



**Potentially Preventable Complications  
in Texas  
Calendar Year 2012 Report**

**As Required By  
82nd Texas Legislature, First Called, S.B. 7, Subchapter C,  
Chapter 98 of the Health and Safety Code**



**Department of State Health Services  
February 2015**

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## **Executive Summary**

Public reporting of Potentially Preventable Complications (PPC) results for hospitals is required by the Texas Legislature under Health and Safety Code, Chapter [98.1046](#) (Senate Bill 7, 82nd First Called Session).

### **Highlights**

- Overall, 6.8% of inpatient stays (single patient visit or admission through discharge) in 2012 had at least one potentially preventable complication (PPC). In comparison, the PPC rates in Maryland (fiscal year 2008) and California (fiscal year 2006)<sup>1</sup> are 7.7% and 5.5% respectively.
- Approximately 76.4% hospitals had fewer or equal numbers of PPC stays than expected and 82 hospitals (23.7%) had higher numbers of PPC stays than expected.

## **Introduction**

Health and Safety Code, Section 98.1046, which was adopted by the 82<sup>nd</sup> Legislature as part of SB 7 during the First Called Session, requires the Department of State Health Services (DSHS) to use data submitted pursuant to Chapter 108 of the Health and Safety Code to publicly report hospital risk-adjusted outcome rates for Potentially Preventable Complications that the agency, in consultation with the Texas Institute of Health Care Quality and Efficiency, determines to be the most effective measures of quality and efficiency. This provision requires DSHS to post the reports on its website without disclosing the identity of any patient or health care professional. This document contains the report on potentially preventable hospitalizations required by Sec. 98.1046.

## **Background**

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<sup>2</sup>. It is an important measure for quantifying the quality of health care. The 3M<sup>TM</sup> PPC Grouping Software was utilized to generate the measures using applied clinical logic to review complications occurring during a hospital stay. “The software identifies conditions not present on admission and determines whether the conditions were potentially preventable given patient characteristics, reason for admission, clinical procedures, and interrelationships between underlying medical conditions. 3M<sup>TM</sup> software considers a broad group of more than 60 distinct infections and medical errors that include, but are not limited to:

- Hospital-acquired infections and Medicare hospital-acquired conditions (HACs)
- Medicaid healthcare-acquired conditions (HCACs)
- Other patient safety indicators and additional conditions of interest”<sup>3</sup>

In an effort to improve health care quality in Texas, public reporting of PPC results was required by the Texas Legislature under Health and Safety Code, Chapter 98.1046 (Senate Bill 7, 82nd First Called).

The data source for this report is the Texas Hospital Inpatient Discharge Research Data File (RDF), 2012 (Texas Department of State Health Services, Center for Health Statistics, Austin, Texas)<sup>4</sup>. This dataset was collected by the Texas Health Care Information Collection program (THCIC) overseen by DSHS. The data was collected in accordance with [Chapter 108, Health and Safety Code \(HSC\)](#).

This report used the 3M<sup>TM</sup> PPC methodology to identify PPCs. For fair comparisons of performance across hospitals, a hospital’s actual PPC stay is compared with the PPC stay that would be expected for the same mixed condition of patients in this particular hospital.

## **Results**

In 2012, a total of 2,965,961 inpatient records were reported and captured from 592 hospitals in Texas. The data went through a series of steps to clean the data ([Appendix B: Methods](#)). Only 87.9% of the total records were included in the PPC analysis, which accounted for 2,607,233 records (i.e., 2,607,233 stays).

About 6.8% of the 2,607,233 inpatient stays had at least one PPC. These stays are referred as “PPC stay.” Multiple PPCs can be assigned to one stay if they are not clinically overlapped (the disease processes of one PPC do not directly affect the other disease processes or organs of another PPC). Overall 243,418 PPCs had been identified from 177,162 PPC stays, which was about 1.4 PPCs per PPC stay.

Out of the hospitals that submitted data, 245 hospitals were exempt from reporting diagnosis present on admission (POA) indicators (Exempt Hospital Types), thus had been excluded from the analysis ([Appendix B: Methods](#)). Among the 347 hospitals included in the analysis, more than 50% of hospitals had PPC rates lower than statewide average ([Table 1](#)). The PPC rate refers to the number of PPC stays divided by the total number of stays. Approximately 75% of hospitals had PPC rates lower than 7.5%.

**Table 1: Distribution of PPC Performance of Hospitals**

	<b>Total Stays</b>	<b>Stays At Risk</b>	<b>PPC Stays</b>	<b>Average Length of Stay</b>	<b>PPC Rate</b>	<b>Actual-to-Expected Ratio</b>
<b>90th percentile</b>	19,043	15,450	1,235	6	11.2%	1.51
<b>75th percentile</b>	11,719	9,392	744	5	7.5%	1.09
<b>50th percentile</b>	4,545	3,703	247	4	5.3%	0.88
<b>25th percentile</b>	871	850	39	3	3.4%	0.54
<b>Statewide</b>	<b>2,607,233</b>	<b>2,119,248</b>	<b>177,162</b>	<b>4</b>	<b>6.8%</b>	<b>1.00</b>

In this report, the statewide average PPC result adjusting 3M<sup>TM</sup>'s All Patient Refined Diagnosis-Related Group (APR-DRG) is calculated as the norm ([Appendix B: Methods](#)). The norms were used to calculate expected PPC results for each hospital. When making comparisons across hospitals, the patient's condition is considered for fair comparisons. Following the 3M<sup>TM</sup> PPC methodology, total 1,256 combinations of 314 base APR-DRG and 4 levels of illness severity subclasses are used to classify patients based on diagnoses or major procedures as well as patient characteristics. This classification can reflect the underlying clinical complexity and the reason for admission<sup>5</sup>. The “Expected PPC Stays” are the sum of expected PPC stays in the hospital for all levels of APR-DRG. The “Actual to Expected Ratio” is the actual PPC stays divided by the expected PPC stays.

[Table 2](#) shows the number of hospitals by PPC actual-to-expected ratio. The categories used were following Texas Medicaid PPC report<sup>6</sup>. In 2012, there were 347 hospitals included for analysis. Approximately 76.4% hospitals (n=265) performed about as expected as or had lower PPC stays than expected and 82 hospitals (23.7%) had higher PPC stays than expected. PPC performance information for each hospital is listed in [Table A1](#). [Table A2](#) shows PPC results for hospitals which have indicated to DSHS they are long term acute care facilities. Their lengths of stays are much longer than acute care hospitals. Hospitals with less than fifty stays are masked for some statistics to prohibit attempts to identify individual patients under Section [98.1046 \(c\)](#).

