lower than expected
Kaufman	Dallas-Fort Worth-Arlington, TX	Texas Health Presbyterian Hospital-Kaufman	303000	1,998	1,709	51	0.51	Much lower than expected
Kerr	Kerrville, TX	Peterson Regional Medical Center	406000	4,542	3,800	274	1.29	Much higher than expected
Kleberg	Kingsville, TX	CHRISTUS Spohn Hospital-Kleberg	216001	3,168	2,788	82	0.85	Lower than expected
Lamar	Paris, TX	Paris Regional Medical Center South Campus	095002	6,727	5,508	304	0.76	Lower than expected
Liberty	Houston-The Woodlands-Sugar Land, TX	Cleveland Regional Medical Center	108000	<i>lv</i>	<i>lv</i>	<i>lv</i>	1.06	About as expected
Limestone	Not Available	Parkview Regional Hospital	505000	711	691	14	0.44	Much lower than expected
Llano	Not Available	Baylor Scott & White Medical Center Llano	476000	916	680	29	0.34	Much lower than expected
Lubbock	Lubbock, TX	Covenant Medical Center	465000	15,515	14,169	1,071	0.83	Lower than expected
		Covenant Medical Center-Lakeside	109000	6,541	3,941	171	0.66	Much lower than expected
		Grace Medical Center	013001	912	902	43	0.81	Lower than expected

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		Lubbock Heart Hospital	801500	2,516	2,480	177	0.70	Much lower than expected
		TrustPoint Hospital	865800	1,299	1,263	192	1.76	Much higher than expected
		University Medical Center	145000	18,824	14,764	976	1.12	Higher than expected
Matagorda	Bay City, TX	Matagorda Regional Medical Center	006000	2,446	1,833	151	1.35	Much higher than expected
Maverick	Eagle Pass, TX	Fort Duncan Regional Medical Center	547001	5,714	4,193	119	0.49	Much lower than expected
McLennan	Waco, TX	Baylor Scott & White Medical Center Hillcrest	506000	13,239	10,211	759	1.08	About as expected
		Providence Health Center	040000	15,820	13,279	864	1.05	About as expected
Midland	Midland, TX	Midland Memorial Hospital	452000	14,036	10,771	653	1.21	Higher than expected
Milam	Not Available	Little River Healthcare - Cameron Hospital	973740	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.58	Much lower than expected
Montague	Not Available	Nocona General Hospital	348000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
Montgomery	Houston-The Woodlands-Sugar Land, TX	Apollo Hospital	973440	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		Conroe Regional Medical Center	508001	14,354	12,511	899	1.17	Higher than expected
		Kingwood Medical Center	675000	17,593	14,139	871	1.16	Higher than expected
		Memorial Hermann The Woodlands Hospital	615000	18,883	14,010	654	0.82	Lower than expected
		St Lukes Lakeside Hospital	923000	782	779	29	0.50	Much lower than expected
		St Lukes The Woodlands Hospital	793100	12,661	9,840	657	1.09	About as expected
Nacogdoches	Nacogdoches, TX	Nacogdoches Medical Center	392000	4,314	3,542	152	0.83	Lower than expected

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		Nacogdoches Memorial Hospital	478000	4,731	3,751	235	1.45	Much higher than expected
Navarro	Corsicana, TX	Navarro Regional Hospital	141000	3,236	2,523	44	0.24	Much lower than expected
Nueces	Corpus Christi, TX	CHRISTUS Spohn Hospital Corpus Christi	398000	7,335	6,827	397	1.52	Much higher than expected
		CHRISTUS Spohn Hospital Corpus Christi-Shoreline	398001	16,081	14,370	1,320	1.16	Higher than expected
		CHRISTUS Spohn Hospital Corpus Christi-South	398002	9,531	6,821	337	1.07	About as expected
		Corpus Christi Medical Center-Bay Area	703000	10,793	6,868	285	0.66	Much lower than expected
		Corpus Christi Medical Center-Doctors Regional	703002	5,570	5,275	458	0.95	About as expected
		Corpus Christi Medical Center-Heart Hospital	703003	1,712	1,577	140	0.94	About as expected
		Corpus Christi Medical Center-Northwest	704004	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.38	Much lower than expected
		South Texas Surgical Hospital	931000	1,118	1,117	43	0.48	Much lower than expected
Orange	Beaumont-Port Arthur, TX	Baptist Orange Hospital	121000	959	923	19	0.46	Much lower than expected
Palo Pinto	Mineral Wells, TX	Palo Pinto General Hospital	034000	2,148	1,808	72	1.07	About as expected
Panola	Not Available	East Texas Medical Center-Carthage	484000	830	799	15	0.47	Much lower than expected
Parker	Dallas-Fort Worth-Arlington, TX	Weatherford Regional Medical Center	844800	3,842	3,300	98	0.47	Much lower than expected
Polk	Not Available	CHI St Lukes Health - Memorial Livingston	466000	2,538	2,067	103	1.01	About as expected
Potter	Amarillo, TX	Baptist St Anthonys Hospital	001000	21,121	17,685	1,212	1.03	About as expected
		Northwest Texas Hospital	318000	20,069	16,789	789	0.91	About as expected

