



**Potentially Preventable
Complications
in Texas**

Calendar Year 2015 Report

As Required by

**Section 98.1046, Health and
Safety Code**



TEXAS
Health and Human
Services

Texas Department of
State Health Services

**Department of State Health
Services
February 2018**

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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 2015 hospital inpatient discharge data provided from the Texas Health Care Information Collection program (THCIC), the following trends were observed:

- Overall, fewer than six percent (5.6%) of inpatient stays (single patient visit or admission through discharge) in 2015 had at least one PPC.
- Approximately 79.2% of non-exempt* acute care hospitals ($n=302$) had fewer or equal numbers of PPC stays than expected and 20.8% ($n=79$) had higher numbers of PPC stays than expected.
- Approximately 68.8% ($n=302$) of non-exempt acute care hospitals had a number of PPC stays that was lower than or equal to the statewide average of 5.6 PPC stays per 100 at-risk admissions.
- Approximately 31.2% ($n=119$) of non-exempt acute care hospitals had more PPC stays than the statewide average.

* 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.¹ 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 2015.

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, 82nd Legislature, First Called Session, 2011).

The data source for this report is *Texas Hospital Inpatient Discharge Research Data File, 2015* (Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September, 2016).² 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.³ 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 2015, a total of 3,068,094 inpatient records were captured from 720 hospitals in Texas. Out of the 720 hospitals that submitted data in 2015, 381 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 2015, 323 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 2015 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, 83.2% of the total records were included in the PPC analysis, which accounted for 2,552,672 records (i.e., 2,552,672 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.⁴ 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 2,552,672 inpatient stays included in the PPC analysis, 2,048,749 were classified as at-risk for a PPC by the 3M™ PPC Methodology. Of these, a total of 114,079 had at least one PPC, resulting in a statewide average of approximately 5.6 PPC stays per 100 at-risk admissions, or 5.6%, an improvement on the 2014 rate (6.0).

Among the 381 hospitals included in the analysis, 262 (68.8%) had a number of PPC stays that was lower than or equal to the statewide average of 5.6 PPC stays per 100 at-risk admissions. 119 hospitals (31.2%) had a number of PPC stays that was higher than the statewide average. Seventy-five percent of hospitals had fewer than 5.9 PPC stays per 100 at-risk admissions (See [Appendix A: Table A1](#) for further details).

[Table 1](#) shows 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.⁵ In 2015, 381 hospitals were included in the statewide PPC analysis. Approximately 79.2% of hospitals ($n=302$) performed about as expected or had fewer PPC stays than expected, whereas 20.8% ($n=79$) had more PPC stays than expected.

Table 1: Number and Percentage of Hospitals by PPC Actual-to-Expected Ratio, Texas, 2015

Actual-to-Expected Ratio	Actual-to-Expected Ratio Interpretation	Number of Hospitals	% of Hospitals
less than 0.75	Much lower than expected	162	42.5%
0.75-0.89	Lower than expected	61	16.0%
0.90-1.10	About as expected	79	20.7%
1.11-1.25	Higher than expected	35	9.2%
more than 1.25	Much higher than expected	44	11.6%
Total Hospitals		381	100.0%

Source: *Texas Hospital Inpatient Discharge Research Data File, 2015*. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September, 2016.

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 2,552,672 inpatient records from the 2015 Texas hospital inpatient discharge database were used for analyzing and reporting PPC results. Overall, 5.6% of inpatient visits in 2015 had at least one PPC.

The reader should be aware that this report is cross sectional in nature, using only calendar year 2015 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.^{6,7}

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

Acronym	Full Name
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

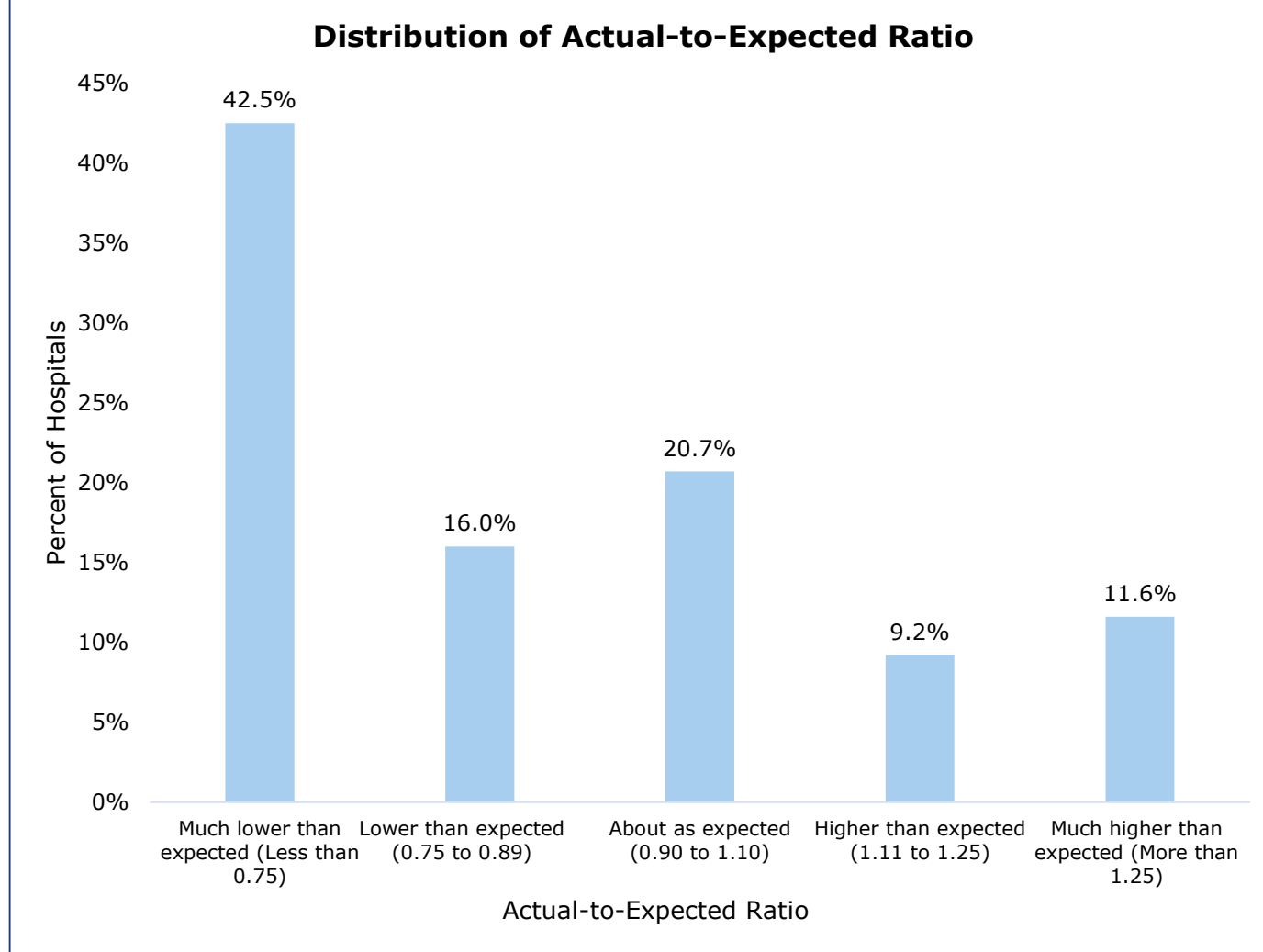
Table A1: PPC Performance Indicators for Texas Hospitals, 2015

