

Health and Human Services

**Texas Department of State Health Services** 

# Potentially Preventable Readmissions in Texas

Calendar Year 2015 Report

As Required by

Section 98.1046, Health and Safety Code

Department of State Health Services February 2018

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## 1. Executive Summary

Public reporting of Potentially Preventable Readmissions (PPR) for non-exempt hospitals is required by the Texas Legislature under Health and Safety Code, Chapter <u>98.1046</u> (S.B. 7, 82<sup>nd</sup> Legislature, First Called Session, 2011).

A PPR is a readmission (return hospitalization) to an acute care hospital following a prior acute care admission within a specified time interval, for a reason that is clinically related to the initial hospitalization.

PPRs are increasingly viewed as an indicator of healthcare quality, based on the expectation that PPRs could have been prevented with quality care during the initial admission, adequate post-discharge planning and followup, or improved coordination between inpatient and outpatient healthcare services.

- In 2015, slightly over five percent (5.6%) of at-risk admissions in Texas hospitals were followed by one or more PPRs.
- Approximately 73.8% of Texas hospitals (n=360) had a number of PPR chains\* that was lower than or equal to the expected number and 26.2% of hospitals (n=128) had more PPR chains than expected.
- Approximately 51.2% of Texas hospitals (n=250) had a number of PPR chains that was lower than or equal to the statewide average of 5.6 PPR chains per 100 at-risk admissions.
- Approximately 48.8% of hospitals (n=238) had a higher number of PPR chains per 100 at-risk admissions than the statewide average.

<sup>\*</sup>A PPR chain is a sequence of readmissions (PPR events) that are all clinically related to the same initial hospitalization.

## 2. Introduction

A Potentially Preventable Readmission (PPR) is a readmission (return hospitalization) to an acute care hospital following a prior acute care admission within a specified time interval, for a reason that is clinically related to the initial hospitalization.

The Department of State Health Services (DSHS) is required by Section 98.1046, Texas Health and Safety Code, to publicly report information on Texas hospitals regarding risk-adjusted outcome rates for PPRs. 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.

PPRs are increasingly viewed as an indicator of healthcare quality, based on the expectation that PPRs could have been prevented with quality care during the initial admission, adequate post-discharge planning and follow-up, or improved coordination between inpatient and outpatient healthcare services.<sup>1</sup>

# 3. Background

All initial hospital admissions are considered at risk for PPR, with the exception of transfer admissions, non-acute care admissions, and other admissions meeting the exclusion criteria listed in the 3M<sup>™</sup> PPR Methodology. (See <u>Appendix B: Methods</u> for a list of exclusion criteria.)

A PPR chain is a sequence of readmissions (PPR events) that are all related to the same initial hospitalization. A PPR chain may contain an initial admission and only one PPR event (the most common situation) or may contain multiple PPR events following the initial admission.

The data presented in this report are based on a 30-day readmission interval, as defined by the 3M<sup>™</sup> Methodology<sup>2</sup>. The first PPR to occur within a 30-day readmission interval opens a PPR chain. Once a PPR chain is opened, any subsequent PPRs that are clinically related to the initial admission are considered part of the chain, even if they occur beyond the 30-day window.

Factors that may influence the occurrence of PPRs include:

- Quality of care rendered during the initial hospital stay<sup>3</sup>
- Coordination between the inpatient and outpatient healthcare teams<sup>4</sup>
- Quality of medical care following discharge<sup>5</sup>
- Underlying health conditions that were not treated during the initial hospitalization<sup>6</sup>
- Preventable complications that developed after discharge

Analyses were conducted using the Texas Hospital Inpatient Discharge Research Data File, 2015 (Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September, 2016)<sup>7</sup> collected by the Texas Health Care Information Collection program (THCIC) overseen by DSHS. The underlying data were collected in accordance with Chapter 108, Health and Safety Code (HSC).

#### 4. Results

#### **Calculation Method Overview**

In 2015, a total of 3,068,094 admission records were captured from 720 hospitals in Texas. The records went through a series of steps to cleanse the data (<u>Appendix B: Methods</u>). After data cleansing and processing, 81.6% of the total records were included in the PPR analysis, which accounted for 2,503,684 records (i.e., inpatient admissions) from 488 hospitals.

This report used the 3M<sup>™</sup> PPR Methodology to identify admissions at risk for PPR. The number of admissions at risk includes all initial admissions that are at risk for potentially preventable readmissions, excluding admissions meeting the criteria for exclusion as listed in the 3M PPR Methodology. Statewide and hospital-specific PPRs were identified based on a 30-day readmission interval. Statewide aggregate statistics provided in this report include the total number of PPR chains and PPR events at the state level. Hospital-specific information, including actual and risk-adjusted PPR numbers, are reported as well.

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

In order to enable comparisons of performance across hospitals, hospital PPR results were risk-adjusted using  $3M^{\text{TM}}$  All Patient Refined Diagnosis-Related Groups (APR-DRGs), a diagnosis and procedure code classification system for inpatient services. This classification system is designed to reflect the clinical complexity and severity of each case. For each hospital, the actual-to-expected ratio was calculated as the actual number of PPR chains divided by the risk-adjusted number of PPR chains (<u>Appendix B: Methods</u>).

#### **Results Overview**

Of the 2,503,684 inpatient admissions included in the 2015 PPR analysis, 2,063,650 were classified as admissions at risk for PPR by the  $3M^{\text{TM}}$  PPR methodology. Of these, a total of 115,708 PPR chains were identified, resulting in a statewide average of approximately 5.6 PPR chains per 100 atrisk admissions. Most of the 115,708 PPR chains comprised only one PPR event. However, the average number of PPR events per chain was 1.3, for a total of 148,052 PPR events.

<u>Table 1</u> shows the number and percent of hospitals grouped by actual-to-expected ratios. The categories used (e.g., "lower than expected," "about as expected," "higher than expected") follow the methodology of the Texas Medicaid PPR reports<sup>8</sup>. In 2015, 488 hospitals were included in the statewide PPR analysis. Approximately 73.8% of hospitals (n=360) performed about as expected or had fewer PPR chains than expected, whereas 26.2% of hospitals (n=128) had more PPR chains than expected.

Among the 488 hospitals included in the analysis, 250 (51.2%) had a number of PPR chains per 100 at-risk admissions that was lower than or equal to the statewide average of 5.6, and 238 (48.8%) had a number of PPR chains per 100 at-risk admissions that was higher than the statewide average. Seventy-five percent of hospitals had fewer than 7.8 PPR chains per 100 at-risk admissions. (See <u>Appendix A: Table A1</u> for additional details.)

Table 1: Number and Percentage of Hospitals by PPR 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	107	21.9%
0.75-0.89	Lower than expected	95	19.5%
0.90-1.10 About as expected		158	32.4%
1.11-1.25	Higher than expected	62	12.7%
more than 1.25	Much higher than expected	66	13.5%
	Total Hospitals	488	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 PPR performance indicators for each hospital are presented in <u>Appendix A: Table A2</u>. In <u>Table A2</u>, hospitals with fewer than 40 admissions at risk or fewer than 5 PPR chains were masked for some statistics to protect patient confidentiality under HSC Section <u>98.1046(c)</u>.

<u>Appendix A: Figure A1</u> shows the distribution of Actual-to-Expected Ratios for Texas hospitals in 2015. As shown in <u>Figure A1</u>, over 75% of hospitals had an Actual-to-Expected Ratio less than 1.1.

### 5. Conclusion

The 2015 Texas Hospital Inpatient Discharge Database was used for preparing the results presented in this report. Of the 2,063,650 at-risk-admissions identified in the database, 5.6% were followed by one or more PPRs.

The current findings are comparable to those from other published reports<sup>3,6,8</sup> and they suggest that PPRs continue to be prevalent. The reader should be aware that this report is cross sectional in nature, using only calendar year 2015 data. The number of PPRs and the PPR rate will vary from hospital to hospital and year by year, and the 3M™ methodology utilized in this report accounts for differences in severity of illness, age, and other patient characteristics that have a certain amount of predictability, thus providing a certain degree of comparability between facilities. However, other characteristics affecting patient outcomes are not accounted for, such as patient motivation and environmental or social factors, such as lifestyle, diet, and exercise.<sup>9</sup>

The Department of State Health Services will continue to calculate PPRs 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 PPR results in this report with those based on data from other states or national databases may not be valid or correct, 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
MH/SA	Mental Health / Substance Abuse
PPR	Potentially Preventable Readmission
RDF	Research Data File
SOI	Severity of Illness
THCIC	Texas Health Care Information Collection

# **Appendix A: Tables**

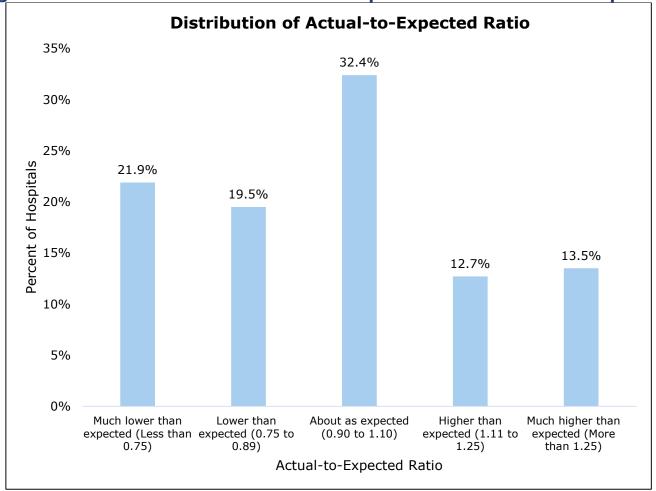
**Table A1: PPR Performance Indicators for Texas Hospitals, 2015** 

Admissions at Risk	Actual PPR Chains	PPR Events	PPR Chains/ 100 At-risk Admissions	Actual-to- Expected Ratio
2,063,650	115,708	148,052	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 indicators.