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		Physicians Surgical Hospital-Panhandle Campus	852901	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.03	Much lower than expected
		Physicians Surgical Hospital-Quail Creek	852900	993	993	10	0.16	Much lower than expected
Randall	Amarillo, TX	Northwest Texas Surgery Center	714000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
Red River	Not Available	East Texas Medical Center- Clarksville	292000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.08	Much lower than expected
Rockwall	Dallas-Fort Worth- Arlington, TX	Baylor Scott & White Medical Center Lake Pointe	625000	7,294	5,799	179	0.53	Much lower than expected
		Texas Health Presbyterian Hospital-Rockwall	859900	4,792	3,778	164	0.79	Lower than expected
Rusk	Longview, TX	East Texas Medical Center Henderson	248000	1,631	1,368	80	1.02	About as expected
San Patricio	Corpus Christi, TX	Care Regional Medical Center	239001	1,040	972	49	1.09	About as expected
Smith	Tyler, TX	Christus Mother Frances Hospital Tyler	286000	25,094	21,037	1,342	0.79	Lower than expected
		East Texas Medical Center	410000	20,346	17,976	1,434	1.08	About as expected
		Texas Spine & Joint Hospital	790200	1,954	1,953	67	0.44	Much lower than expected
		UT Health Center-Tyler	000112	1,589	1,426	56	0.74	Much lower than expected
Starr	Rio Grande City, TX	Starr County Memorial Hospital	393000	1,536	1,223	33	0.03	Much lower than expected
Tarrant	Dallas-Fort Worth- Arlington, TX	Baylor Orthopedic and Spine Hospital - Arlington	936000	1,199	1,199	22	0.29	Much lower than expected
		Baylor Scott & White All Saints Medical Center-Fort Worth	363000	21,252	14,926	884	0.99	About as expected
		Baylor Scott & White Medical Center-Grapevine	513000	12,985	9,763	584	0.97	About as expected
		Baylor Surgical Hospital- Fort Worth	804500	936	936	16	0.25	Much lower than expected

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		Forest Park Medical Center Southlake	973140	545	543	34	0.83	Lower than expected
		John Peter Smith Hospital	409000	17,430	13,985	681	0.71	Much lower than expected
		Medical Center-Arlington	502000	17,727	13,132	679	1.30	Much higher than expected
		Methodist Mansfield Medical Center	842800	11,024	8,674	542	1.26	Much higher than expected
		North Hills Hospital	437000	6,328	5,537	369	0.95	About as expected
		Parkway Surgical and Cardiovascular Hospital	973840	108	108	6	0.72	Much lower than expected
		Plaza Medical Center-Fort Worth	477000	8,084	7,597	690	1.18	Higher than expected
		Texas General Hospital	115100	323	305	8	0.48	Much lower than expected
		Texas Health Arlington Memorial Hospital	422000	12,703	10,107	604	1.07	About as expected
		Texas Health Harris Methodist HEB	182000	11,869	9,343	564	0.93	About as expected
		Texas Health Harris Methodist Hospital Alliance	972900	4,665	3,458	137	0.81	Lower than expected
		Texas Health Harris Methodist Hospital Azle	469000	1,091	1,036	29	0.44	Much lower than expected
		Texas Health Harris Methodist Hospital Southlake	812800	867	867	20	0.24	Much lower than expected
		Texas Health Harris Methodist Hospital-Fort Worth	235000	31,587	26,228	1,890	1.01	About as expected
		Texas Health Harris Methodist Hospital-Southwest Fort Worth	627000	14,762	11,386	513	0.61	Much lower than expected
		Texas Health Heart & Vascular Hospital	730001	1,141	1,121	151	0.90	About as expected