Total Admissions	Records Processed	Admissions at Risk	PPC Stays	PPC Stays/ 100 At-risk Admissions	Actual-to-Expected Ratio
3,068,094	2,552,672	2,048,749	114,079	5.6	1.00

Source: *Texas Hospital Inpatient Discharge Research Data File, 2015*. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September, 2016.

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, 2015



Source: *Texas Hospital Inpatient Discharge Research Data File, 2015*. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September, 2016.

Table A2: Hospital Level PPC Report, Texas, 2015 – 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 ^a	Actual PPC Stays	Actual-to-Expected Ratio ^b	Actual-to-Expected Ratio Interpretation
Anderson	Palestine, TX	Palestine Regional Medical Center	629001	5,257	4,377	150	0.69	Much lower than expected
Andrews	Andrews, TX	Permian Regional Medical Center	187000	1,003	672	9	0.27	Much lower than expected
Angelina	Lufkin, TX	CHI St Lukes Health Memorial Lufkin	129000	6,240	5,532	390	1.12	Higher than expected
		Woodland Heights Medical Center	481000	5,926	4,569	309	1.28	Much higher than expected
Atascosa	San Antonio-New Braunfels, TX	South Texas Regional Medical Center	334002	1,795	1,481	63	0.86	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>	0.00	Much lower than expected
Bastrop	Austin-Round Rock, TX	Seton Smithville Regional Hospital	424500	237	228	8	0.94	About as expected
Baylor	Not Available	Seymour Hospital	546000	347	279	12	0.88	Lower than expected
Bee	Beeville, TX	CHRISTUS Spohn Hospital-Beeville	429001	2,087	1,725	56	0.82	Lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk ^a	Actual PPC Stays	Actual- to- Expected Ratio ^b	Actual-to- Expected Ratio Interpretation
Bell	Killeen-Temple, TX	Metroplex Hospital	397001	6,874	5,370	237	1.10	About as expected
		Scott & White Medical Center Temple	537000	32,347	26,963	1,714	1.10	About as expected
		Seton Medical Center Harker Heights	971000	4,279	3,220	140	0.64	Much lower than expected
Bexar	San Antonio- New Braunfels, TX	Baptist Emergency Hospital Hausman	101100	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		Baptist Emergency Hospital Overlook	972810	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		Baptist Emergency Hospital Thousand Oaks	647000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		Baptist Emergency Hospital Westover Hills	973000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		Baptist Medical Center	114001	17,843	15,501	1,026	0.99	About as expected
		CHRISTUS Santa Rosa Hospital Alamo Heights	973930	500	499	17	0.54	Much lower than expected
		CHRISTUS Santa Rosa Hospital-Westover Hills	339002	9,658	7,954	457	0.98	About as expected
		CHRISTUS Santa Rosa Medical Center	339001	4,729	4,461	263	0.87	Lower than expected
		Forest Park Medical Center at San Antonio	974250	218	216	8	0.73	Much lower than expected
		Foundation Surgical Hospital-San Antonio	852100	1,122	1,122	22	0.37	Much lower than expected
		Methodist Ambulatory Surgery Hospital-Northwest	681001	441	441	13	0.43	Much lower than expected
		Methodist Hospital	154000	39,958	31,475	1,612	1.06	About as expected
		Methodist Specialty & Transplant Hospital	154001	8,535	7,885	338	0.79	Lower than expected
		Methodist Stone Oak Hospital	874100	12,349	9,795	405	0.70	Much lower than expected
		Methodist Teksan Hospital	154003	4,149	3,930	359	0.89	Lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk ^a	Actual PPC Stays	Actual- to- Expected Ratio ^b	Actual-to- Expected Ratio Interpretation
		Metropolitan Methodist Hospital	283000	18,616	14,259	667	0.91	About as expected
		Mission Trail Baptist Hospital	081001	6,186	5,630	328	0.89	Lower than expected
		Nix Health Care System	396002	8,274	7,916	218	0.96	About as expected
		North Central Baptist Hospital	677001	17,769	13,677	596	1.00	About as expected
		Northeast Baptist Hospital	134001	12,499	10,755	727	1.09	About as expected
		Northeast Methodist Hospital	154002	7,276	6,534	298	0.90	About as expected
		South Texas Spine & Surgical Hospital	786800	1,026	1,026	9	0.12	Much lower than expected
		Southwest General Hospital	228001	10,564	8,572	417	1.09	About as expected
		St Lukes Baptist Hospital	503001	16,615	12,221	705	0.93	About as expected
		University Hospital	158000	28,339	22,253	1,308	0.95	About as expected
		Victory Medical Center Landmark	209100	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
Bosque	Not Available	Goodall - Witcher Hospital	070000	394	319	15	0.87	Lower than expected
Bowie	Texarkana, TX-AR	CHRISTUS St Michael Health System	788001	13,988	11,202	656	0.89	Lower than expected
		Wadley Regional Medical Center	144000	8,086	6,539	394	1.01	About as expected
Brazoria	Houston-The Woodlands-Sugar Land, TX	CHI St Lukes Health Brazosport	436000	4,870	4,130	70	0.32	Much lower than expected
		Pearland Medical Center	974390	1,106	991	33	0.80	Lower than expected
		UTMB Angleton Danbury Medical Center	126000	2,331	1,826	41	0.58	Much lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk ^a	Actual PPC Stays	Actual- to- Expected Ratio ^b	Actual-to- Expected Ratio Interpretation
