DSRIP Provider Reporting

Potentially Preventable Admissions

Technical Notes

Patient Population: Texas Medicaid and CHIP

Measurement Year: Calendar Year 2014

**The Institute for Child Health Policy**

**University of Florida**

**The External Quality Review Organization**

**for Texas Medicaid Managed Care and CHIP**

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# Section 1. Introduction

Potentially Preventable Admissions (PPAs) are facility admissions that may have resulted from the lack of adequate access to care or ambulatory care coordination. Circumstances associated with PPAs are ambulatory sensitive conditions (e.g., asthma) for which adequate patient monitoring and follow-up (e.g., medication management) can often avoid the need for admission. The occurrence of high rates of PPAs may represent a failure of the ambulatory care provided to the patient. In addition to a significant quality problem, excess PPAs result in unnecessary increases in cost. From the perspective of care providers, one way to improve efficiency and quality and to generate greater value is to better identify and avoid unnecessary hospitalizations.

# Section 2. Comparison of PPA to Prevention Quality Indicators

The U.S. DHHS Agency for Healthcare Research and Quality (AHRQ) defined an initial list of ambulatory care sensitive conditions in the 1980s (Prevention Quality Indicators or PQIs). PPAs were developed by 3M™ to be fairer and more comprehensive in several ways. First, certain admission types that are counted in PQI rates are not included in PPAs because they are not preventable unless appropriate care is given for several years before the admission (e.g., amputation for vascular complications of diabetes). Second, admissions are included in PQI rates irrespective of the severity of the patient condition while PPAs are adjusted for the complexity of the patient population. Third, the comprehensiveness of PPAs is increased by using diagnoses grouped using APR-DRGs rather than relying on a list of specific diagnoses codes. Additionally, PPAs apply advances in our understanding of the role coordinated care can play in avoiding admissions together with the understanding that the preventability of these admissions should be adjusted for the overall burden of illness of the individual patient.

PQI admission types that are not utilized in the PPA algorithm are:

* Long term diabetes complications
* Lower extremity amputation among patients with diabetes
* Perforated appendix
* Low birth weight infants

Admissions types that are part of the PPA algorithm that are not addressed by the PQI, but have been shown to be avoidable are:

* Seizures
* Migraines
* Cardiac catheterization
* Chest pain
* Abdominal pain
* Back procedures for discogenic pain
* Sickle cell anemia crisis

# Section 3. PPA Logic and Calculation of Rates and Expenditures for Facilities

The identification of PPAs begins with assignment of APR-DRG to inpatient admissions. Based on the reason for admission and procedures conducted, an initial preventable status is set. Modification can be made for admissions from nursing or residential care. Admissions not flagged in the initial setting can be flagged as preventable for these admissions when treatment could have been provided in the previous care setting that would avoid a hospital admission.

Health status (CRG), determined from encounter data for the year prior to the measurement year, is used to adjust the case-mix of patients. Patients with less than 3 months enrollment in the prior year are excluded because reliable CRG assignment depends on adequate health care history. Admissions for these patients are not considered at risk for PPAs.

Relative weights are assigned to each admission at risk for PPA assignment by APR-DRG. These weights (Texas specific weights for Grouper 32 APR-DRG, effective 09/01/2015) were determined based on resource utilization from Texas Medicaid data. Using relative weights for PPA rate calculation is important because not all PPA have the same resource costs. High resource PPA should weigh more in the PPA rate than lower resource PPA so that a calculated excess in the PPA rate reflects waste more accurately.

PPA weighted rates are calculated as the total resources utilization for PPA (sum of the relative weights for each PPA admission) divided by the total resources utilization for at-risk admissions (sum of the relative weights for each at-risk admission).

PPA is risk adjusted by CRG, using the CRG assigned to the member based on the data (both MCO encounters and FFS claims) from the year prior to the measurement year. A state norm weighted rate for each CRG category is calculated using the at-risk admissions statewide.

The expected weighted PPA (total resources utilization for PPA) within each CRG category for a facility is calculated as the state norm weighted rate for the CRG category times the sum of the relative weights for the at-risk admission in the CRG for the facility. The total expected weighted PPA for a facility is the sum of expected weighted PPA across all CRG levels.