**Table 2: Number of Hospitals by PPC Actual-to-Expected Ratio**

<b>Actual-to-Expected Ratio</b>	<b>Actual-to-Expected Ratio Interpretation</b>	<b>Number of Hospitals</b>	<b>% of Total Hospitals</b>
less than 0.75	Much lower than expected	127	36.6%
0.75-0.89	Lower than expected	54	15.6%
0.90-1.10	About as expected	84	24.2%
1.11-1.25	Higher than expected	29	8.4%
more than 1.25	Much higher than expected	53	15.3%
<b>Total Hospitals</b>		<b>347</b>	<b>100.0%</b>

### **Conclusions**

The Texas hospital inpatient discharge database, including a total of 2,965,961 inpatient records was used for reporting PPC results in 2012. This is the first time to develop a PPC report in an effort to improve health care quality in Texas. Overall, 6.8% of inpatient visits in 2012 had at least one PPC, which is comparable to the some PPC rates available from other states (Maryland Fiscal Year 2008, 7.7%; and California Fiscal Year 2006, 5.5%). When using statewide PPC results as a benchmark, approximately 76.4% hospitals had fewer or equal numbers of PPC stays than expected; and 82 hospitals (23.7%) had higher numbers of PPC stays than expected. The results will expand the policy options open for further improvement of the healthcare outcomes in Texas.



## Appendix A: Tables

### Table A1: Hospital Level PPC Report, TX 2012 – Part I

(Hospitals with less than fifty total stays were masked for total stays and stays at risk)

1. Stays at risk refer to stays that do not meet any of the exclusion criteria for the PPC assignment.
2. Average length of stay refers to average length of stay in days
3. 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 stays for each APR-DRG/ Severity of Illness category = statewide norm for each category times the admissions at risk for that category. The Expected PPC Stays are the sum of numbers for all levels of APR-DRG / Severity of Illness category.

Hospital County	Metropolitan / Micropolitan statistical area (MSA)	Hospital Name	THCIC_ID	Total Stays	Stays At Risk <sup>1</sup>	Average Length of Stay <sup>2</sup>	Actual-to-Expected Ratio <sup>3</sup>	Actual-to-Expected Ratio Interpretation
Anderson	Palestine, TX	Palestine Regional Medical Center	629001	6,617	5,505	3	0.79	Lower than Expected
Angelina	Lufkin, TX	Memorial Medical Center East Texas	129000	7,643	6,523	4	0.95	About as Expected
		Woodland Heights Medical Center	481000	5,437	4,473	4	1.26	Much Higher than Expected
Atascosa	San Antonio-New Braunfels, TX	South Texas Regional Medical Center	334002	1,965	1,649	3	0.53	Much Lower than Expected
Bastrop	Austin-Round Rock, TX	Seton Smithville Regional Hospital	424500	553	529	3	0.36	Much Lower than Expected
Bee	Beeville, TX	CHRISTUS Spohn Hospital-Beeville	429001	2,268	1,852	3	0.63	Much Lower than Expected
Bell	Killeen-Temple, TX	Metroplex Hospital	397001	9,221	7,487	3	0.99	About as Expected
		Scott & White Memorial Hospital	537000	30,322	24,768	5	1.08	About as Expected
		Seton Medical Center Harker Heights	971000	763	613	3	0.79	Lower than Expected
Bexar	San Antonio-New Braunfels, TX	Baptist Emergency Hospital Thousand Oaks	647000	122	122	2	0.60	Much Lower than Expected
		Baptist Medical Center	114001	17,515	15,450	5	1.15	Higher than Expected
		CHRISTUS Santa Rosa Hospital	339000	6,788	5,362	4	1.12	Higher than Expected
		CHRISTUS Santa Rosa Hospital-Westover Hills	339002	7,967	6,533	4	1.02	About as Expected
		CHRISTUS Santa Rosa Medical Center	339001	5,364	4,801	5	0.92	About as Expected
		CHRISTUS Santa Rose-Alamo Heights	339003	80	80	2	0.56	Much Lower than Expected
		Foundation Bariatric Hospital-San Antonio	852100	736	736	2	0.39	Much Lower than Expected
		Innova Hospital-San Antonio	820600	272	272	3	0.14	Much Lower than Expected
Methodist Ambulatory Surgery Hospital-Northwest	681001	729	729	3	0.25	Much Lower than Expected		

Hospital County	Metropolitan / Micropolitan statistical area (MSA)	Hospital Name	THCIC_ID	Total Stays	Stays At Risk <sup>1</sup>	Average Length of Stay <sup>2</sup>	Actual-to-Expected Ratio <sup>3</sup>	Actual-to-Expected Ratio Interpretation
		Methodist Hospital	154000	40,654	33,017	5	0.93	About as Expected
		Methodist Specialty & Transplant Hospital	154001	11,671	10,812	5	1.12	Higher than Expected
		Methodist Stone Oak Hospital	874100	8,732	7,224	4	1.09	About as Expected
		Methodist Texsan Hospital	154003	2,713	2,645	4	0.75	Much Lower than Expected
		Metropolitan Methodist Hospital	283000	19,654	15,087	4	1.08	About as Expected
		Mission Trail Baptist Hospital	081001	6,942	5,927	4	1.12	Higher than Expected
		Nix Health Care System	396002	7,254	7,074	5	0.61	Much Lower than Expected
		North Central Baptist Hospital	677001	19,000	14,403	4	1.02	About as Expected
		Northeast Baptist Hospital	134001	14,247	12,372	4	1.08	About as Expected
		Northeast Methodist Hospital	154002	9,083	8,148	5	1.02	About as Expected
		South Texas Spine & Surgical Hospital	786800	1,052	1,052	2	0.51	Much Lower than Expected
		Southwest General Hospital	228001	10,974	8,970	4	0.96	About as Expected
		St Lukes Baptist Hospital	503001	16,039	12,200	4	1.12	Higher than Expected
		University Hospital	158000	23,179	18,054	6	1.09	About as Expected
Bowie	Texarkana, TX-AR	CHRISTUS St Michael Health System	788001	16,095	13,651	4	0.86	Lower than Expected
		Wadley Regional Medical Center	144000	8,714	7,121	4	0.92	About as Expected
Brazoria	Houston-The Woodlands-Sugar Land, TX	Angleton Danbury Medical Center	126000	1,929	1,529	3	0.60	Much Lower than Expected
		Brazosport Regional Health System	436000	5,468	4,497	3	0.69	Much Lower than Expected
Brazos	College Station-Bryan, TX	College Station Medical Center	071000	8,789	6,573	3	0.99	About as Expected
		Physicians Centre Hospital	717500	354	354	2	0.07	Much Lower than Expected
		St Joseph Regional Health Center	002001	18,102	15,499	4	0.76	Lower than Expected
Brown	Brownwood, TX	Brownwood Regional Medical Center	058000	5,338	4,500	4	1.18	Higher than Expected
Cameron	Brownsville-Harlingen, TX	Brownsville Doctors Hospital	724900	366	317	4	0.60	Much Lower than Expected
		Harlingen Medical Center	788002	5,979	4,939	7	0.59	Much Lower than Expected
		Valley Baptist Medical Center	400000	20,175	15,928	4	0.93	About as Expected
		Valley Baptist Medical Center-Brownsville	314001	11,818	9,176	4	0.90	About as Expected
		Valley Regional Medical Center	019000	11,987	9,113	4	0.95	About as Expected
Cherokee	Jacksonville, TX	East Texas Medical Center-Jacksonville	416000	2,143	1,695	3	1.19	Higher than Expected
Collin	Dallas-Fort Worth-	Baylor Medical Center McKinney	971900	2,211	1,631	3	0.99	About as Expected

