Care Transformation Initiative User’s Guide

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## Introduction

This document describes the specifications and methods used for episode construction, target prices, and reconciliation payment determinations for Program Year 1 of the Care Transformation Initiatives (CTI) policy, starting July 2020. While this document contains some references to future program years, specifications embedded will only apply to CTI policy within the initial Performance Period (PY1). Future details and updates for Performance Period 2 and beyond will be published as an update to this User Guide.

These specifications are based on a combination of approaches drawn from the federal Bundled Payments for Care Improvement Advanced (BPCI-A) and Comprehensive Care for Joint Replacement (CJR) programs, Maryland’s Episode Care Improvement Program (ECIP) and other standard CMS methods, in a manner tailored to meet the specific needs, unique payment structure and Total Cost of Care Model goals in Maryland.

### MPA Framework and the Reconciliation Component

The Centers for Medicare and Medicaid Services (CMS) allows the State to adjust the payments that are made to regulated Maryland hospitals based on the hospital’s success at reducing the total cost of cate (TCOC) for Medicare beneficiaries; this adjustment is called the Medicare Performance Adjustment (MPA) and is described in the Final Recommendation for the Medicare Performance Adjustment Framework from the October Commission meeting.[[1]](#footnote-1) The HSCRC approved a component of this policy that will adjust the Medicare payments to hospitals based on their performance in their CTI. If a hospital reduces the TCOC for their CTI Beneficiaries, they will be paid 100 percent of the savings that they achieve. The payment will be made as an adjustment to the amount that CMS pays hospitals, rather than a cash payment. This portion of the MPA policy is known as the Reconciliation Component, and it, in addition to the MPA overall, is described in the following section.

#### The Medicare Performance Adjustment (MPA)

The MPA is a percentage increase or decrease in the amount paid CMS, to hospitals after a claim has been received by the Medicare Administrative Contractor (MAC). The State calculates the amount of the adjustment and passes that adjustment to CMS, which then increases or decreases all claims paid to the hospital by the indicated percentage. For example, an MPA adjustment of -0.5% means that CMS will pay the charged amount on the claim minus 0.5% percent. This adjustment is additive with other adjustments, such as the sequestration and the public payer discount. The MPA does not go into hospital rates set by the HSCRC, does not affect hospitals' GBR calculations, and is not reflected in rate orders.

The HSCRC combines and calculates several different policies into a single MPA adjustment that is passed to the CMS MAC. The overall MPA includes an adjustment for the Medicare TCOC for attributed Medicare beneficiaries (this is called the “Traditional Component” of the MPA and described in the Final Recommendation for the Medicare Performance Adjustment Framework).[[2]](#footnote-2) The MPA also includes an adjustment that may be necessary in order to meet the Medicare savings targets included in the TCOC Model Agreement (this is called the “Savings Component” of the MPA and described in the Final Recommendation for the Medicare Performance Adjustment Framework).[[3]](#footnote-3) Finally, the MPA includes the mechanism to reward hospitals for their CTI savings described in this document (this is called the “Reconciliation Component”). The three components of the MPA are additive. For example, if the Traditional Component is 0.5%, the Savings Component is 0.2%, and the Reconciliation Component is 0.3%, then the MPA that will be applied by CMS to the hospital’s payments will be 1.0%.

The MPA Reconciliation Component is based on two amounts. The first is the Reconciliation Payment that the hospital earns for the TCOC savings for its CTI Beneficiaries. The second amount is the Statewide Offset which ensures the statewide Reconciliation Payments are net neutral across all hospitals. These two amounts are described in the subsequent sections. Both amounts are expressed in dollar values. For example, a hospital could receive a $10 million Reconciliation Payment and a -$2 million Statewide Offset for a net amount of $8 million. The dollar value is translated into a percent value for the MPA Reconciliation Component by dividing the net amount by the hospital Medicare revenue. For example, if the hospital received $100 million in Medicare revenues, then the $8 million amount would result in an MPA Reconciliation Component of 8 percent.

#### Reconciliation Payments

A hospital’s Reconciliation Payment is equal to the savings earned the hospital for the hospital’s CTIs, which is measured by calculating the difference between the actual TCOC for a CTI and a target price. The savings for individual CTIs are calculated separately. Each CTI will have a separate target price and Performance Period costs. A hospital that participates in multiple CTIs will receive a Reconciliation Payment equal to the sum of the savings received in each of their CTIs.