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		Texas Health Huguley Hospital	047000	9,076	7,496	570	1.17	Higher than expected
		USMD Hospital Fort Worth	861400	384	384	10	0.33	Much lower than expected
		USMD Hospital-Arlington	799001	1,711	1,680	76	0.74	Much lower than expected
		Victory Medical Center Mid-Cities	972990	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.13	Much lower than expected
Taylor	Abilene, TX	Abilene Regional Medical Center	091001	7,005	5,515	304	0.84	Lower than expected
		Hendrick Medical Center	500000	16,557	13,648	801	0.77	Lower than expected
Tom Green	San Angelo, TX	San Angelo Community Medical Center	056000	5,293	4,280	167	0.91	About as expected
		Shannon West Texas Memorial Hospital	168000	12,113	10,253	752	1.00	About as expected
Travis	Austin-Round Rock, TX	Arise Austin Medical Center	973290	815	815	29	0.54	Much lower than expected
		Heart Hospital-Austin	829000	2,806	2,739	455	0.81	Lower than expected
		Lakeway Regional Medical Center	970200	2,229	1,859	139	1.21	Higher than expected
		North Austin Medical Center	829900	22,080	15,700	802	0.83	Lower than expected
		Northwest Hills Surgical Hospital	794000	397	397	5	0.17	Much lower than expected
		Seton Medical Center	497000	23,771	18,697	1,485	1.03	About as expected
		Seton Northwest Hospital	797600	6,626	5,055	279	1.05	About as expected
		Seton Southwest Hospital	797500	1,719	999	52	0.77	Lower than expected
		St Davids Hospital	035000	19,175	14,778	779	0.79	Lower than expected
		St Davids South Austin Hospital	602000	14,786	12,145	664	0.82	Lower than expected

Hospital County	Metropolitan/Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk <sup>a</sup>	Actual PPC Stays	Actual-to-Expected Ratio <sup>b</sup>	Actual-to-Expected Ratio Interpretation
		University Medical Center-Brackenridge	335000	13,326	10,740	644	1.22	Higher than expected
		Westlake Medical Center	822800	981	972	22	0.31	Much lower than expected
Trinity	Huntsville, TX	East Texas Medical Center-Trinity	287000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.21	Much lower than expected
Upshur	Longview, TX	East Texas Medical Center-Gilmer	806800	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.07	Much lower than expected
Uvalde	Uvalde, TX	Uvalde Memorial Hospital	063000	2,046	1,557	41	0.67	Much lower than expected
Val Verde	Del Rio, TX	Val Verde Regional Medical Center	462000	3,303	2,308	39	0.30	Much lower than expected
Victoria	Victoria, TX	Citizens Medical Center	064000	8,190	6,897	326	0.85	Lower than expected
		DeTar Hospital-Navarro	453000	9,059	7,355	331	0.79	Lower than expected
Walker	Huntsville, TX	Huntsville Memorial Hospital	061000	4,740	4,023	407	2.44	Much higher than expected
Webb	Laredo, TX	Doctors Hospital-Laredo	301000	10,287	7,308	123	0.56	Much lower than expected
		Laredo Medical Center	207001	16,270	12,397	498	0.94	About as expected
Wharton	El Campo, TX	El Campo Memorial Hospital	426000	333	321	5	0.21	Much lower than expected
		Gulf Coast Medical Center	833000	1,010	955	31	0.88	Lower than expected
Wichita	Wichita Falls, TX	Kell West Regional Hospital	681400	857	803	24	0.56	Much lower than expected
		United Regional Health Care System	417000	16,364	13,291	514	0.62	Much lower than expected
Williamson	Austin-Round Rock, TX	Baylor Scott & White Medical Center Round Rock	852600	4,272	3,604	273	0.97	About as expected
		Cedar Park Regional Medical Center	858300	4,429	3,303	120	0.87	Lower than expected

Hospital County	Metropolitan/Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk <sup>a</sup>	Actual PPC Stays	Actual-to-Expected Ratio <sup>b</sup>	Actual-to-Expected Ratio Interpretation
		Round Rock Medical Center	608000	9,304	6,832	366	0.62	Much lower than expected
		Seton Medical Center Williamson	861700	6,830	5,803	445	1.23	Higher than expected
		St Davids Georgetown Hospital	835700	5,167	3,782	172	0.67	Much lower than expected
Wilson	San Antonio-New Braunfels, TX	Connally Memorial Medical Center	433000	812	758	31	0.62	Much lower than expected
Wise	Dallas-Fort Worth-Arlington, TX	Wise Health System	254000	133	124	15	0.77	Lower than expected
		Wise Health System (Medical Center Drive)	254001	4,368	3,677	239	1.00	About as expected

Source: *Texas Hospital Inpatient Discharge Research Data File, 2014*. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. August, 2015.