Hospital County	Metropolitan / Micropolitan statistical area (MSA)	Hospital Name	THCIC_ID	Total Stays	Stays At Risk <sup>1</sup>	Average Length of Stay <sup>2</sup>	Actual-to-Expected Ratio <sup>3</sup>	Actual-to-Expected Ratio Interpretation
	Arlington, TX	Baylor Medical Center-Frisco	787400	6,954	4,510	3	0.70	Much Lower than Expected
		Baylor Regional Medical Center-Plano	814001	5,519	5,037	5	1.26	Much Higher than Expected
		Centennial Medical Center	806300	4,938	4,071	4	1.18	Higher than Expected
		Columbia Medical Center-McKinney	246000	11,905	10,434	5	1.05	About as Expected
		Forest Park Medical Center Frisco	971800	343	342	2	1.06	About as Expected
		Heart Hospital Baylor Plano	844000	3,331	3,290	5	1.26	Much Higher than Expected
		Medical Center-Plano	214000	17,887	14,474	5	0.95	About as Expected
		Methodist McKinney Hospital	937000	577	570	2	0.41	Much Lower than Expected
		Texas Health Center-Diagnostics & Surgery Plano	815300	632	632	2	0.38	Much Lower than Expected
		Texas Health Presbyterian Hospital Allen	724200	5,007	3,890	3	0.96	About as Expected
		Texas Health Presbyterian Hospital-Plano	664000	18,894	14,580	4	0.95	About as Expected
		The Hospital at Craig Ranch	922000	154	154	3	0.34	Much Lower than Expected
		Victory Medical Center Plano	972910	89	89	2	0.25	Much Lower than Expected
Comal	San Antonio-New Braunfels, TX	CHRISTUS Santa Rosa Hospital New Braunfels	863300	6,229	5,036	4	1.08	About as Expected
Coryell	Killeen-Temple, TX	Coryell Memorial Hospital	346000	560	535	3	8.41	Much Higher than Expected
Dallas	Dallas-Fort Worth-Arlington, TX	Baylor Heart & Vascular Center	784400	2,085	2,061	3	0.80	Lower than Expected
		Baylor Medical Center at Uptown	008001	1,126	1,126	2	0.16	Much Lower than Expected
		Baylor Medical Center-Garland	027000	11,898	9,726	4	1.30	Much Higher than Expected
		Baylor Medical Center-Irving	300000	11,172	8,809	4	1.41	Much Higher than Expected
		Baylor University Medical Center	331000	39,992	31,043	6	1.29	Much Higher than Expected
		Dallas Medical Center	449000	1,468	1,418	5	1.24	Higher than Expected
		Dallas Regional Medical Center	315003	4,545	4,199	4	0.63	Much Lower than Expected
		Doctors Hospital-White Rock Lake	511000	6,831	5,875	4	0.80	Lower than Expected
		Forest Park Medical Center	900000	5,109	5,106	2	0.82	Lower than Expected
		Irving Coppell Surgical Hospital	799500	500	500	2	0.07	Much Lower than Expected
		Las Colinas Medical Center	814000	6,744	4,935	3	0.91	About as Expected
		Medical City Dallas Hospital	340000	26,917	21,929	5	0.82	Lower than Expected
		Methodist Charlton Medical Center	142000	14,612	12,021	5	1.00	About as Expected

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		Methodist Dallas Medical Center	255000	21,689	16,342	5	0.78	Lower than Expected
		Methodist Hospital for Surgery	750000	2,017	2,016	2	0.15	Much Lower than Expected
		Methodist Richardson Medical Center	549000	5,579	4,797	5	0.68	Much Lower than Expected
		North Central Surgical Center	860600	963	962	2	0.12	Much Lower than Expected
		Parkland Memorial Hospital	474000	48,158	34,467	5	1.28	Much Higher than Expected
		Pine Creek Medical Center	818200	1,084	1,084	2	0.25	Much Lower than Expected
		South Hampton Community Hospital	908000	1,373	1,331	4	0.49	Much Lower than Expected
		Texas Health Presbyterian Hospital Dallas	431000	31,548	25,218	5	1.13	Higher than Expected
		Texas Institute for Surgery-Texas Health Presbyterian-Dallas	813100	143	143	2	0.00	Much Lower than Expected
		Texas Regional Medical Center Sunnyvale	919000	3,128	2,346	3	0.87	Lower than Expected
		UT Southwestern University Hospital-St Paul	448001	15,877	12,436	6	1.07	About as Expected
		UT Southwestern University Hospital-Zale Lipshy	653001	6,165	5,884	6	1.11	Higher than Expected
		Denton		Baylor Emergency Medical Center at Aubrey	873200	76	76	2
Baylor Medical Center at Carrollton	042000			7,651	5,787	4	1.32	Much Higher than Expected
Baylor Medical Center Trophy Club	805100			645	645	2	0.29	Much Lower than Expected
Denton Regional Medical Center	336001			10,866	9,392	4	0.84	Lower than Expected
Medical Center-Lewisville	394000			8,801	7,086	4	0.84	Lower than Expected
North Texas Hospital	816500			358	358	2	0.13	Much Lower than Expected
Texas Health Presbyterian Hospital Flower Mound	943000			4,751	3,557	3	1.01	About as Expected
Texas Health Presbyterian Hospital-Denton	820800			11,489	9,139	4	1.10	About as Expected
Ector	Odessa, TX	Basin Healthcare Center	938000	421	417	2	0.24	Much Lower than Expected
		Medical Center Hospital	181000	15,374	12,838	4	0.68	Much Lower than Expected
		Odessa Regional Medical Center	425000	8,538	6,365	4	0.98	About as Expected
El Paso	El Paso, TX	Del Sol Medical Center	319000	19,043	15,368	4	1.03	About as Expected
		East El Paso Physicians Medical Center	801300	871	850	3	0.44	Much Lower than Expected