Figure A1: Distribution of PPR 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 PPR Performance Indicators and Actual-to-Expected Ratios, Texas, 2015

Notes: (a). The number of initial admissions at risk for a PPR, excluding admissions meeting the criteria for exclusions as listed in the 3M PPR Methodology. (b). Admissions with one or more return admissions that are clinically related to a prior/initial admission, where the first readmission in the chain occurs within a 30-day interval. (c). Risk-adjusted PPR chains per 100 at-risk admissions. (d). The ratio of actual PPRs to expected PPRs. To protect patient confidentiality, admissions-at-risk fewer than 40 and PPR chains fewer than 5 were masked [Iv].

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Admissions At Risk <sup>a</sup>	Actual PPR Chains <sup>b</sup>	PPR Chains/ 100 Admits <sup>c</sup>	Actual- to- Expected Ratio <sup>d</sup>	Actual-to- Expected Ratio Interpretation
Anderson	Palestine, TX	Palestine Regional Medical Center	629001	3,987	251	6.54	0.93	About as expected
Andrews	Andrews, TX	Permian Regional Medical Center	187000	852	9	2.50	0.34	Much lower than expected
Angelina	Lufkin, TX	CHI St Lukes Health Memorial Lufkin	129000	4,582	405	8.20	1.07	About as expected
		Woodland Heights Medical Center	481000	4,761	245	5.42	0.86	Lower than expected
Atascosa	San Antonio- New Braunfels, TX	South Texas Regional Medical Center	334002	1,371	73	5.78	0.80	Lower than expected
Austin	Houston-The Woodlands- Sugar Land, TX	CHI St Joseph Health Bellville Hospital	552000	lv	lv	7.99	0.48	Much lower than expected
Bailey	Not Available	Muleshoe Area Medical Center	631000	129	6	7.37	0.58	Much lower than expected
Bastrop	Austin-Round Rock, TX	Seton Smithville Regional Hospital	424500	192	11	7.73	0.89	Lower than expected
Baylor	Not Available	Seymour Hospital	546000	254	15	6.07	1.30	Much higher than expected
Bee	Beeville, TX	CHRISTUS Spohn Hospital-Beeville	429001	1,638	108	5.87	0.99	About as expected
Bell	Killeen-Temple, TX	Baylor Scott & White McLane Childrens Medical Center	537006	2,500	93	4.94	0.69	Much lower than expected

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Bell	Killeen-Temple, TX	Cedar Crest Hospital	806002	2,508	250	8.92	1.17	Higher than expected
		Metroplex Hospital	397001	5,522	309	5.28	1.15	Higher than expected
		Scott & White Medical Center Temple	537000	23,617	1,969	7.67	1.09	About as expected
		Seton Medical Center Harker Heights	971000	3,449	179	5.00	1.17	Higher than expected
Bexar	San Antonio- New Braunfels,	Baptist Emergency Hospital Hausman	101100	Iv	lv	3.55	0.47	Much lower than expected
	TX	Baptist Emergency Hospital Overlook	972810	Iv	lv	3.44	0.94	About as expected
		Baptist Emergency Hospital Thousand Oaks	647000	lv	lv	3.82	1.21	Higher than expected
		Baptist Emergency Hospital Westover Hills	973000	Iv	lv	3.49	1.90	Much higher than expected
		Baptist Medical Center	114001	13,339	1,067	7.90	0.98	About as expected
		CHRISTUS Santa Rosa Hospital Alamo Heights	973930	423	9	3.91	1.04	About as expected
		CHRISTUS Santa Rosa Hospital-Westover Hills	339002	7,621	492	6.76	1.04	About as expected
		CHRISTUS Santa Rosa Medical Center	339001	3,586	339	9.48	0.99	About as expected
		Childrens Hospital of San Antonio	634000	4,252	128	3.33	0.89	Lower than expected
		Clarity Child Guidance Center	737000	1,083	124	7.72	1.33	Much higher than expected
		Cumberland Surgical Hospital	974980	lv	lv	5.98	2.93	Much higher than expected
		Forest Park Medical Center at San Antonio	974250	205	7	4.10	0.75	Lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Admissions At Risk <sup>a</sup>	Actual PPR Chains <sup>b</sup>	PPR Chains/ 100 Admits <sup>c</sup>	Actual- to- Expected Ratio <sup>d</sup>	Actual-to- Expected Ratio Interpretation
Bexar	San Antonio- New Braunfels,	Foundation Surgical Hospital-San Antonio	852100	971	30	3.46	0.77	Lower than expected
	TX	Methodist Ambulatory Surgery Hospital- Northwest	681001	375	8	2.96	1.34	Much higher than expected
		Methodist Hospital	154000	30,469	1,335	4.82	0.90	About as expected
		Methodist Specialty & Transplant Hospital	154001	6,383	652	9.21	1.15	Higher than expected
		Methodist Stone Oak Hospital	874100	9,727	478	4.89	1.01	About as expected
		Methodist Texsan Hospital	154003	2,792	213	8.19	0.90	About as expected
		Metropolitan Methodist Hospital	283000	14,749	721	4.45	1.09	About as expected
		Mission Trail Baptist Hospital	081001	4,642	364	9.27	0.89	Lower than expected
		Nix Health Care System	396002	6,018	616	9.82	1.06	About as expected
		North Central Baptist Hospital	677001	14,555	452	3.64	0.77	Lower than expected
		Northeast Baptist Hospital	134001	9,593	566	6.87	0.81	Lower than expected
		Northeast Methodist Hospital	154002	5,202	452	8.25	0.99	About as expected
		South Texas Spine & Surgical Hospital	786800	899	24	3.81	0.83	Lower than expected
		Southwest General Hospital	228001	8,140	603	5.85	1.31	Much higher than expected
		St Lukes Baptist Hospital	503001	13,270	492	3.89	0.92	About as expected
		University Hospital	158000	20,985	1,264	6.34	0.90	About as expected
		Victory Medical Center Landmark	209100	lv	lv	4.56	0.00	Much lower than expected

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Bosque	Not Available	Goodall - Witcher Hospital	070000	339	12	6.78	0.48	Much lower than expected
Bowie	Texarkana, TX- AR	CHRISTUS St Michael Health System	788001	10,624	647	6.85	0.89	Lower than expected
		Wadley Regional Medical Center	144000	6,420	400	6.00	1.10	About as expected
Brazoria	Houston-The Woodlands-	CHI St Lukes Health Brazosport	436000	3,693	262	5.81	1.24	Higher than expected
	Sugar Land, TX	Pearland Medical Center	974390	839	57	6.29	1.52	Much higher than expected
		Sweeny Community Hospital	178000	138	6	9.56	0.29	Much lower than expected
		UTMB Angleton Danbury Medical Center	126000	1,898	126	4.85	1.50	Much higher than expected
Brazos	College Station-Bryan, TX	Baylor Scott & White Hospital College Station	206100	4,893	211	4.82	0.82	Lower than expected
		College Station Medical Center	071000	4,616	216	4.43	1.05	About as expected
		Physicians Centre Hospital	717500	309	9	3.34	0.81	Lower than expected
		St Joseph Regional Health Center	002001	10,946	727	6.50	0.92	About as expected
Brewster	Not Available	Big Bend Regional Medical Center	711900	682	34	4.09	0.97	About as expected
Brown	Brownwood, TX	Brownwood Regional Medical Center	058000	2,980	162	5.54	1.08	About as expected
Burleson	College Station-Bryan, TX	Burleson St Joseph Health Center-Caldwell	679000	81	9	7.55	1.38	Much higher than expected
Burnet	Not Available	Baylor Scott & White Medical Center Marble Falls	974940	414	20	6.03	0.91	About as expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Admissions At Risk <sup>a</sup>	Actual PPR Chains <sup>b</sup>	PPR Chains/ 100 Admits <sup>c</sup>	Actual- to- Expected Ratio <sup>d</sup>	Actual-to- Expected Ratio Interpretation
Burnet	Not Available	Seton Highland Lakes Hospital	559000	771	71	7.50	1.00	About as expected
Caldwell	Austin-Round Rock, TX	Seton Edgar B Davis Hospital	597000	412	39	8.55	0.84	Lower than expected
Calhoun	Port Lavaca, TX	Memorial Medical Center	487000	618	53	6.63	1.27	Much higher than expected
Cameron	Brownsville- Harlingen, TX	Harlingen Medical Center	788002	4,694	271	5.82	1.12	Higher than expected
	- ·	Valley Baptist Medical Center	400000	13,438	713	5.31	0.99	About as expected
		Valley Baptist Medical Center-Brownsville	314001	10,119	544	5.25	0.99	About as expected
		Valley Regional Medical Center	019000	8,598	404	4.17	1.25	Higher than expected
Camp	Not Available	East Texas Medical Center-Pittsburg	438000	593	54	8.71	0.85	Lower than expected
Cass	Not Available	Christus St Michael Hospital Atlanta	788003	498	45	10.40	0.78	Lower than expected
Castro	Not Available	Plains Memorial Hospital	260000	lv	lv	8.21	0.22	Much lower than expected
Chambers	Houston-The Woodlands-	Bayside Community Hospital	442000	73	7	7.25	1.53	Much higher than expected
	Sugar Land, TX	Winnie Community Hospital	781400	246	22	8.52	0.68	Much lower than expected
Cherokee	Jacksonville, TX	Christus Mother Frances Hospital-Jacksonville	725400	416	45	8.29	1.23	Higher than expected
		East Texas Medical Center-Jacksonville	416000	1,799	100	4.17	1.10	About as expected
Childress	Not Available	Childress Regional Medical Center	026000	713	19	3.86	0.76	Lower than expected
Clay	Wichita Falls, TX	Clay County Memorial Hospital	193000	113	7	7.21	0.95	About as expected