**Table A3: Hospital Level PPC Report, Texas, 2014 – Part II**

The following hospitals had an average length-of-stay of over 20 days in 2014.

Hospital County	Metropolitan/Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk <sup>a</sup>	Actual PPC Stays	Actual-to-Expected Ratio <sup>b</sup>	Actual-to-Expected Ratio Interpretation
Angelina	Lufkin, TX	CHI St Lukes Health Memorial Specialty Hospital	691000	244	221	158	12.60	Much higher than expected
Bexar	San Antonio-New Braunfels, TX	Kindred Hospital-San Antonio	645000	443	398	101	1.57	Much higher than expected
		Select Specialty Hospital-San Antonio	719300	404	368	132	2.39	Much higher than expected
Bowie	Texarkana, TX-AR	Dubuis Hospital-Texarkana	822000	191	169	31	1.02	About as expected
Caldwell	Austin-Round Rock, TX	PAM Specialty Hospital of Luling	848200	298	280	234	27.90	Much higher than expected
Dallas	Dallas-Fort Worth-Arlington, TX	Baylor Specialty Hospital	586000	206	172	56	3.28	Much higher than expected
Harris	Houston-The Woodlands-Sugar Land, TX	Houston Methodist St Catherine Hospital	973620	71	57	17	2.32	Much higher than expected
		Kindred Hospital East Houston	720400	141	131	35	2.28	Much higher than expected
		Kindred Hospital Houston NW	706000	595	498	135	2.94	Much higher than expected
		Kindred Hospital-Houston Medical Center	676000	929	617	282	4.13	Much higher than expected
		Plaza Specialty Hospital	763000	299	228	66	4.38	Much higher than expected
Hidalgo	McAllen-Edinburg-Mission, TX	Solara Hospital McAllen	816300	437	375	145	3.50	Much higher than expected
Lubbock	Lubbock, TX	Covenant Specialty Hospital	846200	423	309	95	1.80	Much higher than expected

<b>Hospital County</b>	<b>Metropolitan/Micropolitan Statistical Area (MSA)</b>	<b>Hospital Name</b>	<b>THCIC ID</b>	<b>Total Stays</b>	<b>Stays At Risk<sup>a</sup></b>	<b>Actual PPC Stays</b>	<b>Actual-to-Expected Ratio<sup>b</sup></b>	<b>Actual-to-Expected Ratio Interpretation</b>
Montgomery	Houston-The Woodlands-Sugar Land, TX	Nexus Specialty Hospital	795001	98	77	10	1.14	Higher than expected
Smith	Tyler, TX	East Texas Medical Center Specialty Hospital	777000	351	334	233	10.60	Much higher than expected
Tarrant	Dallas-Fort Worth-Arlington, TX	Kindred Hospital-Tarrant County	690000	508	442	179	4.19	Much higher than expected

Source: *Texas Hospital Inpatient Discharge Research Data File, 2014*. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. August, 2015.

## Appendix B: Methods

### B.1 Data

The total number of records from the 2014 Texas Hospital Inpatient Discharge Research Data File was 2,947,191. The data were subjected to several validation steps. After these steps, the dataset consisted of 2,466,315 records that were subjected to PPC processing. Table B1 shows the number of records excluded at each step. These numbers were affected by the sequence of data cleansing steps.

**Table B1: Summary of Data Excluded from PPC Processing**

	Count	% of Total
<b>Total records for year 2014</b>	2,947,191	100.0%
Records from hospitals that are exempt from POA reporting	333,338	11.3%
Records with invalid or unreliable patient information and non-inpatient stays	147,324	5.0%
Records from hospitals with fewer than 30 total admissions	214	< 0.1%
<b>Total records subjected to 3M™ PPC processing</b>	<b>2,466,315</b>	<b>83.7%</b>

Source: *Texas Hospital Inpatient Discharge Research Data File, 2014*. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. August, 2015.