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		El Paso Specialty Hospital	728200	521	518	3	0.40	Much Lower than Expected
		Las Palmas Medical Center	180000	12,980	10,526	4	0.80	Lower than Expected
		Providence Memorial Hospital	130000	20,405	15,972	4	0.85	Lower than Expected
		Sierra Medical Center	266000	12,506	9,889	4	1.02	About as Expected
		Sierra Providence East Medical Center	865000	8,922	7,018	4	0.98	About as Expected
		University Medical Center of El Paso	263000	17,520	13,153	4	0.84	Lower than Expected
Ellis	Dallas-Fort Worth-Arlington, TX	Baylor Medical Center-Waxahachie	285000	2,535	2,379	4	1.77	Much Higher than Expected
		Ennis Regional Medical Center	714500	2,730	2,040	3	0.59	Much Lower than Expected
Erath	Stephenville, TX	Texas Health Harris Methodist Hospital-Stephenville	256000	2,301	1,773	3	1.14	Higher than Expected
Fayette	Not Available	St Marks Medical Center	823400	1,277	1,065	3	2.10	Much Higher than Expected
Fort Bend	Houston-The Woodlands-Sugar Land, TX	Emerus Hospital	916000	66	66	2	0.00	Much Lower than Expected
		Memorial Hermann Katy Hospital	534001	11,068	8,302	3	0.87	Lower than Expected
		Memorial Hermann Sugar Land	609001	5,395	4,139	3	0.87	Lower than Expected
		Methodist Sugar Land Hospital	823000	15,076	11,778	4	0.87	Lower than Expected
		Oakbend Medical Center	230000	2,495	2,230	5	0.97	About as Expected
		Oakbend Medical Center (Southwest Freeway)	230001	3,715	2,415	3	0.90	Lower than Expected
		St Lukes Sugar Land Hospital	869700	3,322	2,994	4	1.02	About as Expected
		Sugar Land Surgical Hospital	790500	322	322	2	0.32	Much Lower than Expected
Franklin	Not Available	East Texas Medical Center-Mount Vernon	282000	463	447	3	0.45	Much Lower than Expected
Freestone		East Texas Medical Center-Fairfield	401000	470	427	3	0.56	Much Lower than Expected
Frio		Community General Hospital Dilley Texas	803000	333	325	2	0.64	Much Lower than Expected
Galveston	Houston-The Woodlands-Sugar Land, TX	Mainland Medical Center	793000	8,071	7,207	5	0.88	Lower than Expected
		UT Medical Branch Hospital	000102	25,688	19,337	4	0.80	Lower than Expected
Gillespie	Fredericksburg, TX	Hill Country Memorial Hospital	219000	3,205	2,591	3	0.75	Much Lower than Expected
Gray	Pampa, TX	Pampa Regional Medical Center	832900	2,040	1,770	4	1.22	Higher than Expected
Grayson	Sherman-Denison, TX	Heritage Park Surgical Hospital	100076	252	249	3	0.38	Much Lower than Expected
		Texas Health Presbyterian Hospital - WNJ	297000	6,957	5,971	4	1.02	About as Expected
		Texoma Medical Center	847000	11,765	10,039	5	0.64	Much Lower than Expected

Hospital County	Metropolitan / Micropolitan statistical area (MSA)	Hospital Name	THCIC_ID	Total Stays	Stays At Risk <sup>1</sup>	Average Length of Stay <sup>2</sup>	Actual-to-Expected Ratio <sup>3</sup>	Actual-to-Expected Ratio Interpretation
Gregg	Longview, TX	Allegiance Specialty Hospital-Kilgore	031001	594	584	12	0.47	Much Lower than Expected
		Good Shepherd Medical Center	029000	17,672	14,899	4	1.83	Much Higher than Expected
		Longview Regional Medical Center	525000	7,110	5,807	3	1.79	Much Higher than Expected
Guadalupe	San Antonio-New Braunfels, TX	Guadalupe Regional Medical Center	155000	4,678	3,703	3	0.59	Much Lower than Expected
Hale	Plainview, TX	Covenant Hospital-Plainview	146000	2,855	2,270	3	0.64	Much Lower than Expected
Harris	Houston-The Woodlands-Sugar Land, TX	Bayshore Medical Center	349001	15,433	12,490	5	1.11	Higher than Expected
		Ben Taub General Hospital	459000	24,004	18,010	6	1.03	About as Expected
		CHRISTUS St Catherine Hospital	715901	5,274	4,206	3	0.93	About as Expected
		CHRISTUS St John Hospital	600001	6,993	5,896	4	1.09	About as Expected
		Clear Lake Regional Medical Center	212000	25,058	20,367	5	1.06	About as Expected
		Cypress Fairbanks Medical Center	606000	11,022	8,079	3	1.08	About as Expected
		Doctors Hospital-Tidwell	030000	5,064	3,783	3	0.93	About as Expected
		East Houston Regional Medical Center	458001	7,841	6,129	4	0.90	Lower than Expected
		First Street Hospital	840100	458	457	2	0.00	Much Lower than Expected
		Houston Hospital for Specialized Surgery	758000	150	150	2	0.13	Much Lower than Expected
		Houston Northwest Medical Center	229000	18,376	14,617	4	1.08	About as Expected
		Houston Orthopedic & Spine Hospital	831900	2,209	2,208	3	0.43	Much Lower than Expected
		Houston Physicians Hospital	822001	540	539	2	0.16	Much Lower than Expected
		Kingwood Medical Center	675000	16,602	13,309	5	1.02	About as Expected
		Lyndon B Johnson General Hospital	384000	14,479	10,476	5	1.06	About as Expected
		Memorial Hermann Hospital	347000	36,655	29,478	6	0.86	Lower than Expected
		Memorial Hermann Memorial City Medical Center	302000	21,649	17,275	4	0.89	Lower than Expected
		Memorial Hermann Northeast	847100	11,482	9,640	4	0.73	Much Lower than Expected
		Memorial Hermann Northwest Hospital	172000	13,465	10,395	4	0.76	Lower than Expected
		Memorial Hermann Southeast Hospital	119000	14,632	12,371	4	1.06	About as Expected
Memorial Hermann Southwest Hospital	407000	20,661	15,908	5	0.95	About as Expected		
Memorial Hermann Specialty Hospital Kingwood	813800	158	158	2	0.00	Much Lower than Expected		