The actual to expected ratio for the facility is the ratio of actual weighted PPA (sum of the relative weights for each PPA admission) over expected weighted PPA.

Expenditures calculations are determined using paid amounts per PPA instead of relative weights, but follow the same logic for determination of actual and expected amounts, and adjusting for CRG.

# Section 4. PPA Processing for Facility Reports

Using the 3M™ Population Focused Preventable software and methodology (Core Grouping Software Version 2016.0.2; Population-Focused Preventable Grouper Version 1.3.1), encounter and eligibility data for Texas Medicaid and CHIP for the 2014 service year was used to calculate facility rates for PPAs.

Members with dual eligibility during the measurement year are excluded. Valid DOB, gender, and race information is required in extracting member eligibility data.

Inpatient admissions were identified by bill type = ‘11x’, ’12x’, ‘41x’. Void and denied encounters as well as informational encounters/claims are excluded. Encounters are rolled up to a single cost record by member, provider ID, and admission date.

Low volume providers can affect the reliability and interpretability of provider based summary statistics such as statewide percentile rankings. Providers meeting any of the following criteria were considered low volume and are excluded from percentile calculations:

* Less than 40 total admissions at risk for PPA or
* Less than 5 actual total PPA or
* Less than 5 expected total PPA

The state norms represent the experience of all eligible members with at risk admissions. The norms are calculated using all eligible admissions at all providers.

# Section 5. Guide to the Facility Report

#### Hospital

The hospital name associated with the NPI in the HHSC provider table.

#### NPI

The NPI associated with the hospital, and identified as the billing provider in the encounters attributed to the provider and included in the provider results.

#### TPI

The TPIs corresponding to the hospital NPI based on the crosswalk provided by Texas Medicaid Healthcare Partnership (TMHP) and DSRIP team.

#### PPA Rates and Expenditures (Provider Results)

#### Total Admissions at Risk for PPA

All admissions that are by the 3M™ software as at-risk for PPA (see section 3 for exclusion criteria).

#### Actual Number of PPA

Admissions from ‘Total Admissions at Risk for PPA’ that were identified by the 3M™PPA algorithm as potentially preventable.

#### PPA Rate (weighted)

The sum of relative weights for encounters in ‘Actual Number of PPA’ divided by the sum of relative weights for encounters in ‘Total Admissions at Risk for PPA’.

#### Expected Number of PPAs

Statewide un-weighted PPA rate times the Admissions at Risk for PPA. Calculated as an un-weighted sum across CRG categories.

#### Expected PPA Rate (weighted)

The sum of the expected weighted PPAs divided by the sum of relative weights for the admissions in ‘Total Admissions at Risk for PPA’.

#### Actual-to-Expected Ratio for PPA Rate (weighted)

‘PPA Rate (weighted)’ divided by ‘Expected PPA Rate (weighted)’

#### Members with PPAs

Number of unique clients associated with PPAs

#### Actual PPA Expenditures

Sum of paid amounts for PPAs

#### Expected PPA Expenditures

The State norm PPA expenditure (sum of paid amounts divided by sum of relative weights for encounters, statewide) times the sum of relative weights for encounters in’ Actual Number of PPA’

#### Actual-to-Expected Ratio for PPA Expenditures

‘Actual PPA Expenditures’ divided by ‘Expected PPA Expenditures’

### State-Wide Provider PPA Rate

#### State Norm

The sum of relative weights for PPA encounters divided by the sum of relative weights for at risk encounters statewide. Data from all providers is included in the State Norm.

#### Percentiles

Calculated from ‘PPA Rate (weighted)’ for all providers excluding those identified as low volume providers.

### State-Wide Provider Distributions

#### Percentiles

Calculated from ‘Total Admissions at Risk for PPA’, ‘Actual Number of PPA’, and ‘Members with PPAs’ for all providers excluding those identified as low volume providers.