Brazos	College Station-Bryan, TX	Baylor Scott & White Hospital College Station	206100	6,050	4,596	269	0.75	Much lower than expected
		College Station Medical Center	071000	5,587	4,191	188	0.75	Lower than expected
		Physicians Centre Hospital	717500	345	344	5	0.29	Much lower than expected
		St Joseph Regional Health Center	002001	14,389	12,168	666	0.80	Lower than expected
Brown	Brownwood, TX	Brownwood Regional Medical Center	058000	3,760	2,978	176	1.23	Higher than expected
Burnet	Not Available	Baylor Scott & White Medical Center Marble Falls	974940	670	516	18	0.50	Much lower than expected
Cameron	Brownsville- Harlingen, TX	Harlingen Medical Center	788002	5,993	4,895	83	0.26	Much lower than expected
		Valley Baptist Medical Center	400000	17,833	14,285	686	1.01	About as expected
		Valley Baptist Medical Center-Brownsville	314001	12,881	10,341	390	1.02	About as expected
		Valley Regional Medical Center	019000	10,833	8,042	380	1.27	Much higher than expected
Cass	Not Available	Christus St Michael Hospital Atlanta	788003	631	580	19	0.52	Much lower than expected
Cherokee	Jacksonville, TX	East Texas Medical Center- Jacksonville	416000	2,165	1,660	39	0.50	Much lower than expected
Childress	Not Available	Childress Regional Medical Center	026000	862	669	33	0.82	Lower than expected
Collin	Dallas-Fort Worth- Arlington, TX	Baylor Emergency Medical Center at Murphy	973550	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		Baylor Scott & White Medical Center Centennial	806300	4,231	3,400	272	1.37	Much higher than expected
		Baylor Scott & White Medical Center McKinney	971900	8,338	6,157	319	1.01	About as expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk ^a	Actual PPC Stays	Actual-to-Expected Ratio ^b	Actual-to-Expected Ratio Interpretation
		Baylor Scott & White Medical Center-Frisco	787400	7,072	4,741	183	0.38	Much lower than expected
		Baylor Scott & White Medical Center-Plano	814001	5,695	5,206	299	0.87	Lower than expected
		Bush Renner	549001	8,374	6,216	373	1.07	About as expected
		Columbia Medical Center-McKinney	246000	10,247	8,775	356	0.91	About as expected
		Forest Park Medical Center Frisco	971800	483	483	20	0.72	Much lower than expected
		Heart Hospital Baylor Plano	844000	4,210	4,148	868	0.89	Lower than expected
		Medical Center-Plano	214000	18,535	14,818	975	1.15	Higher than expected
		Methodist McKinney Hospital	937000	726	725	35	0.67	Much lower than expected
		Star Medical Center	973390	155	155	11	1.10	About as expected
		Texas Health Center-Diagnostics & Surgery Plano	815300	523	523	15	0.25	Much lower than expected
		Texas Health Presbyterian Hospital Allen	724200	3,442	2,761	75	0.38	Much lower than expected
		Texas Health Presbyterian Hospital-Plano	664000	17,627	13,368	748	0.92	About as expected
Colorado	Not Available	Weimar Medical Center	974480	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
Comal	San Antonio-New Braunfels, TX	Baptist Emergency Hospital Schertz	973120	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		CHRISTUS Santa Rosa Hospital New Braunfels	863300	4,192	3,595	198	0.66	Much lower than expected
		Resolute Health	973850	3,326	2,642	121	1.13	Higher than expected
Cooke	Gainesville, TX	North Texas Medical Center	298000	1,445	1,067	34	0.58	Much lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk ^a	Actual PPC Stays	Actual-to-Expected Ratio ^b	Actual-to-Expected Ratio Interpretation
Coryell	Killeen-Temple, TX	Coryell Memorial Hospital	346000	553	537	145	7.22	Much higher than expected
Dallas	Dallas-Fort Worth-Arlington, TX	Baylor Heart & Vascular Center	784400	2,132	2,109	188	0.87	Lower than expected
		Baylor Medical Center at Uptown	008001	1,153	1,152	15	0.16	Much lower than expected
		Baylor Scott & White Medical Center Sunnyvale	919000	6,326	4,826	163	0.64	Much lower than expected
		Baylor Scott & White Medical Center White Rock	511000	7,606	6,165	311	0.88	Lower than expected
		Baylor Scott & White Medical Center-Garland	027000	6,576	6,020	340	0.86	Lower than expected
		Baylor Scott & White Medical Center-Irving	300000	12,037	9,382	561	1.15	Higher than expected
		Baylor Surgical Hospital at Las Colinas	799500	<i>iv</i>	<i>iv</i>	<i>iv</i>	0.13	Much lower than expected
		Baylor University Medical Center	331000	35,134	26,890	2,063	1.20	Higher than expected
		Crescent Medical Center Lancaster	973180	292	292	7	0.92	About as expected
		Dallas Medical Center	449000	4,416	3,470	107	0.28	Much lower than expected
		Dallas Regional Medical Center	315003	1,350	1,242	21	0.25	Much lower than expected
		Forest Park Medical Center	900000	1,135	1,134	51	0.35	Much lower than expected
		Las Colinas Medical Center	814000	5,575	4,161	161	0.79	Lower than expected
		Medical City Dallas Hospital	340000	26,433	21,324	922	0.91	About as expected
		Methodist Charlton Medical Center	142000	12,184	9,643	471	0.85	Lower than expected
Methodist Dallas Medical Center	255000	15,857	11,691	642	0.88	Lower than expected		