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Cochran	Not Available	Cochran Memorial Hospital	159000	lv	lv	7.39	1.26	Much higher than expected
Coleman	Not Available	Coleman County Medical Center	049000	369	56	7.08	1.58	Much higher than expected
Collin	Dallas-Fort Worth- Arlington, TX	Baylor Emergency Medical Center at Murphy	973550	lv	lv	4.10	1.58	Much higher than expected
		Baylor Scott & White Medical Center Centennial	806300	3,502	177	4.94	1.11	Higher than expected
		Baylor Scott & White Medical Center McKinney	971900	6,749	235	4.21	0.77	Lower than expected
		Baylor Scott & White Medical Center-Frisco	787400	6,245	77	1.56	0.81	Lower than expected
		Baylor Scott & White Medical Center-Plano	814001	4,149	307	7.91	0.86	Lower than expected
		Bush Renner	549001	6,679	294	4.39	1.01	About as expected
		Childrens Medical Center Plano	143001	1,501	57	5.21	0.81	Lower than expected
		Columbia Medical Center-McKinney	246000	7,635	591	6.79	1.18	Higher than expected
		Forest Park Medical Center Frisco	971800	419	16	4.40	0.74	Much lower than expected
		Heart Hospital Baylor Plano	844000	3,478	252	9.51	0.75	Much lower than expected
		Medical Center-Plano	214000	14,402	706	5.44	0.86	Lower than expected
		Methodist McKinney Hospital	937000	614	15	3.39	0.63	Much lower than expected
		Star Medical Center	973390	lv	lv	5.25	0.55	Much lower than expected

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Collin	Dallas-Fort Worth- Arlington, TX	Texas Health Center- Diagnostics & Surgery Plano	815300	439	18	4.13	0.67	Much lower than expected
		Texas Health Presbyterian Hospital Allen	724200	2,777	108	4.68	0.77	Lower than expected
		Texas Health Presbyterian Hospital- Plano	664000	14,455	531	3.91	1.00	About as expected
		Victory Medical Center Craig Ranch	856400	lv	lv	3.57	0.00	Much lower than expected
		Victory Medical Center Plano	972910	lv	lv	4.73	0.00	Much lower than expected
Collingsworth	Not Available	Collingsworth General Hospital	195000	94	9	5.50	1.02	About as expected
Colorado	Not Available	Columbus Community Hospital	014000	1,031	58	5.52	0.78	Lower than expected
		Rice Medical Center	560000	219	14	5.40	0.96	About as expected
		Weimar Medical Center	974480	lv	lv	7.75	0.41	Much lower than expected
Comal	San Antonio- New Braunfels,	Baptist Emergency Hospital Schertz	973120	lv	lv	3.91	1.48	Much higher than expected
	TX	CHRISTUS Santa Rosa Hospital New Braunfels	863300	3,270	251	7.32	1.04	About as expected
		Resolute Health	973850	2,587	140	4.75	1.06	About as expected
Comanche	Not Available	Comanche County Medical Center	495001	350	34	7.79	1.23	Higher than expected
Concho	Not Available	Concho County Hospital	202000	lv	lv	5.46	1.03	About as expected
Cooke	Gainesville, TX	Muenster Memorial Hospital	365000	lv	lv	6.60	0.00	Much lower than expected
		North Texas Medical Center	298000	1,176	39	4.47	0.73	Much lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Admissions At Risk <sup>a</sup>	Actual PPR Chains <sup>b</sup>	PPR Chains/ 100 Admits <sup>c</sup>	Actual- to- Expected Ratio <sup>d</sup>	Actual-to- Expected Ratio Interpretation
Coryell	Killeen-Temple, TX	Coryell Memorial Hospital	346000	436	29	6.77	0.96	About as expected
Crane	Not Available	Crane Memorial Hospital	467000	Iv	lv	6.79	0.68	Much lower than expected
Crosby	Lubbock, TX	Crosbyton Clinic Hospital	176000	119	7	8.86	0.42	Much lower than expected
Culberson	Not Available	Culberson Hospital	139000	Iv	lv	7.07	1.45	Much higher than expected
Dallas	Dallas-Fort Worth-	Baylor Heart & Vascular Center	784400	1,747	121	8.71	0.80	Lower than expected
	Arlington, TX	Baylor Medical Center at Uptown	008001	1,002	11	3.53	0.24	Much lower than expected
		Baylor Scott & White Medical Center Sunnyvale	919000	5,246	225	5.17	0.83	Lower than expected
		Baylor Scott & White Medical Center White Rock	511000	6,053	357	5.55	0.96	About as expected
		Baylor Scott & White Medical Center-Garland	027000	4,882	459	9.27	0.97	About as expected
		Baylor Scott & White Medical Center-Irving	300000	9,415	519	5.54	0.94	About as expected
		Baylor Surgical Hospital at Las Colinas	799500	632	15	3.20	0.64	Much lower than expected
		Baylor University Medical Center	331000	25,721	1,360	6.29	0.83	Lower than expected
		Childrens Medical Center-Dallas	143000	8,482	526	6.40	1.33	Much higher than expected
		Crescent Medical Center Lancaster	973180	242	17	7.42	1.09	About as expected
		Dallas Medical Center	449000	3,582	207	5.25	1.62	Much higher than expected

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Dallas	Dallas-Fort Worth-	Dallas Regional Medical Center	315003	1,006	33	8.77	0.34	Much lower than expected
	Arlington, TX	Forest Park Medical Center	900000	1,077	49	5.52	0.76	Lower than expected
		HealthSouth Rehab Hospital Dallas	680001	Iv	lv	7.24	0.30	Much lower than expected
		Las Colinas Medical Center	814000	4,684	158	3.78	0.85	Lower than expected
		Medical City Dallas Hospital	340000	20,200	976	4.87	0.92	About as expected
		Methodist Charlton Medical Center	142000	9,513	552	6.31	0.97	About as expected
		Methodist Dallas Medical Center	255000	12,554	566	5.17	0.94	About as expected
		Methodist Hospital for Surgery	750000	2,067	72	4.39	0.72	Much lower than expected
		Methodist Richardson Medical Center	549000	580	50	9.58	0.92	About as expected
		North Central Surgical Center	860600	1,120	13	3.23	0.43	Much lower than expected
		Our Childrens House	975010	lv	lv	6.97	5.22	Much higher than expected
		Our Childrens House Baylor	710000	lv	lv	8.04	0.12	Much lower than expected
		Parkland Memorial Hospital	474000	28,973	978	3.81	0.83	Lower than expected
		Pine Creek Medical Center	818200	1,070	31	3.40	0.72	Much lower than expected
		Texas Health Hospital	974800	lv	lv	6.90	1.03	About as expected
		Texas Health Presbyterian Hospital Dallas	431000	21,146	860	4.93	0.75	Much lower than expected

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Dallas	Dallas-Fort Worth- Arlington, TX	Texas Institute for Surgery-Texas Health Presbyterian-Dallas	813100	lv	lv	3.06	0.58	Much lower than expected
		Texas Scottish Rite Hospital for Children	054000	462	13	4.66	0.61	Much lower than expected
		UT Southwestern University Hospital-St Paul	448001	11,917	1,011	7.70	1.13	Higher than expected
		UT Southwestern University Hospital-Zale Lipshy	653001	3,139	198	7.11	0.84	Lower than expected
		Walnut Hill Medical Center	973750	1,625	148	8.28	1.15	Higher than expected
Dawson	Lamesa, TX	Medical Arts Hospital	341000	424	8	3.74	0.39	Much lower than expected
DeWitt	Not Available	Cuero Regional Hospital	074000	741	43	6.99	0.74	Much lower than expected
Deaf Smith	Hereford, TX	Hereford Regional Medical Center	420000	296	18	6.16	0.91	About as expected
Denton	Dallas-Fort Worth-	Baylor Emergency Medical Center at Aubrey	873200	lv	lv	3.62	2.32	Much higher than expected
	Arlington, TX	Baylor Medical Center Trophy Club	805100	582	28	4.21	1.03	About as expected
		Baylor Scott & White Medical Center Carrollton	042000	4,943	246	5.35	1.08	About as expected
		Denton Regional Medical Center	336001	6,835	555	7.12	1.05	About as expected
		Medical Center-Lewisville	394000	5,716	254	4.48	0.87	Lower than expected
		Plano Surgical Hospital	974920	lv	lv	2.73	0.00	Much lower than expected

