DSRIP Provider Reporting

Potentially Preventable Readmissions

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

Readmissions have potential value as an indicator of quality of care because they may reflect poor clinical care and poor coordination of services either during hospitalization or in the immediate post discharge period. A potentially preventable readmission (PPR) is a readmission (return hospitalization within the specified readmission time interval) that is clinically related to the initial hospital admission. “Clinically related” is defined as a requirement that the underlying reason for readmission be plausibly related to the care rendered during or immediately following a prior hospital admission. A readmission is defined as a return hospitalization to an acute care hospital that follows a prior acute care admission within a specified time interval, called the readmission time interval. The readmission time interval is the maximum number of days allowed between the discharge date of a prior admission and the admitting date of a subsequent admission. If a subsequent admission occurs within the readmission time interval and is clinically related to a prior admission, it is considered a PPR. The hospitalization triggering a PPR is called an Initial Admission. Subsequent PPRs relate back to the care rendered during or following the Initial Admission.

*For this report a 30 day readmission window was applied.*

# Section 2. Data Inclusion

Inpatient facility admissions for all Medicaid and CHIP population for calendar year 2014 are included with the following exceptions:

* ***Undocumented Alien Status*** — If the patient had undocumented alien status and if the client was discharged and readmitted, the readmission may not have been captured in the Medicaid database.
* ***Medicaid / Medicare Dual Eligibility*** — Patients who were dually eligible for both Medicaid and Medicare during the measurement year were excluded.
* ***Global PPR exclusions*** — Admissions with certain malignant Diagnosis Related Groups (DRGs), HIV patients, palliative cares; a situation where it is very likely that a readmission was either planned, unpreventable, or beyond a hospital's influence; and encounters with a discharge status of “left against medical advice”. Refer to the 3M specifications manual for the complete list of exclusions.

# Section 3. PPR Logic and Calculation of Weights and Expenditures for Facilities

The 3M™ PPR methodology is a computerized algorithm to identify readmissions with a plausible clinical relationship to the care rendered during or immediately following a prior hospital admission. Every stay is assigned to an All Patient Refined (APR)-Diagnosis Related Group (DRG). There are 314 base APR-DRGs and each base APR-DRG has four levels of severity.

A 3M panel of clinicians determined whether each possible admission/readmission pair represented a PPR. For some pairs, additional factors were considered, including patient age or particular diagnoses and procedures within an APR-DRG. A readmission is considered clinically-related to the Initial Admission if the reason for the readmission falls into one of three categories for medical readmissions, one of two categories for surgical readmissions and one category for mental health or substance abuse conditions. Readmissions for medical reasons are much more common than readmissions for surgical procedures, regardless of the reason for the Initial Admission. The three categories of clinically-related medical readmissions are as follows:

* A continuation or recurrence of the reason for the Initial admission, or for a condition closely related to the reason for the Initial Admission (e.g. a readmission for diabetes following an Initial Admission for diabetes).
* An ambulatory care sensitive condition (as designated by the Agency for Healthcare Research and Quality, AHRQ), or a chronic problem that may be related to care either during or after the initial admission.
* An acute medical condition or complication that may be related to or have resulted from care during or after the initial admission.

Surgical readmissions were generally considered not preventable unless they met one of the two criteria for a clinical relationship to the Initial Admission:

* A readmission for a surgical procedure that addressed a continuation or a recurrence of the problem causing the Initial Admission (a patient readmitted for an appendectomy following an Initial Admission for abdominal pain and fever).
* A readmission for a surgical procedure that addressed a complication resulting from care during the Initial Admission (a readmission for drainage of a post-operative wound abscess following an Initial Admission for a bowel resection).

Readmissions for mental health or substance abuse reasons will be considered clinically related regardless of the diagnoses for the initial admission:

* Readmission for mental health reasons following an initial admission for a non-mental health, non-substance abuse reason.
* Readmission for a substance abuse diagnosis reason following an initial admission for a non-mental health, non-substance abuse reason.
* Mental health or substance abuse readmission following an initial admission for a substance abuse or mental health diagnosis.

A readmission that did not fit one of these categories (e.g., a readmission for trauma) is classified as a clinically-unrelated readmission and, therefore, not potentially preventable (i.e. not a PPR).

A readmission that is not clinically-related to the Initial Admission in a readmission chain terminates the readmission chain. A readmission that has a discharge status of transferred to an acute care hospital, left against medical advice or died terminates a readmission chain.

Since a hospital PPR rate can be influenced by a hospital’s mix of patient types and patient severity of illness during the Initial Admission, PPR weights are adjusted for case mix and severity of illness. Higher than expected PPR weights can be an indicator of quality of care problems during the initial hospital stay or with the coordination of care between the inpatient and outpatient setting. Using relative weights for PPR calculation is important because not all PPR have the same resource costs. High resource PPR should weigh more than lower resource PPR so that a calculated excess in the PPR rate reflects waste more accurately.

The actual PPR weight is calculated as the sum of APR-DRG weights (Texas specific weights for Grouper 32 APR-DRG, effective 09/01/2015) associated with all PPRs as previously described, two or more PPRs can all be related to the same prior Initial Admission in some instances, and will form a readmission chain. If for a given PPR, the preceding admission is itself a PPR, then the most recent readmission is assessed to determine if it is clinically related to the Initial Admission, rather than to the readmission immediately preceding it. If clinically related, the most recent readmission becomes part of the readmission chain related to the Initial Admission that started the readmission chain.