Hospital County	Metropolitan / Micropolitan statistical area (MSA)	Hospital Name	THCIC_ID	Total Stays	Stays At Risk <sup>1</sup>	Average Length of Stay <sup>2</sup>	Actual-to-Expected Ratio <sup>3</sup>	Actual-to-Expected Ratio Interpretation
		Methodist Hospital	124000	35,184	29,762	6	0.93	About as Expected
		Methodist West Houston Hospital	800010	7,246	5,547	3	0.71	Much Lower than Expected
		Methodist Willowbrook Hospital	724700	16,098	12,491	4	0.84	Lower than Expected
		North Cypress Medical Center	843200	7,626	7,049	5	0.81	Lower than Expected
		Park Plaza Hospital	390000	5,896	4,789	5	1.12	Higher than Expected
		Pristine Hospital of Pasadena	972700	<50	<50	6	0.00	Much Lower than Expected
		Riverside General Hospital	460000	826	799	8	1.79	Much Higher than Expected
		San Jacinto Methodist Hospital	405000	10,344	8,624	5	1.35	Much Higher than Expected
		St Anthonys Hospital	909000	1,116	1,069	4	0.27	Much Lower than Expected
		St Joseph Medical Center	838600	19,829	15,167	5	0.75	Lower than Expected
		St Lukes Episcopal Hospital	118000	29,444	26,053	6	1.12	Higher than Expected
		St Lukes Hospital at the Vintage	740000	3,583	3,019	4	0.93	About as Expected
		St Lukes Patients Medical Center	846100	3,538	3,387	4	1.09	About as Expected
		Surgery Specialty Hospitals of America-Southeast Houston	694100	125	125	2	0.83	Lower than Expected
		Texas Orthopedic Hospital	792000	2,811	2,808	3	0.43	Much Lower than Expected
		Tomball Regional Medical Center	076000	9,965	8,774	5	1.42	Much Higher than Expected
		TOPS Surgical Specialty Hospital	674000	643	643	2	0.37	Much Lower than Expected
		University General Hospital	840200	2,760	2,676	5	0.07	Much Lower than Expected
		Victory Medical Center Houston	945500	544	544	2	0.11	Much Lower than Expected
		Victory Surgical Hospital East Houston	972970	<50	<50	3	0.00	Much Lower than Expected
		West Houston Medical Center	337001	13,484	10,638	5	1.23	Higher than Expected
Westbury Community Hospital	956000	1,978	1,946	8	0.16	Much Lower than Expected		
Womans Hospital-Texas	007000	22,392	13,347	4	1.30	Much Higher than Expected		
Harrison	Marshall, TX	Good Shepherd Medical Center-Marshall	020000	4,567	3,895	3	4.51	Much Higher than Expected
Hays	Austin-Round Rock, TX	Central Texas Medical Center	556000	5,179	4,010	3	1.15	Higher than Expected
		Seton Medical Center Hays	921000	6,510	5,413	4	1.33	Much Higher than Expected
Henderson	Athens, TX	East Texas Medical Center-Athens	374000	7,519	6,368	3	0.84	Lower than Expected
Hidalgo	McAllen-Edinburg-Mission, TX	Cornerstone Regional Hospital	830000	389	389	2	0.25	Much Lower than Expected
		Doctors Hospital-Renaissance	797100	37,538	27,471	4	0.75	Lower than Expected

Hospital County	Metropolitan / Micropolitan statistical area (MSA)	Hospital Name	THCIC_ID	Total Stays	Stays At Risk <sup>1</sup>	Average Length of Stay <sup>2</sup>	Actual-to-Expected Ratio <sup>3</sup>	Actual-to-Expected Ratio Interpretation
		Edinburg Regional Medical Center	140002	5,222	4,898	5	0.38	Much Lower than Expected
		Knapp Medical Center	480000	11,377	8,990	3	0.66	Much Lower than Expected
		McAllen Medical Center	802001	18,894	16,550	5	0.59	Much Lower than Expected
		Mission Regional Medical Center	370000	11,719	9,059	5	0.98	About as Expected
		Rio Grande Regional Hospital	601000	18,006	14,414	4	1.09	About as Expected
Hill	Not Available	Hill Regional Hospital	383000	1,809	1,503	3	0.79	Lower than Expected
		Lake Whitney Medical Center	161000	502	485	3	0.37	Much Lower than Expected
Hockley	Levelland, TX	Covenant Hospital-Levelland	307000	1,324	1,007	3	1.06	About as Expected
Hood	Dallas-Fort Worth-Arlington, TX	Lake Granbury Medical Center	424000	2,942	2,362	3	0.81	Lower than Expected
Houston	Not Available	East Texas Medical Center-Crockett	185000	1,831	1,522	3	0.94	About as Expected
Howard	Big Spring, TX	Scenic Mountain Medical Center	221000	2,957	2,580	3	0.70	Much Lower than Expected
Hunt	Dallas-Fort Worth-Arlington, TX	Hunt Regional Medical Center Greenville	085000	6,687	5,319	4	0.91	About as Expected
Jasper	Not Available	CHRISTUS Jasper Memorial Hospital	038001	1,977	1,574	3	1.06	About as Expected
Jefferson	Beaumont-Port Arthur, TX	Baptist Hospitals of Southeast Texas	389000	17,707	15,626	4	0.38	Much Lower than Expected
		Beaumont Bone & Joint Institute	826500	<50	<50	1	0.00	Much Lower than Expected
		CHRISTUS Hospital-St Mary	299001	4,345	3,762	4	0.78	Lower than Expected
		CHRISTUS St Elizabeth Hospital	444001	17,169	14,636	4	0.77	Lower than Expected
		Medical Center-Southeast Texas	464002	8,537	7,147	4	0.45	Much Lower than Expected
		Renaissance Hospital-Groves	907000	94	93	4	0.27	Much Lower than Expected
Jim Wells	Alice, TX	CHRISTUS Spohn Hospital Alice	689401	4,299	3,687	3	0.50	Much Lower than Expected
Johnson	Dallas-Fort Worth-Arlington, TX	Texas Health Harris Methodist Hospital Cleburne	323000	4,101	3,444	3	1.11	Higher than Expected
Kaufman		Renaissance Hospital Terrell	848600	523	503	3	0.59	Much Lower than Expected
		Texas Health Presbyterian Hospital-Kaufman	303000	2,405	2,022	3	0.88	Lower than Expected
Kerr	Kerrville, TX	Peterson Regional Medical Center	406000	4,655	3,974	3	1.14	Higher than Expected
Kleberg	Kingsville, TX	CHRISTUS Spohn Hospital-Kleberg	216001	4,016	3,613	4	0.49	Much Lower than Expected
Lamar	Paris, TX	Paris Regional Medical Center South Campus	095002	6,599	5,727	4	0.65	Much Lower than Expected



