Key Performance Indicator Calculations for ACC Incentive Payments

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Introduction

Purpose

This document describes the methodologies and calculations that will be implemented in the Accountable Care Collaborative (ACC) Dashboard to measure the performance in terms of Key Performance Indicators (KPI) of the Regional Care Collaborative Organizations (RCCOs) and Primary Care Medical Providers (PCMPs) participating in the ACC.

Audience

This document is intended for those familiar with the KPIs that are currently included in the ACC Program and the Colorado Statewide Data and Analytics Contractor (SDAC) Dashboard.

Background

Beginning in July 2012, one dollar of the per-member per-month (PMPM) capitation being paid to the RCCOs and PCMPs will be withheld by the state. This dollar will be used as a pay-for-performance incentive. The RCCOs and PCMPs may recover this dollar if certain thresholds are achieved as measured by the KPIs. The KPIs include:

1. Hospital All-Cause Thirty (30) Day Readmissions;
2. Emergency Room (ER) Visits; and
3. High Cost Imaging Services.

Each KPI calculation is based on service utilization by the population enrolled in the ACC. In addition, several exclusions are applied to both the observed value and the budget value (see definitions below). These exclusions are intended to ensure accurate and equitable measurement:

- Enrollees who become dually eligible for Medicaid and Medicare after being enrolled in the ACC Program
- Enrollees who were covered by a Managed Care Plan for some time during the reporting period
- Enrollees who become institutionalized after being enrolled
- Enrollees aged 1 year and older with less than three months of Medicaid eligibility, and enrollees younger than 1 year with less than two months of Medicaid eligibility
- Enrollees in the Adults without Dependent Children Eligibility Type (030)
- Enrollees in the Working Adults with Disabilities Buy-in Eligibility Type (031)

- Enrollees in the Children with Disabilities Buy-in Eligibility Type (032)

KPI Definitions

Each KPI is identified using logic developed by the Colorado Department of Health Care Policy and Financing (HCPF) and Treo Solutions, and each KPI is displayed as a per-thousand, per-year (PKPY) measurement in the ACC Dashboard. PKPY is a measurement of actual utilization normalized to a population of 1,000 members. This allows for comparison across populations. An example of the PKPY calculation for inpatient admissions is included below.

Example Data: Inpatient Admissions

	A	B	C	= (C/B) * 12,000
	Members	**Member Months***	**Annual Admits**	**Inpatient Admits PKPY**
RCCO 1	10,447	113,195	1,160	123.0
RCCO 2	9,385	102,719	1,360	158.9
RCCO 3	26,771	285,365	2,826	118.8

* A Member Month is one member enrolled one month.

1. Thirty (30) Day All-Cause Readmissions

Thirty (30) Day All-Cause Readmissions are defined as any inpatient case that occurred within a 30-day time period following an inpatient discharge of an individual member. Once a case is identified as an initial admission, it cannot also be tagged as a readmission.

Exclusions

Certain exclusions exist that result in readmissions not being counted in this KPI. The exclusions are summarized below.

Eligibility Status, Discharge Status

- Clients who were not eligible for Medicaid at the time of the inpatient admission,
- Clients having any third party liability (TPL) including dually eligible clients (CLNT_TPL_CD not equal to '00' – Medicaid Only),
- Inpatient cases discharged to non-acute facilities,[1] and
- Clients who expired.[2]

[1] Discharge_Status equal to at least one in the following list: 50 - "HOSPICE – HOME", 51 - "HOSPICE - MEDICAL FACILITY", 61 - "DISCH TO SWING BED", 62 - "DISCH TO REHAB", 63 - "DISCH TO LONG TERM CARE", 64 - "DISCH TO NON-MEDICARE NF", 71 - DISCH ANOTHER INST FOR OP SVCS", 72 - "DISCH SAME INST FOR OP SVCS".

[2] Discharge_Status equal to at least one in the following list: 20 - "EXPIRED", 40 - "EXPIRED AT HOME", 41 - "EXPIRED IN A MEDICAL FACILITY", 42 - "EXPIRED PLACE UNKNOWN".

Transfers

Inpatient cases that were discharged and/or transferred to another acute care facility[3] and the subsequent case at the other facility are treated as one case and are not counted as a readmission. The admission date on the initial case is the basis for determining readmission. The discharge date for the subsequent case is the basis for the start of the 30-day time period for readmission.