1. Records from hospitals that are not required to report diagnosis present-on-admission (POA) indicators are excluded from this analysis. A total of 333,338 records were excluded because they were from hospitals that are exempt from reporting diagnosis present on admission. THCIC followed rules and guidelines provided by the United States Department of Health and Human Services, Centers for Medicare and Medicaid Services (CMS), which require exemption of six facility types.

### Exempt Hospital Types:

- Critical Access Hospitals
  - Inpatient Rehabilitation Hospitals
  - Inpatient Psychiatric Hospitals
  - Cancer Hospitals
  - Children's or Pediatric Hospitals
  - Long Term Care Hospitals.
2. A total of 147,324 records were excluded because the type-of-bill code indicated a non-inpatient visit record, or because missing information prevented processing by the 3M™ software. For instance: records with invalid or unreliable patient age, discharge status, and length of stay. In addition, records in this category were excluded if they were ungroupable by All Patient Refined Diagnosis-Related Group (APR-DRG). For example: data with principal diagnosis or principal procedure codes that are missing or invalid, and data with admission or discharge dates that are missing or invalid.
3. Finally, 214 records from hospitals with fewer than 30 total admits for 2014 were excluded from the analysis because the 3M™ logic is not deemed reliable or accurate when the hospital claims volume is low.

## **B.2 POA Quality Assessment**

Quality assessment of POA indicator reporting was performed prior to PPC processing. The POA indicator differentiates diagnoses, symptoms, or conditions that are present at the time of admission from those conditions that develop during the inpatient admission, either due to natural disease progression or due to potentially faulty equipment or inadequate clinical care or procedures.

Logic developed by 3M™ was used to assess the reporting and validity of the POA indicator in the hospital discharge data. This logic measures the percentage of secondary diagnoses at each hospital coded as present on admission, not present on admission, or uncertain (high numbers would suggest inconsistent coding).

The POA quality assessment also measures the percent of diagnosis codes known to be pre-existing not coded as present on admission, and the percent of secondary diagnoses on elective surgery discharges coded as present on admission.

Taken together these measures provide an indication of whether the hospital is coding the present on admission variable appropriately. Of the 352 hospitals included in the 2014 PPC report, 272 (77.3%) met or exceeded the 3M™ POA quality criteria, whereas 80 hospitals (22.7%) did not meet the 3M™ quality criteria. If a hospital does not pass the assessment, the data from that hospital will not be included in calculating state benchmark (norm) for each APR-DRG and Severity of Illness level.

## **B.3 PPC Methodology**

PPC processing and assignment was conducted through 3M™ Core Grouping Software PPC Version 32. The 3M™ software first identifies and excludes records based on global exclusions (such as organ transplants, HIV-AIDS, major or metastatic cancers) and specific clinical exclusions related to each PPC.

The remaining records were analyzed based on patient age, sex, discharge status, APR-DRG, length of stay, diagnosis codes and procedure codes and dates. PPC processing and assignment also relies upon the POA indicator for each diagnosis. The 3M™ Core Grouping PPC approach includes around 1,600 complications that are potentially preventable.

Based on the clinical similarities (diagnoses, symptoms, test results and other examination findings), the 3M™ PPC Classification System defines 66 mutually exclusive PPCs ([Table B2](#)). Multiple PPCs can be assigned to a stay if they do not overlap clinically (i.e., the disease processes of one PPC do not directly affect the other disease processes of another PPC).



**Table B2: 3M™ Defined PPCs**

<b>PPC</b>	<b>Description</b>
1	Stroke & Intracranial Hemorrhage
2	Extreme Central Nervous System (CNS) Complications
3	Acute Pulmonary Edema and Respiratory Failure without Ventilation
4	Acute Pulmonary Edema and Respiratory Failure with Ventilation
5	Pneumonia & Other Lung Infections
6	Aspiration Pneumonia
7	Pulmonary Embolism
8	Other Pulmonary Complications
9	Shock
10	Congestive Heart Failure
11	Acute Myocardial Infarction
12	Cardiac Arrhythmias & Conduction Disturbances
13	Other Acute Cardiac Complications
14	Ventricular Fibrillation/Cardiac Arrest
15	Peripheral Vascular Complications except Venous Thrombosis
16	Venous Thrombosis
17	Major Gastrointestinal Complications without Transfusion or Significant Bleeding
18	Major Gastrointestinal Complications with Transfusion or Significant Bleeding
19	Major Liver Complications
20	Other Gastrointestinal Complications without Transfusion or Significant Bleeding
21	Clostridium Difficile Colitis
23	Genito-Urinary (GU) Complications except Urinary Tract Infection (UTI)
24	Renal Failure without Dialysis
25	Renal Failure with Dialysis
26	Diabetic Ketoacidosis & Coma
27	Post-Hemorrhagic & Other Acute Anemia with Transfusion