Hospital County	Metropolitan / Micropolitan statistical area (MSA)	Hospital Name	THCIC_ID	Total Stays	Stays At Risk <sup>1</sup>	Average Length of Stay <sup>2</sup>	Actual-to-Expected Ratio <sup>3</sup>	Actual-to-Expected Ratio Interpretation
Liberty	Houston-The Woodlands-Sugar Land, TX	Cleveland Regional Medical Center	108000	2,564	2,069	3	0.46	Much Lower than Expected
		Doctors Diagnostic Hospital	840400	109	107	3	2.03	Much Higher than Expected
Limestone	Not Available	Parkview Regional Hospital	505000	912	884	4	0.40	Much Lower than Expected
Lubbock	Lubbock, TX	Covenant Medical Center	465000	17,255	15,926	5	1.06	About as Expected
		Covenant Medical Center-Lakeside	109000	8,345	5,729	3	0.78	Lower than Expected
		Grace Medical Center	013001	979	972	3	0.65	Much Lower than Expected
		Lubbock Heart Hospital	801500	3,248	3,181	4	0.68	Much Lower than Expected
		TrustPoint Hospital	865800	1,287	1,251	14	2.15	Much Higher than Expected
		University Medical Center	145000	21,954	18,385	5	0.99	About as Expected
Matagorda	Bay City, TX	Matagorda Regional Medical Center	006000	2,545	2,092	3	1.38	Much Higher than Expected
Maverick	Eagle Pass, TX	Fort Duncan Regional Medical Center	547001	6,079	4,623	4	0.50	Much Lower than Expected
McLennan	Waco, TX	Hillcrest Baptist Medical Center	506000	14,339	11,188	4	1.09	About as Expected
		Providence Health Center	040000	15,661	13,450	4	0.80	Lower than Expected
Midland	Midland, TX	Allegiance Health Center Permian Basin	924000	1,203	1,159	7	1.61	Much Higher than Expected
		BCA Permian Basin	874500	1,151	1,133	7	1.56	Much Higher than Expected
		Midland Memorial Hospital	452000	12,708	9,932	4	0.90	About as Expected
Milam	Not Available	Central Texas Hospital	665000	372	365	3	0.12	Much Lower than Expected
Montgomery	Houston-The Woodlands-Sugar Land, TX	Conroe Regional Medical Center	508001	14,768	13,049	5	1.32	Much Higher than Expected
		Memorial Hermann The Woodlands Hospital	615000	16,898	12,236	4	0.94	About as Expected
		St Lukes Lakeside Hospital	923000	747	746	3	0.42	Much Lower than Expected
		St Lukes The Woodlands Hospital	793100	11,864	9,223	4	1.04	About as Expected
Nacogdoches	Nacogdoches, TX	Nacogdoches Medical Center	392000	4,897	4,018	3	0.84	Lower than Expected
		Nacogdoches Memorial Hospital	478000	5,444	4,506	7	1.62	Much Higher than Expected
Navarro	Corsicana, TX	Navarro Regional Hospital	141000	3,908	3,239	3	0.52	Much Lower than Expected
Nueces	Corpus Christi, TX	CHRISTUS Spohn Hospital Corpus Christi	398000	9,137	8,334	5	1.34	Much Higher than Expected
		CHRISTUS Spohn Hospital Corpus Christi-Shoreline	398001	16,183	14,530	6	0.98	About as Expected
		CHRISTUS Spohn Hospital Corpus Christi-South	398002	9,782	7,050	3	0.96	About as Expected

Hospital County	Metropolitan / Micropolitan statistical area (MSA)	Hospital Name	THCIC_ID	Total Stays	Stays At Risk <sup>1</sup>	Average Length of Stay <sup>2</sup>	Actual-to-Expected Ratio <sup>3</sup>	Actual-to-Expected Ratio Interpretation
		Corpus Christi Medical Center-Bay Area	703000	10,528	6,830	3	0.92	About as Expected
		Corpus Christi Medical Center-Doctors Regional	703002	5,858	5,504	5	0.87	Lower than Expected
		Corpus Christi Medical Center-Heart Hospital	703003	1,681	1,539	5	1.01	About as Expected
		Corpus Christi Medical Center-Northwest	704004	1,326	1,271	4	1.14	Higher than Expected
		South Texas Surgical Hospital	931000	931	929	3	0.60	Much Lower than Expected
Orange	Beaumont-Port Arthur, TX	Baptist Orange Hospital	121000	2,407	2,060	3	0.59	Much Lower than Expected
Palo Pinto	Mineral Wells, TX	Palo Pinto General Hospital	034000	2,247	1,830	3	0.52	Much Lower than Expected
Panola	Not Available	East Texas Medical Center-Carthage	484000	962	924	2	0.53	Much Lower than Expected
Parker	Dallas-Fort Worth-Arlington, TX	Weatherford Regional Medical Center	844800	4,179	3,606	3	0.55	Much Lower than Expected
Polk	Not Available	Memorial Medical Center-Livingston	466000	2,696	2,318	4	1.26	Much Higher than Expected
POTTER	Amarillo, TX	Baptist St Anthonys Health System-Baptist Campus	001000	21,185	17,886	4	0.88	Lower than Expected
		Northwest Texas Hospital	318000	21,322	18,070	4	0.89	Lower than Expected
		Physicians Surgical Hospital-Panhandle Campus	852901	611	611	2	0.43	Much Lower than Expected
		Physicians Surgical Hospital-Quail Creek	852900	784	784	2	0.41	Much Lower than Expected
Randall		Northwest Texas Surgery Center	714000	135	135	4	0.00	Much Lower than Expected
Red River	Not Available	East Texas Medical Center-Clarksville	292000	1,057	1,010	4	0.35	Much Lower than Expected
Rockwall	Dallas-Fort Worth-Arlington, TX	Lake Pointe Medical Center	625000	6,957	5,808	3	0.54	Much Lower than Expected
		Texas Health Presbyterian Hospital-Rockwall	859900	4,284	3,398	3	0.98	About as Expected
Rusk	Longview, TX	East Texas Medical Center Henderson	248000	1,845	1,548	3	1.44	Much Higher than Expected
San Patricio	Corpus Christi, TX	Care Regional Medical Center	239001	1,277	1,172	5	0.45	Much Lower than Expected
Shelby	Not Available	Shelby Regional Medical Center	860500	398	386	3	0.00	Much Lower than Expected
Smith	Tyler, TX	East Texas Medical Center	410000	21,390	19,009	5	1.15	Higher than Expected
		Mother Frances Hospital	286000	25,326	21,252	4	0.88	Lower than Expected
		Texas Spine & Joint Hospital	790200	1,430	1,429	2	0.40	Much Lower than Expected
		UT Health Center-Tyler	000112	1,472	1,285	5	0.53	Much Lower than Expected

Hospital County	Metropolitan / Micropolitan statistical area (MSA)	Hospital Name	THCIC_ID	Total Stays	Stays At Risk <sup>1</sup>	Average Length of Stay <sup>2</sup>	Actual-to-Expected Ratio <sup>3</sup>	Actual-to-Expected Ratio Interpretation
Starr	Rio Grande City, TX	Starr County Memorial Hospital	393000	2,087	1,695	3	0.38	Much Lower than Expected
Tarrant	Dallas-Fort Worth-Arlington, TX	Baylor All Saints Medical Center-Fort Worth	363000	23,600	16,656	4	1.19	Higher than Expected
		Baylor Medical Center-Southwest Fort Worth	363001	166	162	4	1.24	Higher than Expected
		Baylor Orthopedic and Spine Hospital - Arlington	936000	987	985	3	0.13	Much Lower than Expected
		Baylor Regional Medical Center-Grapevine	513000	14,676	11,328	4	1.58	Much Higher than Expected
		Baylor Surgical Hospital-Fort Worth	804500	1,033	1,032	3	0.23	Much Lower than Expected
		John Peter Smith Hospital	409000	28,127	21,969	5	0.71	Much Lower than Expected
		Medical Center-Arlington	502000	17,704	13,214	4	0.97	About as Expected
		Methodist Mansfield Medical Center	842800	10,033	7,780	4	0.91	About as Expected
		North Hills Hospital	437000	8,658	7,527	4	0.89	Lower than Expected
		Plaza Medical Center-Fort Worth	477000	11,245	10,685	5	1.02	About as Expected
		Southwest Surgical Hospital	812300	232	232	2	0.54	Much Lower than Expected
		Texas General Hospital	115100	92	92	3	0.00	Much Lower than Expected
		Texas Health Arlington Memorial Hospital	422000	13,906	11,356	5	1.16	Higher than Expected
		Texas Health Harris Methodist HEB	182000	14,767	12,020	4	1.03	About as Expected
		Texas Health Harris Methodist Hospital Alliance	972900	645	496	3	1.09	About as Expected
		Texas Health Harris Methodist Hospital Azle	469000	1,615	1,555	3	0.52	Much Lower than Expected
		Texas Health Harris Methodist Hospital Southlake	812800	850	850	3	0.52	Much Lower than Expected
		Texas Health Harris Methodist Hospital-Fort Worth	235000	37,305	31,701	5	1.09	About as Expected
		Texas Health Harris Methodist Hospital-Southwest Fort Worth	627000	13,364	10,078	3	1.16	Higher than Expected
		Texas Health Heart & Vascular Hospital	730001	1,255	1,237	4	1.06	About as Expected
Texas Health Huguley Hospital	047000	10,183	8,698	4	0.88	Lower than Expected		
USMD Hospital Fort Worth	861400	467	467	3	0.36	Much Lower than Expected		