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Denton	Dallas-Fort Worth- Arlington, TX	Texas Health Presbyterian Hospital Flower Mound	943000	5,182	165	3.62	0.92	About as expected
		Texas Health Presbyterian Hospital- Denton	820800	8,691	388	4.67	0.91	About as expected
		The Heart Hospital Baylor Denton	208100	303	14	7.92	0.44	Much lower than expected
Dimmit	Not Available	Dimmit Regional Hospital	156000	647	27	3.29	1.37	Much higher than expected
Eastland	Not Available	Eastland Memorial Hospital	222000	412	37	10.00	0.63	Much lower than expected
Ector	Odessa, TX	Basin Healthcare Center	938000	lv	lv	3.73	0.00	Much lower than expected
		Medical Center Hospital	181000	10,495	586	6.16	0.86	Lower than expected
		Odessa Regional Medical Center	425000	6,833	179	2.86	1.06	About as expected
El Paso	El Paso, TX	Del Sol Medical Center	319000	14,117	897	5.38	1.14	Higher than expected
		El Paso Childrens Hospital	969700	2,316	88	3.92	1.00	About as expected
		El Paso Specialty Hospital	728200	584	16	3.11	0.67	Much lower than expected
		Foundation Surgical Hospital of El Paso	801300	690	24	4.32	0.64	Much lower than expected
		Las Palmas Medical Center	180000	9,149	424	4.44	1.00	About as expected
		The Hospitals of Providence East Campus	865000	10,112	583	5.06	1.18	Higher than expected
		The Hospitals of Providence Memorial Campus	130000	15,390	687	4.51	0.95	About as expected

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El Paso	El Paso, TX	The Hospitals of Providence Sierra Campus	266000	8,495	518	6.25	0.89	Lower than expected
		University Medical Center of El Paso	263000	14,141	680	4.82	0.97	About as expected
Ellis	Dallas-Fort Worth- Arlington, TX	Baylor Scott & White Medical Center Waxahachie	285000	4,083	249	6.74	0.91	About as expected
		Ennis Regional Medical Center	714500	1,410	45	4.22	0.82	Lower than expected
Erath	Stephenville, TX	Texas Health Harris Methodist Hospital- Stephenville	256000	1,679	89	4.79	0.81	Lower than expected
Falls	Waco, TX	Falls Community Hospital & Clinic	517000	259	31	7.81	1.37	Much higher than expected
Fannin	Not Available	TMC Bonham Hospital	106001	389	43	9.76	0.96	About as expected
Fayette	Not Available	St Marks Medical Center	823400	1,292	52	5.17	0.71	Much lower than expected
Fisher	Not Available	Fisher County Hospital District	355000	lv	lv	7.79	1.63	Much higher than expected
Floyd	Not Available	WJ Mangold Memorial Hospital	010000	252	15	5.38	0.60	Much lower than expected
Fort Bend	Houston-The Woodlands-	Emerus Hospital	916000	lv	lv	4.59	0.32	Much lower than expected
	Sugar Land, TX	Hospital for Surgical Excellence of Oakbend Medical Center	230002	lv	lv	3.22	0.89	Lower than expected
		Houston Methodist Sugar Land Hospital	823000	14,571	817	5.29	1.12	Higher than expected
		Memorial Hermann Katy Hospital	534001	9,111	431	4.77	1.04	About as expected
		Memorial Hermann Sugar Land	609001	5,379	248	4.76	1.08	About as expected

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Fort Bend	Houston-The Woodlands- Sugar Land, TX	Memorial Hermann Surgical Hospital First Colony	790500	339	8	3.07	0.75	Much lower than expected
		Oakbend Medical Center	230000	2,133	246	9.82	1.21	Higher than expected
		Oakbend Medical Center (Southwest Freeway)	230001	3,777	77	1.85	1.20	Higher than expected
		St Lukes Sugar Land Hospital	869700	2,175	210	8.85	1.22	Higher than expected
Freestone	Not Available	East Texas Medical Center-Fairfield	401000	308	33	9.49	1.03	About as expected
Frio	Not Available	Frio Regional Hospital	441000	108	6	8.03	0.54	Much lower than expected
		Nix Community General Hospital	973150	lv	lv	7.92	0.89	Lower than expected
Gaines	Not Available	Memorial Hospital	113000	859	19	2.08	0.98	About as expected
Galveston	Houston-The Woodlands-	Mainland Medical Center	793000	5,059	544	8.53	1.28	Much higher than expected
	Sugar Land, TX	Shriners Hospital for Children-Galveston	247000	Iv	lv	1.40	0.00	Much lower than expected
		UT Medical Branch Hospital	000102	21,804	1,139	4.41	1.09	About as expected
Gillespie	Fredericksburg, TX	Hill Country Memorial Hospital	219000	2,479	94	5.45	0.64	Much lower than expected
Gonzales	Not Available	Memorial Hospital	103000	636	31	3.94	0.95	About as expected
Gray	Pampa, TX	Pampa Regional Medical Center	832900	1,650	118	6.58	0.94	About as expected
Grayson	Sherman- Denison, TX	Baylor Scott & White Surgical Hospital at Sherman	974910	lv	lv	3.31	0.98	About as expected
		Heritage Park Surgical Hospital	100076	257	5	3.87	0.47	Much lower than expected

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Grayson	Sherman- Denison, TX	Texoma Medical Center	847000	10,303	815	7.45	1.12	Higher than expected
		Wilson N Jones Regional Medical Center	297000	3,703	283	7.83	1.15	Higher than expected
Gregg Longview, 7	Longview, TX	Allegiance Specialty Hospital-Kilgore	031001	224	22	13.20	0.68	Much lower than expected
		CHRISTUS Good Shepherd Medical Center-Longview	029000	12,000	752	6.57	0.95	About as expected
		Longview Regional Medical Center	525000	8,090	414	5.03	0.99	About as expected
Grimes	Not Available	CHI St Joseph Health Grimes Hospital	728800	95	10	8.53	0.78	Lower than expected
Guadalupe	San Antonio- New Braunfels, TX	Guadalupe Regional Medical Center	155000	3,755	179	4.66	1.01	About as expected
Hale	Plainview, TX	Covenant Hospital- Plainview	146000	1,820	59	4.64	0.65	Much lower than expected
Hamilton	Not Available	Hamilton General Hospital	640000	751	87	8.14	1.03	About as expected
Hansford	Not Available	Hansford County Hospital	395000	lv	lv	7.02	1.08	About as expected
Hardeman	Not Available	Chillicothe Hospital	523000	lv	lv	6.34	1.46	Much higher than expected
		Hardeman County Memorial Hospital	102000	117	17	8.00	1.37	Much higher than expected
Harris	Houston-The Woodlands-	Altus Baytown Hospital	973860	157	6	3.53	0.76	Lower than expected
	Sugar Land, TX	Bay Area Regional Medical Center	973960	3,223	280	8.10	1.10	About as expected
		Bayshore Medical Center	349001	11,540	635	5.38	1.10	About as expected

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Harris	Houston-The Woodlands- Sugar Land, TX	CHI St Lukes Health Baylor College of Medicine Medical Center	118000	17,169	1,588	9.12	1.04	About as expected		
		Clear Lake Regional Medical Center	212000	17,769	894	5.06	0.98	Actual-to- Expected Ratio Interpretation  About as expected  Lower than expected About as expected  Higher than expected Much higher than expected About as expected  About as expected  About as expected  Much lower than expected Much lower than expected Higher than expected  Much lower than expected Higher than expected  Much lower than expected  About as expected  Much lower than expected  Much lower than expected  Much lower than expected  Much lower than expected		
		Cypress Creek Hospital	744001	2,935	241	9.19	0.79			
		Cypress Fairbanks Medical Center	606000	10,043	302	3.11	1.00	About as expected		
		East Houston Regional Medical Center	458001	6,838	387	4.80	1.12	_		
			Emerus Community Hospital	973600	lv	lv	3.75	2.81		
		First Nobilis Hospital	974450	606	23	4.42	0.90	About as expected		
				Harris Health System Ben Taub Hospital	459000	20,199	1,097	5.30	0.98	About as expected
		Harris Health System Lyndon B Johnson Hospital	384000	11,029	525	5.13	0.97			
		HealthBridge Childrens Hospital-Houston	712500	Iv	lv	10.10	0.09			
		Houston Hospital for Specialized Surgery	758000	Iv	lv	3.25	0.11			
		Houston Methodist Hospital	124000	25,504	2,347	8.56	1.15	_		
		Houston Methodist San Jacinto Hospital	405000	10,231	735	6.73	1.04	About as expected		
			Houston Methodist St Catherine Hospital	973620	lv	lv	13.30	0.53		
		Houston Methodist St John Hospital	973640	4,602	309	6.76	0.93	About as expected		

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Harris	Houston-The Woodlands-	Houston Methodist West Hospital	800010	11,116	560	4.84	1.07	About as expected	
	Sugar Land, TX	Houston Methodist Willowbrook Hospital	724700	15,150	883	5.47	1.08	About as expected	
		Houston Northwest Medical Center	229000	16,247	777	4.38	1.19	Higher than expected	
		Houston Orthopedic & Spine Hospital	831900	407	15	3.33	0.78	Lower than expected	
			Houston Physicians Hospital	822001	470	16	3.31	0.84	Lower than expected
			Humble Surgical Hospital	901100	lv	lv	3.86	0.00	Much lower than expected
		Memorial Hermann Greater Heights Hospital	172000	10,108	645	6.43	1.06	About as expected	
			Memorial Hermann Hospital	347000	31,511	1,813	5.50	1.04	About as expected
		Memorial Hermann Memorial City Medical Center	302000	19,330	956	5.26	1.01	About as expected	
		Memorial Hermann Northeast	847100	9,757	692	6.93	1.09	About as expected	
		Memorial Hermann Orthopedic and Spine Hospital	974820	696	22	3.95	0.75	Much lower than expected	
		Memorial Hermann Southeast Hospital	119000	12,618	891	7.10	1.02	About as expected	
			Memorial Hermann Southwest Hospital	407000	15,372	780	5.50	1.01	About as expected
		Memorial Hermann Specialty Hospital Kingwood	813800	lv	lv	2.54	0.34	Much lower than expected	