Hospital County	Metropolitan/Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk ^a	Actual PPC Stays	Actual-to-Expected Ratio ^b	Actual-to-Expected Ratio Interpretation
		Methodist Hospital for Surgery	750000	2,332	2,330	142	0.77	Lower than expected
		Methodist Richardson Medical Center	549000	/v	/v	/v	0.26	Much lower than expected
		North Central Surgical Center	860600	1,249	1,249	10	0.10	Much lower than expected
		Parkland Memorial Hospital	474000	36,583	25,506	1,907	1.05	About as expected
		Pine Creek Medical Center	818200	1,234	1,234	21	0.30	Much lower than expected
		Texas Health Hospital	974800	68	68	5	5.22	Much higher than expected
		Texas Health Presbyterian Hospital Dallas	431000	27,268	21,133	1,368	0.96	About as expected
		Texas Institute for Surgery-Texas Health Presbyterian-Dallas	813100	/v	/v	/v	0.08	Much lower than expected
		UT Southwestern University Hospital-St Paul	448001	17,904	13,391	1,206	1.18	Higher than expected
		UT Southwestern University Hospital-Zale Lipshy	653001	4,748	4,399	349	1.07	About as expected
		Walnut Hill Medical Center	973750	2,035	1,952	143	0.75	Much lower than expected
Dawson	Lamesa, TX	Medical Arts Hospital	341000	512	370	21	1.01	About as expected
DeWitt	Not Available	Cuero Regional Hospital	074000	977	832	31	0.57	Much lower than expected
Deaf Smith	Hereford, TX	Hereford Regional Medical Center	420000	/v	/v	/v	0.00	Much lower than expected
Denton	Dallas-Fort Worth-Arlington, TX	Baylor Emergency Medical Center at Aubrey	873200	/v	/v	/v	0.00	Much lower than expected
		Baylor Medical Center Trophy Club	805100	715	714	29	0.65	Much lower than expected
		Baylor Scott & White Medical Center Carrollton	042000	6,190	4,758	310	1.12	Higher than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk ^a	Actual PPC Stays	Actual- to- Expected Ratio ^b	Actual-to- Expected Ratio Interpretation
		Denton Regional Medical Center	336001	8,701	7,614	388	0.89	Lower than expected
		Medical Center-Lewisville	394000	7,471	5,865	295	0.95	About as expected
		Texas Health Presbyterian Hospital Flower Mound	943000	6,457	4,850	173	0.64	Much lower than expected
		Texas Health Presbyterian Hospital-Denton	820800	11,010	8,411	323	0.74	Much lower than expected
		The Heart Hospital Baylor Denton	208100	358	352	58	0.37	Much lower than expected
Dimmit	Not Available	Dimmit Regional Hospital	156000	770	564	13	0.19	Much lower than expected
Eastland	Not Available	Eastland Memorial Hospital	222000	556	530	27	0.94	About as expected
Ector	Odessa, TX	Medical Center Hospital	181000	13,684	11,221	736	1.18	Higher than expected
		Odessa Regional Medical Center	425000	8,381	5,850	349	1.37	Much higher than expected
El Paso	El Paso, TX	Del Sol Medical Center	319000	18,309	14,732	685	0.95	About as expected
		El Paso Specialty Hospital	728200	660	660	7	0.19	Much lower than expected
		Foundation Surgical Hospital of El Paso	801300	761	761	12	0.22	Much lower than expected
		Las Palmas Medical Center	180000	11,680	9,214	379	0.79	Lower than expected
		The Hospitals of Providence East Campus	865000	12,934	10,108	407	0.95	About as expected
		The Hospitals of Providence Memorial Campus	130000	19,485	15,375	542	0.96	About as expected
		The Hospitals of Providence Sierra Campus	266000	11,173	9,333	608	1.13	Higher than expected
		University Medical Center of El Paso	263000	18,247	13,536	836	0.99	About as expected
Ellis		Baylor Scott & White Medical Center Waxahachie	285000	5,323	4,537	219	0.90	About as expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk ^a	Actual PPC Stays	Actual-to-Expected Ratio ^b	Actual-to-Expected Ratio Interpretation
	Dallas-Fort Worth-Arlington, TX	Ennis Regional Medical Center	714500	1,745	1,258	45	0.48	Much lower than expected
Erath	Stephenville, TX	Texas Health Harris Methodist Hospital-Stephenville	256000	2,128	1,701	61	0.57	Much lower than expected
Falls	Waco, TX	Falls Community Hospital & Clinic	517000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
Fayette	Not Available	St Marks Medical Center	823400	1,657	1,338	57	0.55	Much lower than expected
Fort Bend	Houston-The Woodlands-Sugar Land, TX	Emerus Hospital	916000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		Hospital for Surgical Excellence of Oakbend Medical Center	230002	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.28	Much lower than expected
		Houston Methodist Sugar Land Hospital	823000	18,335	14,203	849	0.93	About as expected
		Memorial Hermann Katy Hospital	534001	11,232	8,587	391	0.78	Lower than expected
		Memorial Hermann Sugar Land	609001	6,648	5,053	289	1.11	Higher than expected
		Memorial Hermann Surgical Hospital First Colony	790500	389	389	9	0.28	Much lower than expected
		Oakbend Medical Center	230000	3,052	2,717	187	1.68	Much higher than expected
		Oakbend Medical Center (Southwest Freeway)	230001	4,319	2,665	124	1.21	Higher than expected
		St Lukes Sugar Land Hospital	869700	3,039	2,691	179	1.32	Much higher than expected
Freestone	Not Available	East Texas Medical Center-Fairfield	401000	431	410	7	0.44	Much lower than expected
Frio	Not Available	Frio Regional Hospital	441000	176	169	25	4.12	Much higher than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk ^a	Actual PPC Stays	Actual- to- Expected Ratio ^b	Actual-to- Expected Ratio Interpretation
		Nix Community General Hospital	973150	lv	lv	lv	0.00	Much lower than expected
Galveston	Houston-The Woodlands-Sugar Land, TX	Mainland Medical Center	793000	7,243	6,522	370	1.07	About as expected
		UT Medical Branch Hospital	000102	27,385	20,632	1,074	1.03	About as expected
Gillespie	Fredericksburg, TX	Hill Country Memorial Hospital	219000	3,108	2,509	112	0.60	Much lower than expected
Gonzales	Not Available	Memorial Hospital	103000	797	569	21	0.78	Lower than expected
Gray	Pampa, TX	Pampa Regional Medical Center	832900	2,171	1,914	38	0.31	Much lower than expected
Grayson	Sherman-Denison, TX	Baylor Scott & White Surgical Hospital at Sherman	974910	lv	lv	lv	0.14	Much lower than expected
		Heritage Park Surgical Hospital	100076	260	260	6	0.24	Much lower than expected
		Texoma Medical Center	847000	14,169	11,855	857	1.21	Higher than expected
		Wilson N Jones Regional Medical Center	297000	4,774	4,142	233	1.16	Higher than expected
Gregg	Longview, TX	Allegiance Specialty Hospital-Kilgore	031001	320	312	12	1.38	Much higher than expected
		CHRISTUS Good Shepherd Medical Center-Longview	029000	16,004	13,172	812	1.10	About as expected
		Longview Regional Medical Center	525000	9,946	7,871	438	0.97	About as expected
Guadalupe	San Antonio-New Braunfels, TX	Guadalupe Regional Medical Center	155000	4,943	3,860	179	0.79	Lower than expected
Hale	Plainview, TX	Covenant Hospital-Plainview	146000	2,219	1,745	91	0.76	Lower than expected
Hamilton	Not Available	Hamilton General Hospital	640000	1,001	951	56	1.70	Much higher than expected

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Harris	Houston-The Woodlands-Sugar Land, TX	Altus Baytown Hospital	973860	lv	lv	lv	0.33	Much lower than expected
		Bay Area Regional Medical Center	973960	4,208	3,957	196	1.00	About as expected
		Bayshore Medical Center	349001	14,837	11,690	542	1.11	Higher than expected
		CHI St Lukes Health Baylor College of Medicine Medical Center	118000	23,721	21,316	2,542	1.36	Much higher than expected
		Clear Lake Regional Medical Center	212000	22,657	18,073	851	0.89	Lower than expected
		Cypress Fairbanks Medical Center	606000	11,998	8,537	326	0.89	Lower than expected
		East Houston Regional Medical Center	458001	8,417	6,489	247	0.87	Lower than expected
		Emerus Community Hospital	973600	lv	lv	lv	0.00	Much lower than expected
		First Nobilis Hospital	974450	717	715	6	0.07	Much lower than expected
		Harris Health System Ben Taub Hospital	459000	26,235	19,895	1,278	0.97	About as expected
		Harris Health System Lyndon B Johnson Hospital	384000	14,378	10,728	623	0.95	About as expected
		Houston Hospital for Specialized Surgery	758000	lv	lv	lv	0.26	Much lower than expected
		Houston Methodist Hospital	124000	35,615	29,871	2,832	1.20	Higher than expected
		Houston Methodist San Jacinto Hospital	405000	13,618	11,376	883	1.43	Much higher than expected
		Houston Methodist St John Hospital	973640	6,067	4,977	280	1.15	Higher than expected
Houston Methodist West Hospital	800010	13,781	10,349	630	0.97	About as expected		

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		Houston Methodist Willowbrook Hospital	724700	19,000	14,991	909	1.28	Much higher than expected
		Houston Northwest Medical Center	229000	20,061	14,868	780	1.13	Higher than expected
		Houston Orthopedic & Spine Hospital	831900	418	418	5	0.18	Much lower than expected
		Houston Physicians Hospital	822001	585	584	10	0.25	Much lower than expected
		Memorial Hermann Greater Heights Hospital	172000	13,199	10,250	537	0.89	Lower than expected
		Memorial Hermann Hospital	347000	40,552	32,420	2,374	1.10	About as expected
		Memorial Hermann Memorial City Medical Center	302000	24,339	19,257	1,097	0.89	Lower than expected
		Memorial Hermann Northeast	847100	12,801	10,696	553	1.04	About as expected
		Memorial Hermann Orthopedic and Spine Hospital	974820	880	880	27	0.31	Much lower than expected
		Memorial Hermann Southeast Hospital	119000	16,690	14,316	776	1.09	About as expected
		Memorial Hermann Southwest Hospital	407000	19,686	15,232	813	0.84	Lower than expected
		Memorial Hermann Specialty Hospital Kingwood	813800	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.32	Much lower than expected
		North Cypress Medical Center	843200	9,110	8,354	571	1.32	Much higher than expected
		Park Plaza Hospital	390000	3,661	3,311	181	1.29	Much higher than expected
		Spring Central Hospital	973330	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		St Joseph Medical Center	838600	17,724	12,785	602	1.23	Higher than expected

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		St Joseph Medical Center-Heights	973100	749	698	29	0.73	Much lower than expected
		St Lukes Hospital at the Vintage	740000	4,462	3,408	203	1.16	Higher than expected
		St Lukes Patients Medical Center	846100	3,394	3,209	242	1.53	Much higher than expected
		Surgery Specialty Hospitals of America-Southeast Houston	694100	88	88	7	1.22	Higher than expected
		TOPS Surgical Specialty Hospital	674000	724	724	17	0.45	Much lower than expected
		Texas Orthopedic Hospital	792000	3,362	3,362	56	0.20	Much lower than expected
		Tomball Regional Medical Center	076000	9,945	8,414	477	1.06	About as expected
		United Memorial Medical Center	030000	525	494	11	0.55	Much lower than expected
		University General Hospital	840200	2,155	2,058	68	0.52	Much lower than expected
		Victory Medical Center Houston	945500	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.14	Much lower than expected
		West Houston Medical Center	337001	15,036	11,420	687	1.26	Much higher than expected
		Westside Surgical Hospital	101300	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.09	Much lower than expected
		Womans Hospital-Texas	007000	25,070	15,049	650	1.02	About as expected
Harrison	Marshall, TX	CHRISTUS Good Shepherd Medical Center-Marshall	020000	3,776	3,100	116	0.75	Much lower than expected
Hays	Austin-Round Rock, TX	Central Texas Medical Center	556000	4,646	3,692	129	0.74	Much lower than expected
		Seton Medical Center Hays	921000	7,577	6,082	370	1.11	Higher than expected

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Hemphill	Not Available	Hemphill County Hospital	457000	/v	/v	/v	0.00	Much lower than expected
Henderson	Athens, TX	East Texas Medical Center-Athens	374000	6,000	4,888	189	1.02	About as expected
Hidalgo	McAllen-Edinburg-Mission, TX	Cornerstone Regional Hospital	830000	/v	/v	/v	0.17	Much lower than expected
		Doctors Hospital-Renaissance	797100	39,810	29,566	1,490	1.05	About as expected
		Edinburg Regional Medical Center	140002	7,171	6,241	164	0.82	Lower than expected
		Knapp Medical Center	480000	9,358	7,236	82	0.22	Much lower than expected
		McAllen Medical Center	802001	18,814	16,698	618	0.89	Lower than expected
		Mission Regional Medical Center	370000	10,505	7,814	313	1.08	About as expected
		Rio Grande Regional Hospital	601000	15,085	11,969	400	0.74	Much lower than expected
Hill	Not Available	Hill Regional Hospital	383000	1,201	977	38	0.57	Much lower than expected
Hockley	Levelland, TX	Covenant Hospital-Levelland	307000	993	763	29	0.69	Much lower than expected
Hood	Dallas-Fort Worth-Arlington, TX	Lake Granbury Medical Center	424000	3,352	2,638	122	0.85	Lower than expected
Hopkins	Sulphur Springs, TX	Hopkins County Memorial Hospital	280000	3,828	2,974	136	0.96	About as expected
Houston	Not Available	East Texas Medical Center-Crockett	185000	344	270	6	0.20	Much lower than expected
		Houston County Medical Center	974710	355	280	8	0.47	Much lower than expected
Howard	Big Spring, TX	Scenic Mountain Medical Center	221000	2,369	2,003	62	0.77	Lower than expected

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Hunt	Dallas-Fort Worth-Arlington, TX	Hunt Regional Medical Center Greenville	085000	6,370	5,290	265	0.95	About as expected
Jack	Not Available	Faith Community Hospital	046000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.80	Lower than expected
Jasper	Not Available	CHRISTUS Southeast Texas - Jasper Memorial	038001	1,691	1,343	29	0.45	Much lower than expected
Jefferson	Beaumont-Port Arthur, TX	Baptist Hospitals of Southeast Texas	389000	17,394	15,123	215	0.29	Much lower than expected
		CHRISTUS Southeast Texas - St Elizabeth	444001	15,514	12,695	690	0.99	About as expected
		CHRISTUS Southeast Texas -St Mary	299001	2,016	1,712	66	0.63	Much lower than expected
		Medical Center-Southeast Texas	464002	9,279	7,630	130	0.32	Much lower than expected
Jim Wells	Alice, TX	CHRISTUS Spohn Hospital Alice	689401	2,899	2,554	122	0.69	Much lower than expected
Johnson	Dallas-Fort Worth-Arlington, TX	Texas Health Harris Methodist Hospital Cleburne	323000	4,473	3,636	132	0.58	Much lower than expected
Jones	Abilene, TX	Anson General Hospital	016000	311	300	9	1.03	About as expected
		Hamlin Memorial Hospital	305000	117	111	6	1.50	Much higher than expected
		Stamford Memorial Hospital	043000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.29	Much lower than expected
Kaufman	Dallas-Fort Worth-Arlington, TX	Texas Health Presbyterian Hospital-Kaufman	303000	2,089	1,779	47	0.68	Much lower than expected
Kerr	Kerrville, TX	Peterson Regional Medical Center	406000	4,798	4,000	199	0.94	About as expected
Kleberg	Kingsville, TX	CHRISTUS Spohn Hospital-Kleberg	216001	2,984	2,622	58	0.63	Much lower than expected

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Knox	Not Available	Knox County Hospital	568000	/v	/v	/v	0.57	Much lower than expected
Lamar	Paris, TX	Paris Regional Medical Center South Campus	095002	7,162	5,958	252	0.67	Much lower than expected
Lamb	Not Available	Lamb Healthcare Center	217000	399	295	15	0.43	Much lower than expected
Limestone	Not Available	Parkview Regional Hospital	505000	551	544	18	0.96	About as expected
Llano	Not Available	Baylor Scott & White Medical Center Llano	476000	634	483	63	3.35	Much higher than expected
Lubbock	Lubbock, TX	Covenant Medical Center	465000	17,220	15,573	1,007	0.73	Much lower than expected
		Covenant Medical Center-Lakeside	109000	6,019	3,634	140	0.64	Much lower than expected
		Grace Medical Center	013001	1,080	1,065	30	0.45	Much lower than expected
		Lubbock Heart Hospital	801500	2,563	2,527	178	0.84	Lower than expected
		TrustPoint Hospital	865800	567	558	63	1.58	Much higher than expected
		University Medical Center	145000	19,085	14,875	1,073	1.22	Higher than expected
Matagorda	Bay City, TX	Matagorda Regional Medical Center	006000	2,536	1,947	159	1.13	Higher than expected
Maverick	Eagle Pass, TX	Fort Duncan Regional Medical Center	547001	5,638	4,143	125	0.55	Much lower than expected
McLennan	Waco, TX	Baylor Scott & White Medical Center Hillcrest	506000	15,534	11,972	856	1.13	Higher than expected
		Providence Health Center	040000	17,319	15,063	1,011	1.23	Higher than expected
Midland	Midland, TX	Midland Memorial Hospital	452000	14,604	11,108	668	1.28	Much higher than expected
Milam	Not Available	Little River Healthcare - Cameron Hospital	973740	/v	/v	/v	0.00	Much lower than expected

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Montague	Not Available	Bowie Memorial Hospital	440000	376	368	14	0.83	Lower than expected
		Nocona General Hospital	348000	/v	/v	/v	0.16	Much lower than expected
Montgomery	Houston-The Woodlands-Sugar Land, TX	Apollo Hospital	973440	/v	/v	/v	0.00	Much lower than expected
		Conroe Regional Medical Center	508001	15,323	13,178	698	0.99	About as expected
		Kingwood Medical Center	675000	17,912	14,535	701	0.93	About as expected
		Memorial Hermann The Woodlands Hospital	615000	20,366	15,275	764	0.96	About as expected
		St Lukes Lakeside Hospital	923000	823	823	27	0.42	Much lower than expected
		St Lukes The Woodlands Hospital	793100	12,047	9,319	634	1.20	Higher than expected
		Woodlands Specialty Hospital	974150	150	149	15	4.21	Much higher than expected
Nacogdoches	Nacogdoches, TX	Nacogdoches Medical Center	392000	4,243	3,426	142	0.74	Much lower than expected
		Nacogdoches Memorial Hospital	478000	5,311	4,240	292	1.43	Much higher than expected
Navarro	Corsicana, TX	Navarro Regional Hospital	141000	2,699	2,096	63	0.49	Much lower than expected
Nolan	Sweetwater, TX	Rolling Plains Memorial Hospital	471000	1,270	1,006	26	0.42	Much lower than expected
Nueces	Corpus Christi, TX	CHRISTUS Spohn Hospital Corpus Christi	398000	6,534	6,022	352	1.45	Much higher than expected
		CHRISTUS Spohn Hospital Corpus Christi-Shoreline	398001	16,141	14,441	1,173	1.14	Higher than expected
		CHRISTUS Spohn Hospital Corpus Christi-South	398002	8,408	5,991	309	1.18	Higher than expected
		Corpus Christi Medical Center-Bay Area	703000	11,728	7,386	267	0.61	Much lower than expected

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		Corpus Christi Medical Center-Doctors Regional	703002	5,439	5,163	418	0.75	Lower than expected
		Corpus Christi Medical Center-Heart Hospital	703003	1,509	1,372	127	0.98	About as expected
		Corpus Christi Medical Center-Northwest	704004	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.74	Much lower than expected
		South Texas Surgical Hospital	931000	928	925	34	0.74	Much lower than expected
Orange	Beaumont-Port Arthur, TX	Baptist Orange Hospital	121000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.32	Much lower than expected
Palo Pinto	Mineral Wells, TX	Palo Pinto General Hospital	034000	1,786	1,555	77	1.19	Higher than expected
Panola	Not Available	East Texas Medical Center-Carthage	484000	705	687	8	0.30	Much lower than expected
Parker	Dallas-Fort Worth-Arlington, TX	Weatherford Regional Medical Center	844800	4,318	3,719	104	0.64	Much lower than expected
Pecos	Not Available	Pecos County Memorial Hospital	356000	1,259	1,066	28	0.46	Much lower than expected
Polk	Not Available	CHI St Lukes Health - Memorial Livingston	466000	2,223	1,749	67	0.65	Much lower than expected
Potter	Amarillo, TX	Baptist St Anthonys Hospital	001000	20,903	17,587	1,306	1.19	Higher than expected
		Northwest Texas Hospital	318000	19,218	15,946	732	0.93	About as expected
		Physicians Surgical Hospital-Panhandle Campus	852901	647	647	8	0.15	Much lower than expected
		Physicians Surgical Hospital-Quail Creek	852900	1,114	1,114	6	0.17	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
Rockwall		Baylor Emergency Medical Center at Rockwall	973610	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected

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	Dallas-Fort Worth- Arlington, TX	Baylor Scott & White Medical Center Lake Pointe	625000	8,408	6,565	198	0.63	Much lower than expected
		Texas Health Presbyterian Hospital-Rockwall	859900	4,129	3,498	194	1.05	About as expected
Rusk	Longview, TX	East Texas Medical Center Henderson	248000	1,619	1,350	40	0.49	Much lower than expected
San Patricio	Corpus Christi, TX	Care Regional Medical Center	239001	646	604	20	0.97	About as expected
Scurry	Snyder, TX	Cogdell Memorial Hospital	439000	763	573	24	0.87	Lower than expected
Smith	Tyler, TX	Christus Mother Frances Hospital Tyler	286000	25,285	20,959	1,370	0.92	About as expected
		East Texas Medical Center	410000	20,413	18,081	1,362	1.07	About as expected
		Texas Spine & Joint Hospital	790200	2,254	2,254	52	0.36	Much lower than expected
		UT Health Center-Tyler	000112	1,958	1,825	85	0.78	Lower than expected
Somervell	Dallas-Fort Worth- Arlington, TX	Glen Rose Medical Center	059000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.14	Much lower than expected
Starr	Rio Grande City, TX	Starr County Memorial Hospital	393000	1,370	1,109	18	0.03	Much lower than expected
Stephens	Not Available	Stephens Memorial Hospital	430000	282	272	8	0.80	Lower than expected
Tarrant	Dallas-Fort Worth- Arlington, TX	Baylor Emergency Medical Center	972420	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
		Baylor Orthopedic and Spine Hospital - Arlington	936000	1,369	1,368	12	0.13	Much lower than expected
		Baylor Scott & White All Saints Medical Center-Fort Worth	363000	21,416	15,027	817	0.96	About as expected
		Baylor Scott & White Medical Center-Grapevine	513000	13,100	10,053	554	1.02	About as expected

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		Baylor Surgical Hospital-Fort Worth	804500	1,188	1,187	16	0.23	Much lower than expected
		Forest Park Medical Center Southlake	973140	596	596	33	0.88	Lower than expected
		Forest Park Medical Center at Fort Worth	974230	456	455	19	0.57	Much lower than expected
		John Peter Smith Hospital	409000	18,566	14,598	826	0.88	Lower than expected
		Medical Center-Arlington	502000	17,540	12,836	573	1.09	About as expected
		Medical City Alliance	974490	1,415	1,038	40	0.88	Lower than expected
		Methodist Mansfield Medical Center	842800	9,831	7,638	490	1.22	Higher than expected
		North Hills Hospital	437000	5,562	5,216	242	0.69	Much lower than expected
		Parkway Surgical and Cardiovascular Hospital	973840	278	277	12	0.59	Much lower than expected
		Plaza Medical Center-Fort Worth	477000	8,640	8,132	535	0.91	About as expected
		Texas General Hospital	115100	308	302	6	0.37	Much lower than expected
		Texas Health Arlington Memorial Hospital	422000	13,538	11,015	559	1.13	Higher than expected
		Texas Health Harris Methodist HEB	182000	12,486	9,906	592	0.93	About as expected
		Texas Health Harris Methodist Hospital Alliance	972900	5,932	4,357	184	0.84	Lower than expected
		Texas Health Harris Methodist Hospital Azle	469000	1,270	1,203	28	0.41	Much lower than expected
		Texas Health Harris Methodist Hospital Southlake	812800	921	921	20	0.26	Much lower than expected