Interim Bill, Continued Stay

Interim bill, continued stay cases[4] and their subsequent cases are treated as one case. There is a two-day window from the discharge of the initial case to the admission of the subsequent case. The admission date on the initial case is the basis for determining the readmission eligibility status. The discharge date for the subsequent case is the basis for the start of the readmission window.

2. Emergency Room (ER) Visits:

Emergency Room (ER) Visits are defined as any outpatient emergency department claim that did not have an inpatient stay on the same date of service with the same client ID. ER services are identified using HEDIS criteria. Professional claims having an Urgent Care place of service listed on the claim are not included in the ER calculation.

Exclusions

ER visits that result in an inpatient admission are excluded from the criteria. Inpatient claims are defined as claims with Category of Service Code (COS_CD) equal to 05 "INPATIENT HOSPITAL" or 10 "MENTAL HEALTH HOSPITAL".

ER Identification

ER visits are identified using the claim type, revenue code, and CPT4 combinations below:

- Outpatient claims with claim type(s) C "OUTPATIENT" or O "MCARE UB04 PART B CROSSOVER" with one of the following revenue code(s): 0450 "EMERG ROOM", 0451 "EMTALA", 0452 "ER BEYOND EMTALA", 0456 "Urgent Care", or 0459 "OTHER EMER ROOM"
- Professional claims (mainly claim types E "PRACTITIONER/PHYSICIAN" and K "EPSDT", but potentially other 1500 claim types) that also had CPT4 codes between 99281 "ER DEPT VISIT EVALUATION AND MGMT" and 99285 "Emergency dept. visit".

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[3] Discharge Status equal to at least one in the following list: 02 - "DISCH TRANS TO SHORT TERM HOSP", 05 - "DISCH TRANS ANOTHER TYPE INST", 09 - "ADMITTED AS AN INP TO HOSPITAL", 04 - "DISCH TRANS TO ICF", 06 - "DISCH TRANS HOME UNDER CARE-HH".

[4] Discharge_Status in (09 - "ADMITTED AS AN INP TO HOSPITAL", 30 - "STILL PATIENT", 31 - "STILL PATIENT WAITING TRANSFER", and 32 - "STILL PATIENT WAITING PLACEMNT")

- Professional claims (mainly claim types E and K, but potentially other 1500 claim types) that had a place of service of 23 "EMERGENCY ROOM HOSPITAL" and had CPT4 codes between 10040 and 69979 (CPT4 codes for surgery).

3. High Cost Imaging (HCI) Services

High Cost Imaging (HCI) Services include any claim that is grouped into one of the Enhanced Ambulatory Payment Groups (EAPGs) related to CT Scans or MRIs. EAPGs are a patient classification system developed by 3M™ and based on patient visits. They are used to organize services with similar resource consumption across multiple settings. Mutually exclusive groupings of CPT4 codes can be cross-walked to each EAPG, which provides an easy method to understand the service content of each EAPG. These EAPGs are included in the metric because they define CT Scans and MRIs. As of July 2012, X-Rays are no longer included in the High Cost Imaging Services metric as they may be considered viable, lower-cost alternatives to some CT Scans and MRIs.

The full listing of High Cost Imaging (HCI) EAPGs and CPT4 codes are identified in the following table.

High Cost Imaging Services

EAPG	Description	CPT4 Codes
00300	Cat Scan – Abdomen	74150, 74170, 74160
00299	Cat Scan – Brain	70460, 70470, 70450, 0042T
00301	Cat Scan – Other	70488, 73201, 70481, 73200, 76070, 72193, 70480, 0150T, 73702, 76071, 0144T, 70492, 70490, 73202, 71260, 70498, 0151T, 75635, 0152T, 73701, 70487, 71270, 70491, 76497, 71250, 0145T, 72194, 72192, 73700, 70482, S8092, 70486
00298	Cat Scan - Back	72125, 72128, 72131, 72130, 72126, 72127, 72133, 72129, 72132
00473	Cat Scan - Guidance	76370, 77013, 77011, 77014, 76082, 76355, 77012, 76362, 76360, 76013, 76083, 72292
00292	MRI - Abdomen	74181, S8037, 74185, 74182, 74183
00294	MRI - Back	72142, 72158, 72159, 72147, 72157, 72141, 72156, 72148, 72146, 72149
00297	MRI - Brain	70552, 70553, 70559, 70551, 70558, 70557
00295	MRI - Chest	71552, 71551, C8909, 71550
00475	MRI - Guidance	77022, 76393, 76394, 77021
00293	MRI - Joints	73221, 73722, 73223, 73723, 73222, 70336, 73721
00296	MRI – Other	75555, 73718, 77084, 76093, 73719, 75557, C8905, 75552, 73219, 75562, 70543, 76498, 75561, C8908, 76094, 73720, C8903, 75560, 73218, C8906, 75554, 75553, 72195, 76390, 73220, 75558, C8904, 75565, 70542, 75564, 77059, C8901, 75556, S8035, 72197, 77058, C89003112F, 76400, 70540, C8907, 75563, C8902, 75559, 72196, 3111F