#### Statewide Offset

Statewide CTI savings paid through the MPA-RC will be made in a net neutral manner. This will ensure that the Reconciliation Payments provided to successful CTI participants do not put the State at risk of missing its Medicare TCOC savings target. Additionally, Statewide Offset will allow the State to reward high performers and incentivize hospitals to participate.

The HSCRC will calculate the Statewide Offset for an individual hospital by:

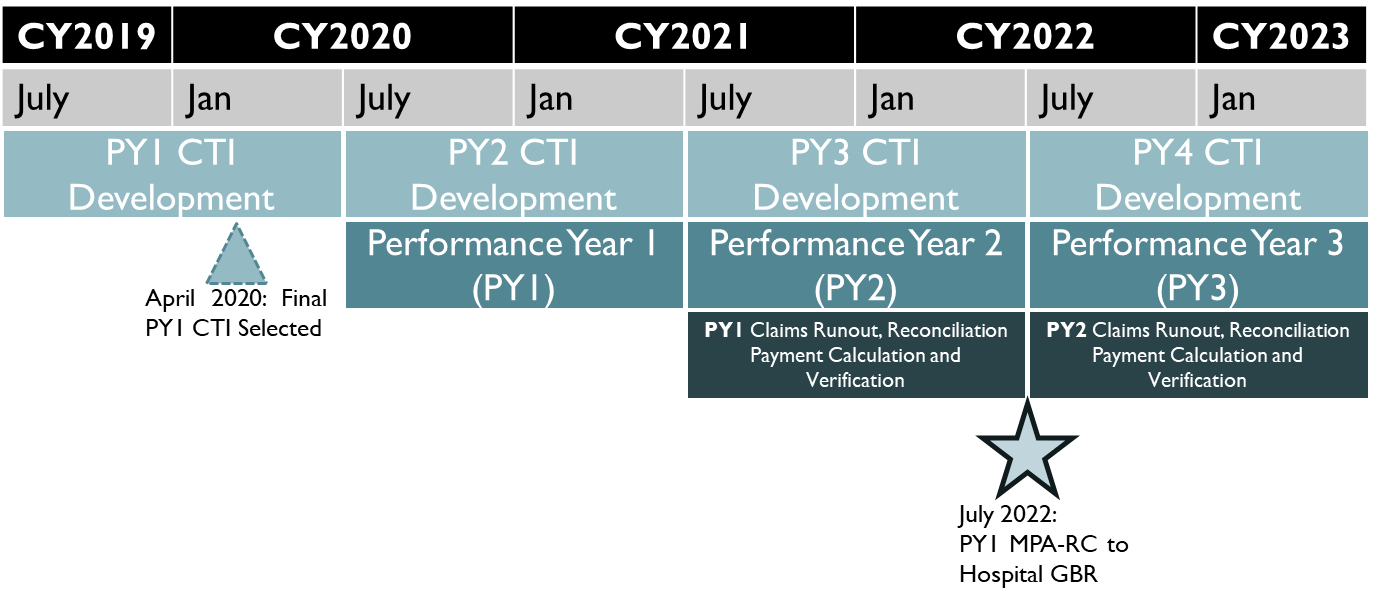
* Summing the Reconciliation Payments made to all hospitals;
* Multiplying the aggregate Reconciliation Payments by the hospitals share of Medicare hospital revenue to determine the individual hospital’s reduction.

For example, if the aggregate Reconciliation Payments is equal to $100 million, then a hospital that is 10 percent of the statewide hospital revenues would receive a Statewide Offset of -$10 million.

#### Timing of Reconciliation Payments and Offsets

Each CTI will have a one year Performance Period, July 1 to June 30. Reconciliation Payments for the CTI will made 12 months after the end of the Performance Period. For example, payments for the Performance Period beginning on July 1, 2020, will be made July 1 of 2022 (i.e. 12 months after June 30, which is the end of the Performance Period). The delay between the end of the Performance Period and the payments is necessary for the following reasons. First, 180 days is allowed for CTI episode completion; second, 90 days is allowed for a claims runout period; finally, 90 days is allowed for the HSCRC to calculate and disseminate the Reconciliation Payments.

Figure 2 below outlines the overall development, performance and reconciliation process and timing. Overall, a set of CTIs from start to reconciliation payment will take approximately three years.

***Figure 2.*** *Overall Timing of a Care Transformation Initiative*

## