Arizona Health Care Cost Containment System (AHCCCS)
2011 ALL OF BUSINESS PERFORMANCE IMPROVEMENT PROJECT (PIP):

Improving the Rate of Inpatient Readmissions within 30 days

Background

Recently hospitalized older patients are often discharged with complex health care needs and/or suffer complications that lead to hospital readmission. A lack of continuity of care and coordination may lead to otherwise preventable emergency department visits and hospitalizations.

An analysis of Medicare claims data from 2003 to 2004 found that the 30-day readmission rate for Medicare beneficiaries was nearly 20 percent and 34 percent were re-hospitalized within 90 days.[1] Readmission rates are even higher for chronically ill seniors, particularly those with multiple comorbidities, functional and cognitive impairments, emotional problems, and poor health behaviors.[2]

A review of 94 published studies indicates that one-fourth to one-third of readmissions among older patients could be prevented.[3] Readmissions often occur because older patients and their family members do not adequately understand their complex post-discharge care needs, including how to follow complicated medication regimens and when and how to obtain periodic follow-up care from different providers. Patients and family members may also have difficulty accessing providers due to transportation issues and other problems. This lack of understanding and inadequate follow up can make patients vulnerable to medication errors, exacerbations of symptoms, and other problems that commonly lead to readmission.[1,2]

A report by the Healthcare Cost and Utilization Project (HCUP) of the Agency for Healthcare Research and Quality (AHRQ) indicates that Medicaid patients may have higher readmission rates than privately insured patients. The HCUP looked at all-cause readmissions among non-elderly Medicaid patients from January through November 2007, using all-payer hospital discharge data from Arizona and nine other states. Among adults ages 21 through 64 years old, the non-obstetric 30-day readmission rate was 10.7 percent for Medicaid patients, compared with 6.3 percent for those who were privately insured. More than half (56 percent) of these readmissions involved an initial hospital stay for circulatory diseases (15 percent), mental disorders (12 percent), respiratory diseases (11 percent), digestive diseases (10 percent), or alcohol/substance abuse (8 percent).[4]

While the number of comorbidities present on the initial hospital stay was positively associated with 30-day readmission rates among non-obstetric adults regardless of payer, Medicaid patients consistently demonstrated higher readmission rates that privately insured patients with the same number of comorbidities. For example, across five comorbidities associated with a higher risk of readmission, Medicaid patients were generally about 1.6 times more likely to be readmitted within 30 days of the initial hospital stay. [4]

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For this study, AHCCCS will define readmission rate as the percentage of members who have at least one readmission within 30 days after being discharged alive from their initial hospital stay and at least one day between this discharge and new admission.

Purpose
The purpose of this Performance Improvement Project is to decrease the rate of inpatient readmissions among AHCCCS members within 30 days of a previous discharge, in order to improve quality of life, promote patient-centered care, and reduce unnecessary health care utilization and costs.

AHCCCS Goal
There currently is no benchmark for Medicaid inpatient readmission within 30 days, therefore the goal is to demonstrate a statistically significant reduction for inpatient readmissions and sustain this reduction for one year.

Measurement Periods

Baseline Measurement:	October 1, 2010, through September 30, 2011
First Remeasurement:	October 1, 2012, through September 30, 2013
Second Remeasurement:	October 1, 2013, through September 30, 2014

Study Question
What is the number and percent, overall and by Contractor, of AHCCCS members with an inpatient readmission within 30 days?

Population
This study will include the following populations:

- ALTCS Elderly and Physically Disabled (E/PD) members, ages 21-64
- ALTCS Developmentally Disabled (DD) members, ages 21-64
- Acute-care members Medicaid, ages 21-64
- Acute-care members KidsCare, ages 0-18
- Comprehensive Medical and Dental Program (CMDP) members, ages 0-18
- Children's Rehabilitative Services members, aged 0-20
- DBHS members, aged 21-64

Population Exclusions
The sample frame will exclude:

- Members outside of the population age requirements listed above
- Tribal and fee-for-service members will be excluded due to the inability to accurately collect complete data on these populations.
- Members with no inpatient admission

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Population Stratifications
The population will be stratified by Contractor for reporting purposes.

Sample Selection
No sample will be selected; data reported will include the entire population that meets the sample frame criteria.

Indicator Criteria
The percent (overall and by individual Contractor) of AHCCCS members who meet with population requirements and who have at least one readmission to the hospital within 30 days of a previous discharge.