Risk Adjustment Methodology

Within the ACC enrolled population, the collective health status of individuals varies across RCCO regions. To account for these regional differences, the KPIs will be risk adjusted for each RCCO. Risk adjusting will align the analysis of each regional population group to a common standard and allow for an accurate comparison of the RCCOs' KPI performance. The process of risk adjusting data for each population group involves the following three concepts: observed value, budget value, and percent difference.

Observed Value

The **observed value** is simply the reported value, which may be the number of visits or cases. For example, observed ER visits for a RCCO are the total number of ER visits for the members enrolled in that RCCO. Observed values for the KPIs are expressed as a PKPY measurement in the ACC Dashboard.

Budget Value

The **budget value** represents the expected utilization of a population and, like the observed value, is expressed as a PKPY measurement. Budget values for each KPI are risk-adjusted based on gender, age cohort, disability status, and 3M™ Clinical Risk Groups (CRGs). CRGs are the basis of a categorical clinical model that uses standard claims data – including inpatient, outpatient, physician, and pharmacy data – to assign each patient to a single mutually-exclusive risk category. CRGs can be used to identify clinically meaningful groups of individuals who require similar amounts and types of resources. There are roughly 270 hierarchically ranked, mutually-exclusive, base risk groups (Base CRGs). Base CRGs are further subdivided by levels of severity (levels 1-6) resulting in approximately 1,100 possible Base CRG subgroups.

Using claims data from the **baseline period** (Fiscal Year 2011, i.e. July 2010 through June 2011), Treo calculates the average PKPY values for each KPI and each risk cohort (i.e., each combination of Base CRG, severity level, gender, age, and disability status). A **relative weight** for each cohort represents the relationship between the PKPY average for the cohort and the average for the entire population. The weight for the entire population is always 1.0, which aligns with the average. Any cohort with a relative weight greater than 1.0 has used more resources on average. An example of the relative weight setting is included below.

Example Inpatient Relative Weight Calculation

	A	B = A/Average A
	IP Utilization PKPY	**IP Relative Weight**
CRG 1	100	0.952
CRG 2	125	1.190
CRG 3	90	0.857
CRG 4	105	1.000
Average	**105**	**1.000**

Relative Weight Calculation: (100/105=.952, 125/105=1.190, 90/105 = .857, 105/105 = 1.000)

During the **program year**, members are grouped into CRG cohorts as described above and assigned the relative weight for their specific cohort as calculated during the baseline period.

A **resource intensity weight (RIW)** for a population is calculated through a weighted average of the enrolled members. This calculation is accomplished for each RCCO's enrollees in three steps:

1. Multiply of the number of member months for each risk cohort by the cohort's relative weight
2. Sum the product for each risk cohort (from number 1 above)
3. Divide the sum (from 2 above) by the total number of member months for all risk cohorts.

Example: RCCO 1 Inpatient Resource Intensity Weight Calculation

CRG	A	B	C
	CRG Relative Weight (calculated in table directly above)	**RCCO 1 Member Months**	**A*B**
CRG 1	0.952	11,319	10,780.00
CRG 2	1.190	10,271	12,227.38
CRG 3	0.857	28,536	24,459.43
CRG 4	1.000	21,062	21,062.00
Total		71,188	68,528.81
RCCO1 Resource Intensity Weight (RIW)			**0.963**

Resource Intensity Weight Calculation:

1. *(.952 x 11,319) + (1.190 x 10,271) + (0.857 x 28,536) + (1.000 x 21,062) = 68,528.81*
2. *11,319 + 10,271 + 28,536 + 21,062 = 71,188*
3. *68,528.81 / 71,188 = **0.963***

The RIW for a given population determines the budget value for each KPI within that population. In the example below, RCCO 1's Inpatient PKPY budget is set by multiplying its RIW by the budget value for the ACC eligible population.