Hospital County	Metropolitan / Micropolitan statistical area (MSA)	Hospital Name	THCIC_ID	Total Stays	Stays At Risk <sup>1</sup>	Average Length of Stay <sup>2</sup>	Actual-to-Expected Ratio <sup>3</sup>	Actual-to-Expected Ratio Interpretation
		USMD Hospital-Arlington	799001	1,765	1,758	3	0.57	Much Lower than Expected
		Victory Medical Center Mid-Cities	972990	<50	<50	2	0.00	Much Lower than Expected
Taylor	Abilene, TX	Abilene Regional Medical Center	091001	8,216	6,649	4	1.11	Higher than Expected
		Hendrick Medical Center	500000	16,830	14,192	5	1.56	Much Higher than Expected
Tom Green	San Angelo, TX	San Angelo Community Medical Center	056000	5,899	4,908	4	0.69	Much Lower than Expected
		Shannon West Texas Memorial Hospital	168000	12,245	10,535	4	0.89	Lower than Expected
Travis	Austin-Round Rock, TX	Austin Surgical Hospital	798500	855	855	2	0.47	Much Lower than Expected
		Heart Hospital-Austin	829000	3,381	3,300	4	0.91	About as Expected
		Lakeway Regional Medical Center	970200	1,133	969	3	0.87	Lower than Expected
		North Austin Medical Center	829900	22,297	16,436	4	1.11	Higher than Expected
		Northwest Hills Surgical Hospital	794000	590	590	1	0.27	Much Lower than Expected
		Seton Medical Center	497000	23,749	19,340	4	1.15	Higher than Expected
		Seton Northwest Hospital	797600	5,646	4,494	3	1.05	About as Expected
		Seton Southwest Hospital	797500	1,847	1,189	2	0.95	About as Expected
		St Davids Hospital	035000	21,287	16,381	4	0.93	About as Expected
		St Davids South Austin Hospital	602000	15,238	12,659	4	1.02	About as Expected
		University Medical Center-Brackenridge	335000	15,922	12,580	4	1.06	About as Expected
		UTMB Austin Womens Hospital	000119	85	48	2	0.85	Lower than Expected
Westlake Medical Center	822800	1,007	993	3	0.38	Much Lower than Expected		
Trinity	Huntsville, TX	East Texas Medical Center-Trinity	287000	628	614	4	0.13	Much Lower than Expected
Upshur	Longview, TX	East Texas Medical Center-Gilmer	806800	571	538	4	0.49	Much Lower than Expected
Uvalde	Uvalde, TX	Uvalde Memorial Hospital	063000	2,132	1,699	3	0.35	Much Lower than Expected
Val Verde	Del Rio, TX	Val Verde Regional Medical Center	462000	3,957	2,912	3	0.55	Much Lower than Expected
Van Zandt	Not Available	Cozby-Germany Hospital	138000	228	219	2	0.56	Much Lower than Expected
Victoria	Victoria, TX	Citizens Medical Center	064000	8,781	7,478	5	0.68	Much Lower than Expected
		DeTar Hospital-Navarro	453000	9,573	8,005	4	0.99	About as Expected
Walker	Huntsville, TX	Huntsville Memorial Hospital	061000	4,159	3,475	4	2.97	Much Higher than Expected
Webb	Laredo, TX	Doctors Hospital-Laredo	301000	10,912	7,978	4	0.55	Much Lower than Expected
		Laredo Medical Center	207001	19,056	15,231	4	0.80	Lower than Expected

Hospital County	Metropolitan / Micropolitan statistical area (MSA)	Hospital Name	THCIC_ID	Total Stays	Stays At Risk <sup>1</sup>	Average Length of Stay <sup>2</sup>	Actual-to-Expected Ratio <sup>3</sup>	Actual-to-Expected Ratio Interpretation
Wharton	El Campo, TX	El Campo Memorial Hospital	426000	397	370	4	0.07	Much Lower than Expected
		Gulf Coast Medical Center	833000	1,652	1,312	4	1.00	About as Expected
Wichita	Wichita Falls, TX	Kell West Regional Hospital	681400	781	738	4	0.66	Much Lower than Expected
		United Regional Health Care System	417000	17,001	14,393	4	5.42	Much Higher than Expected
Williamson	Austin-Round Rock, TX	Cedar Park Regional Medical Center	858300	4,943	3,917	3	0.78	Lower than Expected
		Round Rock Medical Center	608000	9,313	6,952	4	0.83	Lower than Expected
		Scott & White Hospital Round Rock	852600	5,208	4,225	3	1.02	About as Expected
		Seton Medical Center Williamson	861700	8,539	7,017	4	1.31	Much Higher than Expected
		St Davids Georgetown Hospital	835700	4,380	3,304	4	0.53	Much Lower than Expected
Wilson	San Antonio-New Braunfels, TX	Connally Memorial Medical Center	433000	977	937	3	0.39	Much Lower than Expected
Wise	Dallas-Fort Worth-Arlington, TX	North Texas Community Hospital	868700	1,071	822	3	0.39	Much Lower than Expected
		Wise Regional Health System	254000	175	171	11	0.84	Lower than Expected
		Wise Regional Health System (Medical Center Drive)	254001	4,193	3,643	4	0.85	Lower than Expected

**Table A2: Hospital Level PPC Report, TX 2012 – Part II**

(Hospitals with less than fifty total stays were masked for total stays and stays at risk)

\* Hospitals indicated to DSHS they are long term acute care facilities.