Hospital	Metropolitan/ Micropolitan	Hospital Name	тнсіс	Admissions At	Actual PPR	PPR Chains/	Actual- to-	Actual-to- Expected Ratio	
County	Statistical Area (MSA)		ID	Riska	Chains <sup>b</sup>	100 Admits <sup>c</sup>	Expected Ratio <sup>d</sup>	Interpretation	
Harris	Houston-The Woodlands-	North Cypress Medical Center	843200	6,919	628	8.46	1.07	About as expected	
	Sugar Land, TX	Park Plaza Hospital	390000	2,663	229	8.55	1.08	About as expected	
		Red Oak Hospital	970160	lv	lv	3.28	0.00	Much lower than expected	
		Shriners Hospitals for Children	526000	lv	lv	3.22	0.32	Much lower than expected	
		Spring Central Hospital	973330	lv	lv	3.79	0.41	Much lower than expected	
		St Joseph Medical Center	838600	14,555	602	4.45	1.03	About as expected	
		St Joseph Medical Center-Heights	973100	588	54	9.91	1.14	Higher than expected	
		St Lukes Hospital at the Vintage	740000	3,545	191	5.27	0.89	Lower than expected	
			St Lukes Patients Medical Center	846100	2,703	183	8.67	0.80	Lower than expected
		Surgery Specialty Hospitals of America- Southeast Houston	694100	lv	lv	3.80	1.07	About as expected	
		TOPS Surgical Specialty Hospital	674000	615	11	3.53	0.30	Much lower than expected	
		Texas Childrens Hospital	117000	12,456	734	6.36	1.10	About as expected	
		Texas Childrens Hospital West Campus	117002	2,012	88	5.59	0.63	Much lower than expected	
		Texas Childrens Hospital-Pavilion for Women	117100	10,672	104	0.78	1.29	Much higher than expected	
		Texas Orthopedic Hospital	792000	2,962	80	3.76	0.69	Much lower than expected	
		Tomball Regional Medical Center	076000	7,778	519	6.82	0.93	About as expected	

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Harris	Houston-The Woodlands-	UT MD Anderson Cancer Center	000105	6,760	453	7.11	0.82	Lower than expected
	Sugar Land, TX	United Memorial Medical Center	030000	449	34	9.01	1.05	About as expected
		University General Hospital	840200	1,640	177	8.26	1.20	Higher than expected
		Victory Medical Center Houston	945500	lv	lv	3.31	0.26	Much lower than expected
		Victory Surgical Hospital East Houston	972970	lv	lv	4.54	3.29	Much higher than expected
		West Houston Medical Center	337001	12,020	617	4.79	1.19	Higher than expected
		Westside Surgical Hospital	101300	lv	lv	3.55	1.55	Much higher than expected
		Womans Hospital-Texas	007000	21,477	233	0.88	0.98	About as expected
Harrison	Marshall, TX	CHRISTUS Good Shepherd Medical Center-Marshall	020000	2,832	177	6.17	1.10	About as expected
Hartley	Not Available	Coon Memorial Hospital & Home	262000	429	19	2.79	1.48	Much higher than expected
Haskell	Not Available	Haskell Memorial Hospital	572000	114	12	8.41	0.76	Lower than expected
Hays	Austin-Round Rock, TX	Central Texas Medical Center	556000	3,671	217	5.20	1.03	About as expected
		Seton Medical Center Hays	921000	5,875	373	6.41	1.04	About as expected
Hemphill	Not Available	Hemphill County Hospital	457000	63	7	8.42	0.98	About as expected
Henderson	Athens, TX	East Texas Medical Center-Athens	374000	4,678	292	5.17	1.11	Higher than expected
Hidalgo	McAllen- Edinburg- Mission, TX	Cornerstone Regional Hospital	830000	500	10	2.83	0.57	Much lower than expected

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Hidalgo	McAllen- Edinburg-	Doctors Hospital- Renaissance	797100	31,198	1,413	4.23	1.18	Higher than expected
	Mission, TX	Edinburg Regional Medical Center	140002	5,606	302	5.15	1.25	Higher than expected
		Knapp Medical Center	480000	6,928	348	5.36	1.36	Much higher than expected
		McAllen Medical Center	802001	13,874	1,299	7.44	1.53	Much higher than expected
		Mission Regional Medical Center	370000	7,968	420	4.39	1.48	Much higher than expected
		Rio Grande Regional Hospital	601000	12,020	660	4.92	1.19	Higher than expected
Hill	Not Available	Hill Regional Hospital	383000	971	54	5.95	1.00	About as expected
Hockley	Levelland, TX	Covenant Hospital- Levelland	307000	801	25	4.27	0.61	Much lower than expected
Hood	Dallas-Fort Worth- Arlington, TX	Lake Granbury Medical Center	424000	2,718	136	5.41	0.88	Lower than expected
Hopkins	Sulphur Springs, TX	Hopkins County Memorial Hospital	280000	3,080	131	4.87	0.78	Lower than expected
Houston	Not Available	East Texas Medical Center-Crockett	185000	298	25	5.51	1.51	Much higher than expected
		Houston County Medical Center	974710	265	14	5.47	0.70	Much lower than expected
Howard	Big Spring, TX	Scenic Mountain Medical Center	221000	1,758	112	5.84	0.96	About as expected
Hunt	Dallas-Fort Worth-	Hunt Regional Community Hospital	087000	lv	lv	8.84	1.13	Higher than expected
	Arlington, TX	Hunt Regional Medical Center Greenville	085000	4,518	289	6.13	1.25	Higher than expected
Hutchinson	Borger, TX	Golden Plains Community Hospital	654000	955	38	3.25	1.30	Much higher than expected

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Jack	Not Available	Faith Community Hospital	046000	134	6	4.25	1.09	About as expected
Jackson	Not Available	Jackson County Hospital	017000	76	10	6.76	1.17	Higher than expected
Jasper	Not Available	CHRISTUS Southeast Texas - Jasper Memorial	038001	1,289	94	5.77	1.32	Much higher than expected
Jefferson	Beaumont-Port Arthur, TX	Baptist Hospitals of Southeast Texas	389000	13,226	967	6.32	1.20	Higher than expected
- · ·	CHRISTUS Southeast Texas - St Elizabeth	444001	11,960	721	5.99	1.02	About as expected	
		CHRISTUS Southeast Texas -St Mary	299001	1,719	102	6.38	0.91	About as expected
		Medical Center of Southeast Texas Victory Campus	975111	lv	lv	3.21	1.74	Much higher than expected
		Medical Center- Southeast Texas	464002	7,201	447	5.70	1.10	About as expected
		Victory Medical Center Beaumont	973170	lv	lv	3.49	0.00	Much lower than expected
Jim Wells	Alice, TX	CHRISTUS Spohn Hospital Alice	689401	2,214	186	7.27	1.22	Higher than expected
Johnson	Dallas-Fort Worth- Arlington, TX	Texas Health Harris Methodist Hospital Cleburne	323000	3,656	208	5.66	0.86	Lower than expected
Jones	Abilene, TX	Anson General Hospital	016000	227	39	8.39	1.72	Much higher than expected
		Hamlin Memorial Hospital	305000	81	6	9.55	0.53	Much higher than expected  About as expected  Much lower than expected  Higher than expected  Lower than expected  Much higher than
		Stamford Memorial Hospital	043000	92	9	7.85	1.16	_
Karnes	Not Available	Otto Kaiser Memorial Hospital	357000	150	12	7.88	0.77	

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Kaufman	Dallas-Fort Worth- Arlington, TX	Texas Health Presbyterian Hospital- Kaufman	303000	1,673	97	6.00	0.94	About as expected
Kerr	Kerrville, TX	Peterson Regional Medical Center	406000	3,683	226	7.35	0.79	Lower than expected
Kimble	Not Available	Kimble Hospital	205000	99	12	8.16	1.98	Much higher than expected
Kleberg	Kingsville, TX	CHRISTUS Spohn Hospital-Kleberg	216001	2,255	182	6.26	1.14	Higher than expected
Knox	Not Available	Knox County Hospital	568000	lv	lv	7.59	1.83	Much higher than expected
Lamb	Not Available	Lamb Healthcare Center	217000	316	16	4.77	0.93	About as expected
Lampasas	Killeen- Temple, TX	Rollins Brooks Community Hospital	397000	345	33	8.15	1.20	Higher than expected
Lavaca	Not Available	Lavaca Medical Center	527000	332	35	7.29	1.22	Higher than expected
		Yoakum Community Hospital	023000	637	57	7.10	1.04	About as expected
Liberty	Houston-The Woodlands- Sugar Land, TX	Cleveland Emergency Hospital	975112	lv	lv	5.17	0.00	Much lower than expected
		Liberty Dayton Regional Medical Center	089001	113	8	7.07	0.79	Lower than expected
Limestone	Not Available	Limestone Medical Center	052000	197	15	8.38	0.76	Lower than expected
		Parkview Regional Hospital	505000	429	24	9.75	0.45	Much lower than expected
Llano	Not Available	Baylor Scott & White Medical Center Llano	476000	541	21	5.05	0.61	Much lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Admissions At Risk <sup>a</sup>	Actual PPR Chains <sup>b</sup>	PPR Chains/ 100 Admits <sup>c</sup>	Actual- to- Expected Ratio <sup>d</sup>	Actual-to- Expected Ratio Interpretation
Lubbock	Lubbock, TX	Covenant Childrens Hospital	686000	1,391	40	4.54	0.81	Lower than expected
		Covenant Medical Center	465000	12,724	883	9.31	0.78	Lower than expected
		Covenant Medical Center-Lakeside	109000	4,948	80	1.82	0.86	Lower than expected
		Grace Medical Center	013001	913	23	4.07	0.42	Much lower than expected
		Lubbock Heart Hospital	801500	2,175	141	7.03	0.94	About as expected
		TrustPoint Hospital	865800	163	13	10.50	0.77	Lower than expected
		University Medical Center	145000	14,829	688	5.24	0.89	Lower than expected
Lynn	Lubbock, TX	Lynn County Hospital District	192000	92	7	7.69	0.62	Much lower than expected
Madison	Not Available	CHI St Joseph Health Madison Hospital	041000	90	6	9.82	0.87	Lower than expected
Martin	Midland, TX	Martin County Hospital District	388000	lv	lv	7.65	0.22	Much lower than expected
Matagorda	Bay City, TX	Matagorda Regional Medical Center	006000	2,018	85	5.30	0.85	Lower than expected
		Palacios Community Medical Center	574001	100	6	6.94	0.47	Much lower than expected
Maverick	Eagle Pass, TX	Fort Duncan Regional Medical Center	547001	4,172	166	4.70	1.22	Higher than expected
McCulloch	Not Available	Heart of Texas Healthcare System	362000	170	12	8.22	0.65	Much lower than expected
McLennan	Waco, TX	Providence Health Center	040000	13,712	917	6.73	0.96	About as expected
Medina	San Antonio- New Braunfels, TX	Medina Regional Hospital	427000	534	23	4.28	0.73	Much lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Admissions At Risk <sup>a</sup>	Actual PPR Chains <sup>b</sup>	PPR Chains/ 100 Admits <sup>c</sup>	Actual- to- Expected Ratio <sup>d</sup>	Actual-to- Expected Ratio Interpretation
Midland	Midland, TX	Midland Memorial Hospital	452000	11,551	554	4.91	0.88	Lower than expected
Milam	Not Available	Little River Healthcare	369000	164	17	7.47	1.55	Much higher than expected
		Little River Healthcare - Cameron Hospital	973740	lv	lv	8.13	1.26	Much higher than expected
Mitchell	Not Available	Mitchell County Hospital	075000	295	24	7.64	0.91	About as expected
Montague	Not Available	Bowie Memorial Hospital	440000	302	36	8.10	1.13	Higher than expected
		Nocona General Hospital	348000	207	25	8.59	0.93	About as expected
Montgomery	Houston-The Woodlands-	Apollo Hospital	973440	155	6	5.22	0.56	Much lower than expected
	Sugar Land, TX	Conroe Regional Medical Center	508001	11,564	927	6.50	1.17	Higher than expected
		Kingwood Medical Center	675000	13,873	870	5.52	1.18	Higher than expected
		Memorial Hermann The Woodlands Hospital	615000	16,240	737	4.26	1.08	About as expected
		St Lukes Lakeside Hospital	923000	702	29	3.66	1.12	Higher than expected
		St Lukes The Woodlands Hospital	793100	9,493	521	5.22	1.10	About as expected
		Woodlands Specialty Hospital	974150	117	8	5.26	1.27	Much higher than expected
Moore	Dumas, TX	Memorial Hospital	199000	813	20	3.01	0.64	Much lower than expected
Nacogdoches	Nacogdoches, TX	Nacogdoches Medical Center	392000	3,331	206	5.97	1.02	About as expected
		Nacogdoches Memorial Hospital	478000	3,823	245	5.31	1.18	Higher than expected
Navarro	Corsicana, TX	Navarro Regional Hospital	141000	2,143	124	5.64	1.04	About as expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Admissions At Risk <sup>a</sup>	Actual PPR Chains <sup>b</sup>	PPR Chains/ 100 Admits <sup>c</sup>	Actual- to- Expected Ratio <sup>d</sup>	Actual-to- Expected Ratio Interpretation
Nolan	Sweetwater, TX	Rolling Plains Memorial Hospital	471000	988	57	5.30	1.10	About as expected
Nueces	Corpus Christi, TX	CHRISTUS Spohn Hospital Corpus Christi	398000	5,058	428	8.33	0.93	About as expected
		CHRISTUS Spohn Hospital Corpus Christi- Shoreline	398001	10,856	1,063	9.15	1.08	About as expected
		CHRISTUS Spohn Hospital Corpus Christi- South	398002	6,975	182	3.15	0.83	Lower than expected
		Corpus Christi Medical Center-Bay Area	703000	9,855	148	1.73	0.82	Lower than expected
		Corpus Christi Medical Center-Doctors Regional	703002	4,078	275	8.40	0.72	Much lower than expected
		Corpus Christi Medical Center-Heart Hospital	703003	1,093	102	9.46	0.95	About as expected
		Driscoll Childrens Hospital	488000	2,923	152	5.44	1.18	Higher than expected
		South Texas Surgical Hospital	931000	803	32	3.40	1.43	Much higher than expected
Ochiltree	Not Available	Ochiltree General Hospital	098000	545	20	2.62	1.29	Much higher than expected
Orange	Beaumont-Port Arthur, TX	Baptist Orange Hospital	121000	157	12	8.20	0.75	Much lower than expected
Palo Pinto	Mineral Wells, TX	Palo Pinto General Hospital	034000	1,329	101	5.92	1.27	Much higher than expected
Panola	Not Available	East Texas Medical Center-Carthage	484000	537	46	8.12	1.05	About as expected
Parker	Dallas-Fort Worth- Arlington, TX	Weatherford Regional Medical Center	844800	3,582	187	5.34	0.81	Lower than expected
Parmer	Not Available	Parmer Medical Center	200000	96	9	6.53	0.85	Lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Admissions At Risk <sup>a</sup>	Actual PPR Chains <sup>b</sup>	PPR Chains/ 100 Admits <sup>c</sup>	Actual- to- Expected Ratio <sup>d</sup>	Actual-to- Expected Ratio Interpretation
Pecos	Not Available	Iraan General Hospital	258000	Iv	lv	6.62	1.58	Much higher than expected
		Pecos County Memorial Hospital	356000	942	75	5.63	1.31	Much higher than expected
Polk	Not Available	CHI St Lukes Health - Memorial Livingston	466000	1,784	87	4.82	0.99	About as expected
Potter	Amarillo, TX	Baptist St Anthonys Hospital	001000	16,139	1,031	6.59	0.99	About as expected
		NW Texas Hospital	318000	14,838	999	6.08	1.01	About as expected
		Physicians Surgical Hospital-Panhandle Campus	852901	555	19	3.25	0.88	Lower than expected
		Physicians Surgical Hospital-Quail Creek	852900	981	24	3.10	1.17	Higher than expected
Randall	Amarillo, TX	Northwest Texas Surgery Center	714000	lv	lv	3.17	0.57	Much lower than expected
Reeves	Pecos, TX	Reeves County Hospital	367000	704	37	3.98	1.21	Higher than expected
Refugio	Not Available	Refugio County Memorial Hospital District	368000	lv	lv	11.20	0.45	Much lower than expected
Rockwall	Dallas-Fort Worth- Arlington, TX	Baylor Emergency Medical Center at Rockwall	973610	lv	lv	4.44	2.20	Much higher than expected
		Baylor Scott & White Medical Center Lake Pointe	625000	6,877	359	3.84	1.28	Much higher than expected
		Texas Health Presbyterian Hospital- Rockwall	859900	3,263	164	5.14	0.92	About as expected
Runnels	Not Available	Ballinger Memorial Hospital District	234000	lv	lv	9.85	2.10	Much higher than expected
		North Runnels Hospital	151000	99	13	6.89	2.40	Much higher than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Admissions At Risk <sup>a</sup>	Actual PPR Chains <sup>b</sup>	PPR Chains/ 100 Admits <sup>c</sup>	Actual- to- Expected Ratio <sup>d</sup>	Actual-to- Expected Ratio Interpretation
Rusk	Longview, TX	East Texas Medical Center Henderson	248000	1,293	74	4.95	0.97	About as expected
Sabine	Not Available	Sabine County Hospital	522000	170	17	6.25	1.65	Much higher than expected
San Augustine	Not Available	CHI St Lukes Health Memorial San Augustine	072000	201	17	8.19	1.38	Much higher than expected
San Patricio	Corpus Christi, TX	Care Regional Medical Center	239001	516	47	10.40	0.86	Lower than expected
Schleicher	Not Available	Schleicher County Medical Center	136000	73	8	6.96	1.19	Higher than expected
Scurry	Snyder, TX	Cogdell Memorial Hospital	439000	604	13	4.34	0.41	Much lower than expected
Smith	Tyler, TX	Christus Mother Frances Hospital Tyler	286000	19,615	1,239	6.42	0.92	About as expected
		East Texas Medical Center	410000	15,533	1,352	8.07	1.10	About as expected
		East Texas Medical Center Specialty Hospital	777000	lv	lv	12.80	1.22	Higher than expected
		Texas Spine & Joint Hospital	790200	2,002	72	4.39	0.61	Much lower than expected
		UT Health Center-Tyler	000112	1,453	118	10.40	0.78	Lower than expected
Somervell	Dallas-Fort Worth- Arlington, TX	Glen Rose Medical Center	059000	320	13	8.11	0.47	Much lower than expected
Starr	Rio Grande City, TX	Starr County Memorial Hospital	393000	1,071	66	4.80	1.46	Much higher than expected
Stephens	Not Available	Stephens Memorial Hospital	430000	200	20	9.20	1.18	Higher than expected
Stonewall	Not Available	Stonewall Memorial Hospital	666000	lv	lv	9.43	0.25	Much lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Admissions At Risk <sup>a</sup>	Actual PPR Chains <sup>b</sup>	PPR Chains/ 100 Admits <sup>c</sup>	Actual- to- Expected Ratio <sup>d</sup>	Actual-to- Expected Ratio Interpretation
Sutton	Not Available	Lillian M Hudspeth Memorial Hospital	147000	123	6	6.49	0.75	Lower than expected
Swisher	Not Available	Swisher Memorial Hospital	273000	126	9	7.20	0.80	Lower than expected
Tarrant	Dallas-Fort Worth-	Baylor Emergency Medical Center	974220	lv	lv	2.64	5.40	Much higher than expected
	Arlington, TX	Baylor Emergency Medical Center	972420	lv	lv	3.51	0.81	Lower than expected
		Baylor Emergency Medical Center	973920	lv	lv	2.62	0.00	Much lower than expected
		Baylor Emergency Medical Center at Keller	973540	lv	lv	2.98	0.00	Much lower than expected
		Baylor Orthopedic and Spine Hospital - Arlington	936000	1,202	40	3.33	0.92	About as expected
		Baylor Scott & White All Saints Medical Center- Fort Worth	363000	16,995	698	4.15	0.99	About as expected
		Baylor Scott & White Medical Center- Grapevine	513000	10,460	443	4.72	0.78	Lower than expected
		Baylor Surgical Hospital- Fort Worth	804500	1,020	25	3.23	0.64	Much lower than expected
		Cook Childrens Medical Center	332000	6,693	290	5.61	0.76	Lower than expected
		Cook Childrens Northeast Hospital	850200	lv	lv	3.54	0.00	Much lower than expected
		Forest Park Medical Center Southlake	973140	513	21	4.18	0.76	Lower than expected
		Forest Park Medical Center at Fort Worth	974230	374	8	4.64	0.47	Much lower than expected
		John Peter Smith Hospital	409000	14,834	659	5.91	0.85	Lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Admissions At Risk <sup>a</sup>	Actual PPR Chains <sup>b</sup>	PPR Chains/ 100 Admits <sup>c</sup>	Actual- to- Expected Ratio <sup>d</sup>	Actual-to- Expected Ratio Interpretation
Tarrant	Dallas-Fort	Medical Center-Arlington	502000	14,308	592	4.19	1.10	About as expected
	Worth- Arlington, TX	Medical City Alliance	974490	1,143	35	3.33	1.03	About as expected
		Methodist Mansfield Medical Center	842800	7,993	385	4.95	0.85	Lower than expected
		North Hills Hospital	437000	4,239	375	8.19	1.10	About as expected
		Parkway Surgical and Cardiovascular Hospital	973840	240	9	4.61	1.29	Much higher than expected
		Plaza Medical Center- Fort Worth	477000	6,467	668	8.81	1.18	Higher than expected
		Texas General Hospital	115100	222	22	7.49	1.19	Higher than expected
		Texas Health Arlington Memorial Hospital	422000	10,575	667	6.06	1.03	About as expected
		Texas Health Harris Methodist HEB	182000	10,078	503	5.65	0.82	Lower than expected
		Texas Health Harris Methodist Hospital Alliance	972900	4,919	163	3.94	0.76	Lower than expected
		Texas Health Harris Methodist Hospital Azle	469000	998	78	8.71	1.02	About as expected
		Texas Health Harris Methodist Hospital Southlake	812800	lv	lv	3.48	0.05	Much lower than expected
		Texas Health Harris Methodist Hospital-Fort Worth	235000	25,465	1,629	6.63	0.89	Lower than expected
		Texas Health Harris Methodist Hospital- Southwest Fort Worth	627000	13,222	495	4.41	0.77	Lower than expected
		Texas Health Heart & Vascular Hospital	730001	939	93	9.47	0.88	Lower than expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Admissions At Risk <sup>a</sup>	Actual PPR Chains <sup>b</sup>	PPR Chains/ 100 Admits <sup>c</sup>	Actual- to- Expected Ratio <sup>d</sup>	Actual-to- Expected Ratio Interpretation
Tarrant	Dallas-Fort Worth-	Texas Health Huguley Hospital	047000	7,565	517	6.85	1.09	About as expected
	Arlington, TX	USMD Hospital Fort Worth	861400	lv	lv	3.29	0.69	Much lower than expected
		USMD Hospital-Arlington	799001	1,493	87	5.25	0.91	About as expected
		Victory Medical Center Mid-Cities	972990	lv	lv	3.15	2.20	Much higher than expected
Taylor	Abilene, TX	Abilene Regional Medical Center	091001	6,141	241	4.56	0.81	Lower than expected
		Hendrick Medical Center	500000	11,808	731	6.75	0.88	Lower than expected
Terry	Not Available	Brownfield Regional Medical Center	078000	307	15	5.77	0.73	Much lower than expected
Throckmorton	Not Available	Throckmorton County Memorial Hospital	428000	lv	lv	5.71	3.22	Much higher than expected
Titus	Mount Pleasant, TX	Titus Regional Medical Center	137000	2,389	77	3.72	1.01	About as expected
Tom Green	San Angelo, TX	San Angelo Community Medical Center	056000	4,272	245	4.01	1.25	Higher than expected
		Shannon West Texas Memorial Hospital	168000	9,914	665	6.48	0.99	About as expected
Travis	Austin-Round Rock, TX	Arise Austin Medical Center	973290	826	21	3.73	0.49	Much lower than expected
		Dell Childrens Medical Center	852000	7,361	302	4.81	0.81	Lower than expected
		HealthSouth Rehabilitation Hospital of Austin	970800	lv	lv	7.75	0.00	Much lower than expected
		Heart Hospital-Austin	829000	2,249	194	9.35	0.83	Lower than expected
		Lakeway Regional Medical Center	970200	2,255	129	5.96	1.03	About as expected