<b>PPC</b>	<b>Description</b>
28	In-Hospital Trauma and Fractures
29	Poisonings except from Anesthesia
30	Poisonings due to Anesthesia
31	Decubitus Ulcer
32	Transfusion Incompatibility Reaction
33	Cellulitis
34	Moderate Infections
35	Septicemia & Severe Infections
36	Acute Mental Health Changes
37	Post-Operative Infection & Deep Wound Disruption without Procedure
38	Post-Operative Wound Infection & Deep Wound Disruption with Procedure
39	Reopening Surgical Site
40	Post-Operative Hemorrhage & Hematoma without Hemorrhage Control Procedure or Incision and Drainage (I&D) Procedure
41	Post-Operative Hemorrhage & Hematoma with Hemorrhage Control Procedure or Incision and Drainage (I&D) Procedure
42	Accidental Puncture/Laceration during Invasive Procedure
43	Accidental Cut or Hemorrhage during Other Medical Care
44	Other Surgical Complication – Moderate
45	Post-Procedure Foreign Bodies
46	Post-Operative Substance Reaction & Non-O.R. Procedure for Foreign Body
47	Encephalopathy
48	Other Complications of Medical Care
49	Iatrogenic Pneumothorax
50	Mechanical Complication of Device, Implant & Graft
51	Gastrointestinal Ostomy Complications
52	Infection, Inflammation & Other Complications of Devices, Implants or Grafts except Vascular infection
53	Infection, Inflammation and Clotting Complications of Peripheral Vascular Catheters and infusions

PPC	Description
54	Central Venous Catheter-Related Blood Stream Infection
55	Obstetrical Hemorrhage without Transfusion
56	Obstetrical Hemorrhage with Transfusion
57	Obstetric Lacerations & Other Trauma without Instrumentation
58	Obstetric Lacerations & Other Trauma with Instrumentation
59	Medical & Anesthesia Obstetric Complications
60	Major Puerperal Infection and Other Major Obstetric Complications
61	Other Complications of Obstetrical Surgical & Perineal Wounds
62	Delivery with Placental Complications
63	Post-Operative Respiratory Failure with Tracheostomy
64	Other In-Hospital Adverse Events
65	Urinary Tract Infection (UTI)
66	Catheter-Related Urinary Tract Infection (CAUTI)

## B.4 PPC Statewide Norm

The state norm (benchmark, a reference point, or average) was calculated by using PPC data from all hospitals meeting POA quality criteria. The norm was defined as the statewide average PPC stays per 100 at-risk admissions in 2014 for each APR-DRG / Severity of Illness category, which would be the total number of stays with at least one PPC in each APR-DRG / Severity of Illness category (1,256 categories) divided by the total number of stays at risk for a PPC in that category. A "Stay at Risk for a PPC" is a stay that did not meet any of the exclusion criteria for PPC assignment. Stays at risk were identified by the 3M™ Core Grouping software.

## B.5 Actual-to-Expected Ratio

PPC statewide norms by APR-DRG were used to calculate the expected number of PPC stays in each hospital. For each hospital, the expected PPC stays within each APR-DRG/Severity of Illness category were calculated by

using the statewide norm for that category multiplied by the admissions at risk in that category. The "Total Expected PPC Stays" are the sum of expected PPC stays in the hospital for all levels of APR-DRG/Severity of Illness category. The "Actual-to-Expected Ratio" is the actual number of PPC stays divided by the expected number of PPC stays.

## Appendix C: Definitions

**Actual-to-Expected Ratio** – Actual-to-Expected Ratio = actual PPC stays / expected PPC stays. The expected number of PPC stays is calculated based on the statewide averages (Norms/Benchmarks) according to the method provided by 3M™ Health Information Systems.