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		Texas Health Harris Methodist Hospital-Fort Worth	235000	33,067	27,654	1,645	0.83	Lower than expected
		Texas Health Harris Methodist Hospital-Southwest Fort Worth	627000	15,819	12,593	560	0.72	Much lower than expected
		Texas Health Heart & Vascular Hospital	730001	1,130	1,111	120	0.85	Lower than expected
		Texas Health Huguley Hospital	047000	9,576	7,845	675	1.42	Much higher than expected
		USMD Hospital Fort Worth	861400	163	163	6	0.76	Lower than expected
		USMD Hospital-Arlington	799001	1,802	1,775	81	0.92	About as expected
Taylor	Abilene, TX	Abilene Regional Medical Center	091001	7,578	5,831	322	0.88	Lower than expected
		Hendrick Medical Center	500000	15,828	13,227	754	0.87	Lower than expected
Terry	Not Available	Brownfield Regional Medical Center	078000	372	365	25	1.92	Much higher than expected
Titus	Mount Pleasant, TX	Titus Regional Medical Center	137000	3,174	2,189	76	0.82	Lower than expected
Tom Green	San Angelo, TX	San Angelo Community Medical Center	056000	5,232	4,142	166	0.75	Much lower than expected
		Shannon West Texas Memorial Hospital	168000	12,682	10,750	676	0.95	About as expected
Travis	Austin-Round Rock, TX	Arise Austin Medical Center	973290	941	941	34	0.63	Much lower than expected
		Heart Hospital-Austin	829000	2,777	2,718	335	0.64	Much lower than expected
		Lakeway Regional Medical Center	970200	2,762	2,391	147	0.96	About as expected
		North Austin Medical Center	829900	23,866	17,331	753	0.77	Lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk ^a	Actual PPC Stays	Actual- to- Expected Ratio ^b	Actual-to- Expected Ratio Interpretation
		Northwest Hills Surgical Hospital	794000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.11	Much lower than expected
		Seton Medical Center	497000	24,307	18,917	1,443	1.08	About as expected
		Seton Northwest Hospital	797600	6,957	5,407	227	1.00	About as expected
		Seton Southwest Hospital	797500	1,917	1,145	57	0.32	Much lower than expected
		St Davids Hospital	035000	18,595	14,183	611	0.68	Much lower than expected
		St Davids South Austin Hospital	602000	15,452	12,664	538	0.64	Much lower than expected
		University Medical Center-Brackenridge	335000	13,337	10,785	622	1.30	Much higher than expected
		Westlake Medical Center	822800	1,021	1,013	31	0.46	Much lower than expected
Trinity	Huntsville, TX	East Texas Medical Center-Trinity	287000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.00	Much lower than expected
Tyler	Not Available	Tyler County Hospital	569000	459	444	10	0.51	Much lower than expected
Uvalde	Uvalde, TX	Uvalde Memorial Hospital	063000	1,980	1,472	31	0.26	Much lower than expected
Val Verde	Del Rio, TX	Val Verde Regional Medical Center	462000	2,917	2,031	66	0.82	Lower than expected
Victoria	Victoria, TX	Citizens Medical Center	064000	7,877	6,583	333	0.98	About as expected
		DeTar Hospital-Navarro	453000	7,393	6,662	284	0.82	Lower than expected
Walker	Huntsville, TX	Huntsville Memorial Hospital	061000	4,851	4,158	337	2.04	Much higher than expected
Webb	Laredo, TX	Doctors Hospital-Laredo	301000	10,740	7,689	301	1.06	About as expected
		Laredo Medical Center	207001	15,833	11,887	527	1.13	Higher than expected
Wharton	El Campo, TX	El Campo Memorial Hospital	426000	<i>lv</i>	<i>lv</i>	<i>lv</i>	0.28	Much lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk ^a	Actual PPC Stays	Actual- to- Expected Ratio ^b	Actual-to- Expected Ratio Interpretation
		Gulf Coast Medical Center	833000	1,074	1,038	11	0.36	Much lower than expected
Wichita	Wichita Falls, TX	Kell West Regional Hospital	681400	943	904	18	0.32	Much lower than expected
		United Regional Health Care System	417000	16,459	13,430	485	0.63	Much lower than expected
Wilbarger	Vernon, TX	Wilbarger General Hospital	084000	335	316	15	0.78	Lower than expected
Williamson	Austin-Round Rock, TX	Baylor Scott & White Medical Center Round Rock	852600	6,586	5,621	441	1.28	Much higher than expected
		Cedar Park Regional Medical Center	858300	5,201	4,004	141	0.71	Much lower than expected
		Round Rock Medical Center	608000	9,382	6,917	336	0.66	Much lower than expected
		Seton Medical Center Williamson	861700	6,882	5,924	387	1.22	Higher than expected
		St Davids Georgetown Hospital	835700	5,753	4,230	167	0.77	Lower than expected
Wilson	San Antonio-New Braunfels, TX	Connally Memorial Medical Center	433000	920	863	5	0.09	Much lower than expected
Wise	Dallas-Fort Worth-Arlington, TX	Wise Health System	254000	135	131	14	0.83	Lower than expected
		Wise Health System (Medical Center Drive)	254001	4,663	3,817	300	1.35	Much higher than expected
Young	Not Available	Graham Regional Medical Center	094000	669	543	5	0.02	Much lower than expected

Source: *Texas Hospital Inpatient Discharge Research Data File, 2015*. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September, 2016.

Table A3: Hospital Level PPC Report, Texas, 2015 – Part II

The following hospitals had an average length-of-stay of over 20 days in 2015.

Hospital County	Metropolitan-Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk ^a	Actual PPC Stays	Actual-to-Expected Ratio ^b	Actual-to-Expected Ratio Interpretation
Angelina	Lufkin, TX	CHI St Lukes Health Memorial Specialty Hospital	691000	192	177	144	18.70	Much higher than expected
Bexar	San Antonio-New Braunfels, TX	Kindred Hospital-San Antonio	645000	403	349	101	1.84	Much higher than expected
		Select Specialty Hospital-San Antonio	719300	378	339	130	3.42	Much higher than expected
Caldwell	Austin-Round Rock, TX	PAM Specialty Hospital of Luling	848200	330	306	203	15.30	Much higher than expected
Harris	Houston-The Woodlands-Sugar Land, TX	Houston Methodist St Catherine Hospital	973620	155	119	29	1.72	Much higher than expected
		Kindred Hospital Houston NW	706000	604	529	124	3.02	Much higher than expected
		Kindred Hospital-Houston Medical Center	676000	851	578	248	4.04	Much higher than expected
		Plaza Specialty Hospital	763000	295	215	39	2.70	Much higher than expected
Hidalgo	McAllen-Edinburg-Mission, TX	Solara Hospital McAllen	816300	379	334	100	2.91	Much higher than expected
Lubbock	Lubbock, TX	Covenant Specialty Hospital	846200	346	288	121	2.69	Much higher than expected
Montgomery	Houston-The Woodlands-Sugar Land, TX	Nexus Specialty Hospital	795001	66	48	9	1.41	Much higher than expected
Smith	Tyler, TX	East Texas Medical Center Specialty Hospital	777000	296	276	184	9.87	Much higher than expected

Hospital County	Metropolitan-Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Total Stays	Stays At Risk^a	Actual PPC Stays	Actual-to-Expected Ratio^b	Actual-to-Expected Ratio Interpretation
Tarrant	Dallas-Fort Worth-Arlington, TX	Kindred Hospital-Tarrant County	690000	459	415	109	2.63	Much higher than expected

Source: *Texas Hospital Inpatient Discharge Research Data File, 2015*. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September, 2016.

Appendix B: Methods

B.1 Data

The total number of records from the 2015 Texas Hospital Inpatient Discharge Research Data File was 3,068,094. The data were subjected to several validation steps. After these steps, the dataset consisted of 2,552,672 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
Total records for year 2015	3,068,094	100.0%
Records from hospitals that are exempt from POA reporting	363,424	11.8%
Records with invalid or unreliable patient information and non-inpatient stays	151,766	5.0%
Records from hospitals with fewer than 30 total admissions	232	< 0.1%
Total records subjected to 3M™ PPC processing	2,552,672	83.2%

Source: *Texas Hospital Inpatient Discharge Research Data File, 2015*. Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September, 2016.

1. Records from 323 hospitals that are not required to report diagnosis present-on-admission (POA) indicators are excluded from PPC processing. A total of 363,424 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 151,766 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, 232 records from hospitals with fewer than 30 total admits for 2015 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 381 hospitals included in the 2015 PPC report, 306 (80.3%) met or exceeded the 3M™ POA quality criteria, whereas 75 hospitals (19.7%) 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. 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

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
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

PPC	Description
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 2015 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 Texas hospital inpatient discharge data 2015. 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, 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

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