### PPA Results by Category

#### Category

Categories are identified by APR-DRG

|  |  |
| --- | --- |
| Category | APR-DRG |
| CHF (Congestive Heart Failure) | 194 |
| DM (Diabetes) | 420 |
| BH/SA (Behavioral Health or Substance Abuse) | 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 772, 773, 774, 775, 776 |
| COPD (Chronic Obstructive Pulmonary Disease) | 140 |
| Adult Asthma (Age>18yrs) | 141 |
| Pediatric Asthma (Age<=18yrs) | 141 |
| CP & CAD (Angina and Coronary Artery Disease) | 198, 203 |
| HTN (Hypertension) | 199 |
| Cellulitis | 383 |
| Bacterial PNA (Respiratory Infection) | 113, 137, 139 |
| PE & RF (Pulmonary Edema and Respiratory Failure) | 133 |
| Others | All other APR-DRGs |

#### Number of PPAs

Encounters identified as PPAs within the category

#### PPA Category Rate (weighted) per 1,000 Resource Unit

The sum of relative weights for encounters in ‘Category – Number of PPA’ divided by the sum of relative weights for encounters in ‘Provider – Total Admissions at Risk for PPA’ times 1,000.

#### State Percentile of PPA Weighted Rate per 1,000 Resource Unit

Calculated from ‘PPA Category Rate (weighted) per 1,000 Resource Unit’ for all providers excluding those identified as low volume providers.

#### Fraction of all PPAs

‘Category – Number of PPAs’ divided by ‘Provider – Actual Number of PPAs’.

#### PPA Expenditures

Paid amounts for encounters included in ‘Category – Number of PPAs’.

#### Fraction of PPA Expenditures

‘Category – PPA Expenditures’ divided by ‘Provider – Actual PPA Expenditures’.

### PPA Results by APR-DRG

Column description are the same as for PPA results by Category

# Section 6. Glossary

### 3M™ APR DRGs

APR DRGs classify patients according to their reason for admission, severity of illness and risk of mortality. APR DRGs use claims data to assign patients to one of 314 “base APR DRGs” that are determined either by the principal diagnosis, or, for surgical patients, the most important surgical procedure performed in an operating room. Each base APR DRG is then divided into four severity of illness (SOI) levels, determined primarily by secondary diagnoses that reflect both comorbid conditions and the severity of the underlying illness, creating the final set of 1,256 APR DRGs. The present on admission indicator for each secondary diagnosis is a required data field for computing the admission severity of illness.

### CRGs

The CRGs are a categorical clinical model which assigns each enrollee to a single mutually exclusive risk group based on their chronic illness burden. These groups relate the historical clinical and demographic characteristics of the enrollee to the amount and type of healthcare resources that enrollee will consume in the future. CRG can be grouped within 9 overall status categories:

1. **Healthy.** Healthy status is identified by the absence of any primary chronic disease or significant acute episode disease categories or episode procedure categories Healthy status may have Minor Acute EDCs present but are otherwise healthy. The healthy status also includes individuals who had no medical care encounters.
2. **Recent History of Significant Acute Disease.** History of significant acute disease is identified by the presence within the most recent six month period of one or more Significant Acute episode disease categories or significant episode procedure categories. There are no primary chronic diseases present.
3. **Single Minor Chronic Disease.**
4. **Minor Chronic Disease in Multiple Organ Systems.**
5. **Single Dominant or Moderate Chronic Disease.**
6. **Dominant or Moderate Chronic Disease in Multiple Organ Systems.**
7. **Significant Chronic Disease in Multiple Organ Systems.**
8. **Dominant, Metastatic and Complicated Malignancies.** Malignancy that dominates the medical care required (e.g., brain malignancy) or a non-dominant malignancy (e.g., prostate malignancy) that is metastatic or complicated (e.g., requiring a bone marrow transplant).
9. **Catastrophic Conditions.** Catastrophic Conditions include long term dependency on medical technology (e.g., dialysis, respirator, and total parenteral nutrition, (TPN) and life-defining chronic diseases or conditions that dominate the medical care required (e.g., persistent vegetative state, cystic fibrosis, AIDS, history of heart transplant)

# Reference

3MTM Health Information Systems. Population Focused Preventables Classification System (Version 1.3.1): Definitions Manual. GRP-266, 2014.