**All Patient Refined Diagnosis-Related Group (APR-DRG)** – A diagnosis and procedure code classification system for inpatient services. The All Patient Refined DRG algorithm is proprietary to 3M™ Health Information Systems and was designed for use with all types of patients. There are 314 base APR-DRGs (i.e., the reason for admission) and each APR-DRG has 4 severity of illness subclasses.

**Expected PPC Stay** – Expected PPC results were calculated based on statewide norms calculated from the 2014 Texas hospital inpatient discharge data. For each hospital, the expected PPC stays for each APR-DRG/ Severity of Illness category were calculated by using the statewide norm for that category multiplied by the admissions in the hospital at risk for that category. The “Total Expected PPC Stays” are the sum of expected PPC stays in the hospital for all levels of APR-DRG / Severity of Illness category.

**Inpatient Stay** – A hospital inpatient stay refers to a hospital discharge record. A patient who is admitted to the hospital multiple times will be counted each time as a separate stay.

**Norm / Benchmark** – The benchmark, or norm, is the standard by which hospital PPC performance is compared. For this PPC report, the benchmark is the Texas statewide average.

**Potentially Preventable Complications (PPCs)** – PPCs are harmful events or negative outcomes that develop after hospital admission and may result from the process of care and treatment rather than from a natural progression of underlying disease and therefore are potentially preventable.

**PPC Classification System** – A clinically-based classification system, developed by 3M™ Health Information Systems, that identifies hospital complications that are potentially preventable based on computerized discharge data. The output from the PPC Classification system enables accurate reporting of complications and quality improvement efforts.

**PPC Stay** – A PPC stay is an inpatient stay that includes one or more PPCs. For example, a stay with both renal failure without dialysis (PPC 24) and urinary tract infection (PPC 65) would count as one PPC stay.

**Diagnosis Present-on-Admission (POA) Indicator** – The POA indicator is a coding system on the inpatient claim (e.g., UB-04) that indicates if a principal or secondary diagnosis was present at the time of admission.

**Severity of Illness (SOI)** – The extent of physiologic or functional deterioration of an organ system. The levels of severity are: 1 - Minor, 2 - Moderate, 3 - Major and 4 - Extreme.

**Stay at Risk for PPCs** – A stay at risk for a PPC is a stay that does not meet any of the following exclusion criteria for PPC processing:

- **Exempted hospitals** – Claims from hospitals that were not required to report POA indicators were excluded from the analysis.
- **Outpatient admissions** – Only inpatient admissions bill types were included in the analysis. Claims with other bill types were excluded from this analysis.
- **Hospitals with less than 30 admissions** – Admissions from hospitals with less than 30 total admissions were excluded because the POA indicator quality check results are not deemed reliable when the claims volume is this low.
- **3M™ defined PPC exclusions** – A defined subset of diagnosis codes and procedure codes are eligible for consideration for PPCs. The 66 categories of PPCs are defined based on diagnoses and POA indicators, procedures and procedure dates, and patient age. A complication may be preventable for some type of patients, but not for others and some complication groups apply to only certain types of patients, e.g.

Obstetric complications occur in only females who deliver after an admission. Admissions for patients with certain severe or catastrophic illnesses that are particularly susceptible to a range of complications, including those with trauma, HIV-AIDS, and major or metastatic malignancies are also excluded.

## Appendix D: References

1. 3M™ Health Information Systems, Potentially Preventable Complications: Definitions Manual V.32 by Hughes, et al.
2. [Texas Hospital Inpatient Discharge Research Data File, 2014. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. August, 2015.](#) Accessed March 15, 2017.
3. [3M™ Fact Sheet on Potentially Preventable Complication Grouping Software.](#)
4. Development of the All Patient Refined DRGs (APR-DRGs). 3M™ HIS Research Report 8-97.
5. [Texas Health and Human Services Commission, Potentially Preventable Complications in the Texas Medicaid Population State Fiscal Year 2013, Public Report.](#)
6. Inaba K, Hauch A, Branco BC, et al. The Impact of In-house Attending Surgeon Supervision on the Rates of Preventable and Potentially Preventable Complications and Death at the Start of the New Academic Year. *The American Surgeon*. 2013;79(11):1134-1139.
7. Thornlow DK, Stukenborg GJ. The Association between Hospital Characteristics and Rates of Preventable Complications and Adverse Events. *Medical Care*. 2006;44(3):265-269.