Hospital County	Metropolitan / Micropolitan statistical area (MSA)	Hospital Name	THCIC_ID	Total Stays	Stays At Risk <sup>1</sup>	Average Length of Stay <sup>2</sup>	Actual-to-Expected Ratio <sup>3</sup>	Actual-to-Expected Ratio Interpretation
Angelina	Lufkin, TX	Memorial Specialty Hospital	691000	290	277	27	6.52	Much Higher than Expected
Bexar	San Antonio-New Braunfels, TX	Kindred Hospital-San Antonio	645000	410	360	27	3.26	Much Higher than Expected
		Select Specialty Hospital-San Antonio	719300	496	446	27	2.60	Much Higher than Expected
Bowie	Texarkana, TX-AR	Dubuis Hospital-Texarkana	822000	234	175	24	0.83	Lower than Expected
Caldwell	Austin-Round Rock, TX	Warm Springs Specialty Hospital-Luling	848200	364	332	26	8.10	Much Higher than Expected
Collin	Dallas-Fort Worth-Arlington, TX	Plano Specialty Hospital	805000	306	296	27	7.33	Much Higher than Expected
Dallas		Baylor Specialty Hospital	586000	539	465	28	2.42	Much Higher than Expected
Harris	Houston-The Woodlands-Sugar Land, TX	CHRISTUS Dubuis Hospital-Houston	807000	144	120	23	2.85	Much Higher than Expected
		Kindred Hospital East Houston	720400	469	406	26	1.51	Much Higher than Expected
		Kindred Hospital Houston NW	706000	738	674	27	4.21	Much Higher than Expected
		Kindred Hospital Midtown	678000	184	135	30	1.84	Much Higher than Expected
		Kindred Hospital-Houston Medical Center	676000	971	705	28	2.95	Much Higher than Expected
		Plaza Specialty Hospital	763000	319	258	29	2.37	Much Higher than Expected
Hidalgo	McAllen-Edinburg-Mission, TX	Solara Hospital	816300	487	440	27	5.61	Much Higher than Expected
Lubbock	Lubbock, TX	Covenant Specialty Hospital	846200	463	402	25	2.54	Much Higher than Expected
Montgomery	Houston-The Woodlands-Sugar Land, TX	Nexus Specialty Hospital	795001	<50	<50	30	9.54	Much Higher than Expected
POTTER	Not Available	Kindred Hospital Amarillo	818000	803	757	26	2.16	Much Higher than Expected
Smith	Tyler, TX	East Texas Medical Center Specialty Hospital	777000	398	370	27	5.12	Much Higher than Expected
Tarrant	Dallas-Fort Worth-Arlington, TX	Kindred Hospital-Tarrant County	690000	578	510	26	3.13	Much Higher than Expected
		LifeCare Hospital-Fort Worth	690600	668	646	28	9.30	Much Higher than Expected

## **Appendix B: Methods**

### **B.1 Data**

The data were subjected to several validation steps. After these steps, the dataset consisted of 2,607,233 records and was subjected to PPC assignment. Table B1 shows the excluded records number of each step. These numbers were affected by the sequence of validation steps.

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

	<b>Count*</b>	<b>% of Total</b>
<b>Total records for year 2012</b>	2,965,961	100.0%
Records from hospitals that are exempt from POA reporting	324,272	10.9%
Not an inpatient record	13,695	0.5%
Error APR_DRGs	4,452	0.2%
Invalid or unreliable patient age /discharge status /length of stay	16,309	0.6%
<b>Total records processed by 3M™ PPC software</b>	<b>2,607,233</b>	<b>87.9%</b>

\* The counts shown in each row of the table depend on the sequence of analytical steps

1. A total of 324,272 Records were excluded because they were from hospitals that are exempt from reporting diagnosis present on admission (POA). THCIC followed the rules and guidelines of the United States Department of Health and Human Services, Centers for Medicare and Medicaid Services (CMS) of exempting six facility types. These hospitals might submit POA indicators, but the POA values reported might not be complete and accurate.

#### 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 13,695 records were excluded because the type-of-bill codes represent non-inpatient visit record. Some facilities submit outpatient data in with their inpatient data and are notified of the error, but do not remove that data prior to certification.
  3. A total of 4,452 records were excluded because they were ungroupable in APR-DRG. For example, data with principal diagnosis codes or principal procedure codes are missing or invalid; data with admission dates or discharge dates are not valid dates or missing.
  4. Another 16,309 records were removed after examining patient age, discharge status and length of stay. They were either invalid or unreliable.

## B.2 POA Quality Assessment

POA quality assessment was performed before PPC assignment. The POA indicator differentiates diagnoses, symptoms or conditions which are present at the time of admission from those conditions that develop during the inpatient admission from either natural disease progression or from potentially faulty equipment or inadequate processes or procedures. An accurate and reliable POA is very important for PPC identifying. The evaluation methodology was developed by 3M™, which includes four assessment criteria. If a hospital doesn't pass the assessment, the data from that hospital will not be included in calculating state benchmark (norm).

## B.3 PPC Methodology

PPC assignment was through 3M™ Core Grouping Software PPC Version 31. The PPC software first identifies and excludes records based on global exclusions (such as organ transplants, HIV, major or metastatic cancers) and specific clinical exclusions related to each PPC. The remaining records will be analyzed based on patient age, sex, discharge status, APR-DRG, length of stay, diagnosis codes and procedure codes and dates. PPC assignment also relies upon POA indicator for each diagnosis. The 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 65 mutually exclusive PPCs. Multiple PPCs can be assigned to a stay if they are not clinically overlapped (the disease processes of one PPC do not directly affect the other disease processes or organs of another PPC).

**Table B2: 3M™ Defined PPCs**

PPC	PPC Description
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



<b>PPC</b>	<b>PPC Description</b>
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
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
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

PPC	PPC Description
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**

Texas state norm (Benchmark, a reference point, or average) was calculated by using PPC data from all hospitals passing the POA quality checks (2,186,568 records). Texas state norm was defined as the state average PPC rate in 2012, 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 the PPC assignment. These stays at risk were identified by the PPC software.

#### **B.5 Actual-to Expected Ratio**

PPC statewide norms by APR-DRG were used to calculate the expected number of PPC stays of each hospital. 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. The “Actual-to-Expected Ratio” is the actual PPC stays divided by the expected 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 levels of severity of illness subclass.

**Expected PPC Stay** – Expected PPC results were calculated based on statewide norms calculated from Texas hospital inpatient discharge data 2012. For each hospital, the expected PPC stays for each APR-DRG/ Severity of Illness category were calculated by using 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. There are 65 PPCs in V.31 of the PPC Classification System.

**PPC Classification System** – A clinically-based classification system, developed by 3M™ Health Information Systems, 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.

**PPC Rate** – PPC rate refers to the number PPC stays divided by the total number of stays (PPC stays / total stays).

**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.

**Stay at Risk for a PPC** – A stay at risk for a PPC is a stay that does not meet any of the exclusion criteria for the PPC assignment.

## **Appendix D: Reference**

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