Hospital County	Metropolitan/ Micropolitan Statistical Area (MSA)	Hospital Name	THCIC ID	Admissions At Risk <sup>a</sup>	Actual PPR Chains <sup>b</sup>	PPR Chains/ 100 Admits <sup>c</sup>	Actual- to- Expected Ratio <sup>d</sup>	Actual-to- Expected Ratio Interpretation
Travis	Austin-Round Rock, TX	North Austin Medical Center	829900	19,417	662	3.36	0.95	About as expected
		Northwest Hills Surgical Hospital	794000	406	7	4.28	0.17	Much lower than expected
		Seton Medical Center	497000	18,991	918	5.00	0.94	About as expected
		Seton Northwest Hospital	797600	5,712	261	4.43	0.83	Lower than expected
		Seton Southwest Hospital	797500	1,655	27	1.13	1.18	Higher than expected
		St Davids Hospital	035000	14,969	697	4.46	1.05	About as expected
		St Davids South Austin Hospital	602000	11,671	785	6.74	0.94	About as expected
		University Medical Center-Brackenridge	335000	10,199	676	6.50	0.90	About as expected
		Westlake Medical Center	822800	878	34	4.53	0.87	Lower than expected
Trinity	Huntsville, TX	East Texas Medical Center-Trinity	287000	180	19	7.58	1.44	Much higher than expected
Tyler	Not Available	Tyler County Hospital	569000	324	32	9.31	0.92	About as expected
Upton	Not Available	McCamey Hospital	240000	lv	lv	6.23	0.93	About as expected
		Rankin County Hospital District	290000	lv	lv	5.92	2.72	Much higher than expected
Uvalde	Uvalde, TX	Uvalde Memorial Hospital	063000	1,564	54	4.25	0.66	Much lower than expected
Val Verde	Del Rio, TX	Val Verde Regional Medical Center	462000	2,361	81	3.54	0.85	Lower than expected
Van Zandt	Not Available	Texas General Hospital Van Zandt Regional Medical Center	974380	lv	lv	3.40	0.00	Much lower than expected
Victoria	Victoria, TX	Citizens Medical Center	064000	5,862	386	6.23	1.00	About as expected

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Victoria	Victoria, TX	DeTar Hospital-Navarro	453000	5,623	494	6.93	1.12	Higher than expected
Walker	Huntsville, TX	Huntsville Memorial Hospital	061000	3,652	312	6.36	1.23	Higher than expected
Ward	Not Available	Ward Memorial Hospital	468000	164	13	8.39	1.12	Higher than expected
Washington	Brenham, TX	Baylor Scott & White Hospital-Brenham	066000	1,225	43	4.99	0.70	Much lower than expected
Webb	Laredo, TX	Doctors Hospital-Laredo	301000	8,653	309	3.96	1.05	About as expected
		Laredo Medical Center	207001	12,739	538	4.52	1.17	Higher than expected
Wharton	El Campo, TX	El Campo Memorial Hospital	426000	288	26	9.14	0.87	Lower than expected
		Gulf Coast Medical Center	833000	781	82	10.30	1.18	Higher than expected
Wheeler	Not Available	Parkview Hospital	116000	lv	lv	5.37	1.86	Much higher than expected
		Shamrock General Hospital	571000	lv	lv	6.04	0.66	Much lower than expected
Wichita	Wichita Falls, TX	Electra Memorial Hospital	490000	212	19	8.04	0.84	Lower than expected
		Kell West Regional Hospital	681400	814	38	4.15	1.03	About as expected
		United Regional Health Care System	417000	12,641	763	6.75	0.85	Lower than expected
Wilbarger	Vernon, TX	Wilbarger General Hospital	084000	238	16	10.50	0.51	Much lower than expected
Williamson	Austin-Round Rock, TX	Baylor Scott & White Emergency Hospital Cedar Park	101200	lv	lv	3.19	6.85	Much higher than expected