Numerator
The number of members in the denominator who had an inpatient readmission within 30 days after being discharged alive from a hospital stay with at least one day between the discharge and new admission during the measurement period (i.e., transfers and readmissions on the same day as discharge will not be counted).

Denominator
The eligible population with at least one inpatient admission during the measurement period.

Confidentiality Plan
AHCCCS continues to work in collaboration with Contractors to maintain compliance with the Health Insurance Portability and Accountability Act (HIPAA) requirements. The Data Analysis and Research (DAR) Unit maintains the following security and confidentiality protocols:

- To prevent unauthorized access, the sample member file is maintained on a secure, password-protected computer, by the DAR project lead.
- Only DAR and AHCCCS Clinical Quality Management (CQM) employees who work on the project have access to member-specific study data.
- All employees and Contractors are required to sign confidentiality agreements.
- Requested data are used only for the purpose of performing health care operations, oversight of the health care system, or research.
- Member names are never identified or used in reporting.
- Upon completion, all study information is removed from the computer and placed on a compact disk, and stored in a secure location.

Data Sources
AHCCCS administrative data will be used to identify the eligible population (denominator) and select services (numerator) for PIP measurements. Please note, only approved adjudicated claims and encounters are included in this study.

Data Collection Process
Utilizing existing inpatient utilization reports in the AHCCCS Data Decision Support System (ADDS) data warehouse, data will be collected as follows:

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- Members with encounters for inpatient services (form type I) provided by general acute-care or psychiatric hospitals (provider type 02 or 71) during the measurement period will be identified.
- The date of discharge from the initial hospitalization will be determined and any subsequent admissions within 30 days of discharge will be identified (transfers and readmissions on the same date as the discharge will not be counted as a readmission; however, the admission will count in the denominator as an admission).
- If the member is enrolled with a different Contractor on the date of readmission than on the date of the initial hospital discharge, the readmission will be attributed to the Contractor with which the member was assigned at the time of initial discharge.

Data Validation

Data validation will be performed to ensure that all data used to calculate results are from the appropriate records and meet the denominator and numerator criteria. DHCM staff will validate data against recipient and encounter data in PMMIS, with the use of two member detail reports:

- A random sample of members who had readmissions within 30 days of a previous discharge during the measurement period
- A random sample of members who had a hospitalization during the measurement period with no subsequent readmission during the measurement period.

Limitations

- Other unidentified factors besides Contractor interventions may falsely influence results.

Analysis Plan:

- Rates will be analyzed and reported by individual Contractor and overall.
- A statistical software package will be utilized to calculate all medians and/or mean values, and to calculate statistical significance of changes between measurements.
- To assist Contractors in better focusing their interventions, additional analyses may be performed, including analysis of inpatient utilization and readmissions by:
    - Contractor, by readmitting hospital
    - Contractor, by diagnosis group

Comparative Analysis

- Results will be compared to the results of any other comparable studies, if available.
- Comparative analysis also will include:
    - Individual Contractors to the statewide average
    - All other stratifications as deemed appropriate
- Differences between overall baseline study results and overall remeasurement results will be analyzed for statistical significance and relative change.

Report Format:

- The report will include, but not be limited to, the methodology used, narrative summary of analysis findings, limitations, recommendations and the analysis results displayed in appropriate charts, tables and graphs.
- Results will be reported by individual Contractor and statewide aggregate.

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- Results will be reported on the AHCCCS website and to external organizations as appropriate.

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References

[1] Jencks SF, Williams MV, Coleman EA. Rehospitalizations among patients in the Medicare fee-for-service program. *N Engl J Med*. 2009;360:1418-1428. Available at http://www.ncbi.nlm.nih.gov/pubmed/19339721.

[2] Thorpe KE, Ogden LL, et al. Chronic conditions account for rise in Medicare spending from 1987 to 2006. *Health Affairs.* 2006: 25:w378-w388 (Published online). Available at http://content.healthaffairs.org/content/25/5/w378.full.

[3] Naylor MD. Transitional care of older adults. *Annu Rev Nurs Res*. 2002;20:127-147. Available at http://www.ncbi.nlm.nih.gov/pubmed/12092508.

[4] Jiang, HJ, Wier,LM. All-cause hospital readmissions among non-elderly Medicaid patients, 2007. HCUP Statistical Brief #89. April 2010. Agency for Healthcare Research and Quality, Rockville, MD.

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