A state norm PPR weight is calculated for each base APR DRG and severity level. Then, using indirect rate standardization, for each APR DRG and SOI level within each hospital, the expected PPR weight was calculated by multiplying the state norm PPR weight for each APR DRG and SOI level by the number of candidate admissions in the hospital in the corresponding APR DRG and SOI level. The overall expected PPR weights for the hospital is the expected PPR weight for each APR DRG and SOI level, summed over all APR DRG and SOI levels. Since a hospital PPR weights can be influenced by its mix of patient types (i.e., base APR DRGs) and patient severity of illness (i.e., SOI level) during the candidate admission, an expected number of PPRs computed in this manner produces a case mix and severity of illness adjusted expected PPR weights for each hospital. By comparing the actual and expected PPR weights the variation in readmission patterns across hospitals can be assessed.

# Section 4. Guide to the PPR Facility Report

Using the 3M™ PPR Grouping software and methodology (Version 2015.3.0, PPR Version 32.0), encounter and eligibility data for Texas Medicaid and CHIP for the 2014 service year was used to calculate facility rates for PPRs.

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 PPR or
* Less than 5 actual PPR chains or
* Less than 5 expected PPR chains

#### 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.

### PPR Expenditures (Provider Results)

#### Total Admissions at Risk for PPR

All encounters with bill type = ‘11x’, ’12x’, ‘41x’ minus the global exclusions and non-events per the software. Admissions between January 1, 2014 and November 30, 2014 were evaluated. The last month of the calendar year are excluded to allow for the 30 days readmission window.

#### Actual Number of PPR Chains

A readmission chain is a sequence of PPRs that are all clinically related to the Initial Admission. A readmission chain may contain an Initial Admission and only one PPR, which is the most common situation, or may contain multiple PPRs following the Initial Admission.

#### Actual PPR Weights

The sum of APR-DRG weights (Texas specific weights for Grouper 32 APR-DRG, effective 09/01/2015) for all PPRs.

#### Expected PPR Weights

Expected PPR weights reflects the sum of APR-DRG weights that would be expected based on your hospital’s case mix, calculated based on APR-DRG (including severity of illness), the presence or absence of a major mental health or substance abuse comorbidity, and patient age.

#### Actual to Expected Ratio for PPR Weights

The ratio of the actual PPR weights to the expected PPR weights indicates the performance of the hospital relative to the overall performance for all hospitals in Texas.

#### Members with PPRs

Number of unique clients with PPRs.

#### Actual PPR Expenditures

Sum of payment amounts for PPRs.

#### Expected PPR Expenditures

The State norm PPR expenditure (sum of paid amounts divided by total number of at-risk admissions, statewide) times the ’Total Admissions at Risk for PPR’.

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

‘Actual PPR Expenditures’ divided by ‘Expected PPR Expenditures’

### State-Wide Provider PPR Weights

#### State Norm

This is the sum of PPR weights divided by the sum of at risk admissions statewide times 1000. Data from all providers is included in the State Norm.

#### Percentiles

Calculated from ’Actual PPR Weights per 1,000 at Risk Admissions’ for all providers excluding those identified as low volume providers.

### State-Wide Provider Distributions

#### Percentiles

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

### PPR Results by Category

#### Category

Categories are identified by APR-DRG

|  |  |
| --- | --- |
| Category | APR-DRG |
| CHF (Congestive Heart Failure) | 194, 205 |
| DM (Diabetes) | 305, 405, 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 |
| CVA (Cerebrovascular Accident) | 044, 045, 046 |
| Adult Asthma (Age>18yrs) | 141 |
| Pediatric Asthma (Age<=18yrs) | 141 |
| AMI (Acute Myocardial Infarction) | 190 |
| CP & CAD (Angina and Coronary Artery Disease) | 198, 203 |
| HTN (Hypertension) | 199 |
| Cellulitis | 383 |
| Renal Failure | 460 |
| C Section (Cesarean delivery) | 540 |
| Sepsis | 720 |
| Others | Other APR DRGs |

#### Total Admissions at Risk for PPR

At Risk admissions within the category.

#### Actual PPR Weights per 1,000 at Risk Admissions

The sum of APR-DRG weights divided by all at risk admissions times 1000, within each category.

#### State Percentile within Category

These are ‘Actual PPR Weights per 1,000 at Risk Admissions’ based on data for all providers excluding those identified as low volume providers.

#### PPR Expenditures

Paid amounts for PPRs included in the category.

#### Fraction of PPR Expenditures

‘Category – PPR Expenditures’ divided by ‘Provider – Total PPR Expenditures’.

### PPR Results by APR-DRG

PPR weights and frequency of occurrence of the top 20 APR-DRG conditions based on all readmission events for the hospital in the defined time period.

### PPR Results by PPR Reason

This table provides a distribution of PPR event counts and PPR weights for the hospital based on the clinical-related reasons defined by 3M.

# Reference

3MTM Health Information Systems. Potentially Preventable Readmissions Classification System (Version 32): Definitions Manual. GRP-118, 2014.