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Williamson	Austin-Round Rock, TX	Baylor Scott & White Medical Center Round Rock	852600	5,035	383	7.39	1.00	About as expected
		Baylor Scott & White Medical Center Taylor	044000	239	31	9.48	1.43	Much higher than expected
		Cedar Park Regional Medical Center	858300	4,211	207	4.50	0.98	About as expected
		Round Rock Medical Center	608000	7,125	327	4.86	0.95	About as expected
		Seton Medical Center Williamson	861700	5,251	350	7.44	0.85	Lower than expected
		St Davids Georgetown Hospital	835700	4,288	153	3.53	1.03	About as expected
Wilson	San Antonio- New Braunfels, TX	Connally Memorial Medical Center	433000	696	49	7.78	0.77	Lower than expected
Winkler	Not Available	Winkler County Memorial Hospital	062000	119	15	7.22	2.40	Much higher than expected
Wise	Dallas-Fort Worth- Arlington, TX	Wise Health System (Medical Center Drive)	254001	3,683	190	6.35	0.76	Lower than expected
Wood	Not Available	Christus Mother Frances Hospital Winnsboro	446001	369	23	7.65	0.56	Much lower than expected
		East Texas Medical Center-Quitman	411000	681	64	8.91	1.03	About as expected
Yoakum	Not Available	Yoakum County Hospital	485000	445	10	2.54	0.68	Much lower than expected
Young	Not Available	Graham Regional Medical Center	094000	538	15	4.95	0.41	Much lower than expected
		Hamilton Hospital	294000	282	22	5.76	0.95	About as 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 data source for this report is the *Texas Hospital Inpatient Discharge Research Data File, 2015* (Texas Department of State Health Services, Center for Health Statistics, Austin, Texas. September, 2016). The data elements used in this analysis include patient date of birth, admission and discharge dates, diagnoses and procedures, sources and types of admissions, length of stay, and patient discharge status.

## **B.2 Identifying Admissions at Risk and PPRs**

Admissions at risk and PPRs were identified using the 3M<sup>™</sup> Core Grouping Software package. Admissions with missing or invalid identifying information were excluded prior to data analysis, because the 3M<sup>™</sup> Core Grouping Software package requires these elements in order to process records. During data processing, the 3M<sup>™</sup> software systematically excludes certain admissions from consideration as either admissions at risk or PPRs, due to their clinical complexity, likelihood of extensive follow-up care, or difficulty in determining whether admissions were clinically related. Records with data problems, such as mismatched birth dates or admission and discharge dates out of order are also excluded. Examples of admissions excluded by the 3M<sup>™</sup> Core Grouping Software are:

- Admissions considered non-events, including admissions to hospital based hospice, long-term care, hospital based skilled nursing facilities, and admissions to acute-care hospitals for sub- or non-acute care conditions including hospital based rehabilitation;
- All other non-acute care admissions;
- Same-day transfers to an acute care hospital for non-acute care (e.g., hospice care);

- Pediatric admissions with certain diagnosis codes, such as seizures, poisoning, and certain infections;
- Admissions with chemotherapy or radiotherapy procedure codes, connective tissue disorders, coagulation/platelet disorders, or major/metastatic malignancy/advanced cancer diagnoses;
- Admissions with leukemia and lymphoma diagnoses;
- Admissions with a diagnosis of end stage chronic kidney disease; and
- Admissions with a discharge status of "left against medical advice or discontinued care," because the intended care could not be completed.

Admissions that were transferred to another hospital for acute care could be considered PPRs, but are excluded from consideration as admissions at risk because the patient's subsequent care was no longer under the control of the transferring hospital. Finally, admissions with a discharge status of "expired" are eligible to be PPRs, but are excluded from consideration as admissions at risk, because deceased patients cannot be readmitted.

#### **B.3 PPR Methodology**

Calculation of PPRs, including adjustment for case mix, was conducted following logic recommended by  $3M^{\text{TM}}$ . In calculating PPR statistics, PPR chains rather than individual readmissions were used as the numerator. The number of PPR chains was defined as the number of initial admissions that were followed by one or more clinically related readmissions (PPR events) for the same patient, with the first clinically related readmission occurring within a 30-day window and subsequent clinically related readmissions occurring at any time. The number of admissions at risk was defined as the total number of acute-care inpatient hospital admissions, not counting PPRs and excluded admissions, such as those listed in the methods section above. Admissions at risk were used as the denominator.

As per the 3M<sup>™</sup> PPR methodology, the PPR summary statistic is expressed as a percentage (i.e., occurrences per 100 events) and is calculated by dividing the actual number of PPR chains by the number of admissions at risk and multiplying by 100.

For example, if in a given year, 100 non-excluded admissions occurred in a certain hospital and five (5) were followed by one or more non-excluded clinically-related readmissions within a 30-day interval, then at 30-day readmission interval, the number of PPR chains per 100 at-risk admissions for the hospital would be  $(5/100) \times 100 = 5.0$ .

### **B.4 Expected Hospital PPR Chains**

In addition to actual PPR chains, expected PPR chains for each hospital were calculated. These are estimates of how many PPR chains a hospital could be expected to have, taking into account its particular case mix (a combination of APR-DRG, severity of illness [SOI], patient age groups, and mental health/substance abuse [MH/SA] comorbidity). Expected PPR chains were calculated using indirect standardization, based on the experience of Texas hospitals as a whole. First, a state norm was calculated for each APR-DRG and severity of illness category by summing the number of PPR chains in each category at the state level and dividing by the statewide sum of admissions at risk within the same category. Adjustment factors were then calculated for each MH/SA and age group as the ratio of actual to expected PPR chains in each group, based on the previously calculated APR-DRG and severity of illness norms. Next, for each hospital, the number of admissions at risk occurring within each APR-DRG and severity of illness category was multiplied by the corresponding state norm and an adjustment factor based on the number of admissions at risk occurring within each age group and MH/SA category. Finally, the number of expected PPR chains within each hospital was calculated by summing PPR chains across all APR-DRGs and severity of illness levels. The risk-adjusted PPR summary statistic for each hospital was calculated by dividing this sum by the number of admissions at risk in each hospital and multiplying by 100.

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

To enable comparisons among hospitals, a PPR performance ratio was calculated for each hospital as the ratio of actual to expected PPR chains.

The Actual-to-Expected (A/E) ratio was calculated for each hospital as the actual hospital PPR chains divided by the expected hospital PPR chains.

The A/E ratio compares the actual number of PPR chains against the expected number of PPR chains in each hospital. Hospitals with an A/E ratio less than 1.0 had a number of PPR chains that was lower than expected based on their case mix, whereas hospitals with an A/E ratio greater than 1.0 had a number of PPR chains that was higher than expected, given their particular mix of cases.

# **Appendix C: Definitions**

**Actual-to-expected (A/E) Ratio** — The ratio of actual to expected PPR chains. The expected PPR chains were derived from base APR-DRG, severity of illness, patient age, and the presence or absence of a major mental health or substance abuse diagnosis.

**Admissions at risk** — All initial admissions that are at risk for potentially preventable readmissions, excluding admissions meeting the criteria for exclusion as listed in the 3M PPR Methodology.

**APR-DRG** — A 3M<sup>™</sup> All Patient Refined Diagnosis Related Group classification system that classifies patients according to reason for admission, severity of illness (4 levels), and patient characteristics. The APR-DRG classification system is designed for use with all types of patients, and is formatted as, for example, 000-0, where the first three digits indicate the base Diagnosis Related Group (DRG) and the fourth digit indicates the severity of illness.

**Case mix** — A mix of patients treated during the reporting time period. The mix considers patient age groups, severity of illness, and mental health status/substance abuse as defined by  $3M^{TM}$ .

**Clinically related** — A requirement that the underlying reason for admission or readmission be related to the care rendered or diagnosis identified during a prior hospital admission.

**Hospital readmission** — A return hospitalization to an acute care hospital that occurs shortly after a discharge from another or same hospital. Readmission is most often measured within specific number of days (seven, 15 or 30 days), and may be a result of problems inadequately addressed in the prior hospitalization.

**Mental health status** – A 3M<sup>™</sup> calculated variable which contains major mental health and/or substance abuse diagnoses codes as defined by 3M<sup>™</sup> (2011).

**Norm** – Standard or average level of performance.

**Potentially preventable readmission** — A return admission that occurs within a readmission interval, and is clinically related to a prior admission. The readmission may be for the same or a related condition. If the readmission was planned (e.g., major metastatic cancer), unavoidable (e.g. HIV/AIDS), involves patient compliance issues (e.g. left without medical advice), or was clearly unrelated (e.g., hip fracture after heart attack), the readmission is not considered to be a PPR.

**Readmission interval** — The maximum number of days allowed between the discharge date of an initial inpatient admission and the admission date of next inpatient admission.

**Severity of illness (SOI)** — The extent of physiologic or functional deterioration of a working structure or system. For each base APR-DRG, SOI is indicated by values from 1 to 4, such that an APR-DRG-4 is more likely to be readmitted than a patient with an APR-DRG-1. In addition, SOI describes the seriousness of the patients' illnesses and the risk of adverse outcome to treatment choices. The levels of severity are: 1 - Minor, 2 - Moderate, 3 - Major and 4 - Extreme.

# **Appendix D: References**

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