Example: RCCO 1 Inpatient Budget Calculations

IP Budget Calculations	IP Resource Intensity Weight	IP PKPY Budget
All ACC Eligible Clients	1.00	105.0
RCCO 1	0.96	**100.8**

*Inpatient Budget PKPY Calculation: .96*105.0 = **100.8***

The "All ACC Eligible Clients" is not a budget value, but the actual PKPY statistic for the overall population with the default RIW weight of 1.0.

Percent Difference

Percent difference is the difference between actual utilization (the observed value) and what was budgeted given the health status of the population (the budget value).

Mathematically, percent difference is the observed value (O) minus the budget value (B), divided by the budget value, or **(O - B) / B**. When the observed is less than the budget value, the percent difference is negative. When the observed is greater than the budget value, the percent difference is positive.

When analyzing percent differences for the KPI statistics, negative numbers reflect better performance, while positive numbers reflect worse performance.

Performance Calculation

The budget value section described a measurement process in which a RCCO's observed performance is compared to a risk-adjusted budget. As discussed, budget values are developed using statewide averages. While this comparison provides direction regarding a RCCO's performance against the budget value, it does not account for inherent regional variation in care delivery.

RCCO performance will be measured as a percentage point improvement from the base period. To account for regional variation, each RCCO will be compared to the performance of its region during the base year.

The calculation for this measurement considers:

- Base year regional performance against a statewide, risk-adjusted budget value, and
- Program year-to-date RCCO performance against a statewide, risk-adjusted budget value.

Improvement is measured by subtracting the program year-to-date RCCO performance from the base year regional performance. The example below illustrates this methodology using data for inpatient utilization. The base period is July 2010 through June 2011. Program year-to-date performance will be assessed quarterly, beginning with July 2012 through September 2012.

There are two levels of performance achievement:

- Level 1 savings indicate a 1-5% reduction in a particular KPI from the base period, and
- Level 2 savings indicate a greater than 5% reduction in a particular KPI relative to the base year.

Example: Inpatient Performance Incentive Calculations

	Base % Diff. from Budget			Program % Diff. from Budget			Performance = Program - Base	Savings Level
RCCO	Inpatient PKPY (FY2011)	Budgeted Inpatient PKPY (FY2011)	Percent Difference PKPY (FY2011)	Inpatient PKPY (Program YTD)	Budgeted Inpatient PKPY (Program YTD)	Percent Difference PKPY (FY2011)	RCCO Program YTD Difference - Regional Percent Difference	1-5% Reduction = Level 1 > 5% Reduction = Level 2
	a	b	c = (a-b)/b	d	e	f = (d-e)/e	g = f – c	
1	121	118	2.54%	109	131	-16.79%	-19.34%	2
2	111	117	-5.13%	124	107	15.89%	21.02%	N/A
3	98	120	-18.33%	160	137	16.79%	35.76%	N/A
4	132	122	8.20%	99	133	-25.56%	-33.76%	2
5	143	109	31.19%	130	110	18.18%	-13.76%	2
6	106	112	-5.36%	89	95	-6.32%	-0.96%	1
7	113	100	13.00%	115	128	-10.16%	-23.16%	2

Per the state PCMP and RCCO contracts, a reduction greater than 5% for each KPI nets a PMPM incentive payment of $0.33. Similarly, a reduction between 1-5% for each KPI nets a PMPM incentive payment equal to 66% of $0.33, or $0.22. Incentive payments for each member are calculated based on performance of the region in which the member lives. PCMPs that have enrolled member from multiple regions could receive varying incentive payments based on the regional performance of their members' regions. The RCCOs would receive one level of payment for each KPI for every member, including statewide enrollees.

The Colorado SDAC Dashboard displays performance for the three metrics as described above. In order to allow for adequate claims run out and accurate reporting, the dashboard reporting is delayed several months behind the membership. As an example, the May 2012 refresh of the dashboard included claims through December 2011 incurred by membership enrolled as of March 2012. The dashboard metrics should therefore be considered to represent the general direction of change.

The program year ends on June 30th and final results will be reported in November 2013. The final results will align utilization and membership for each month of the program year.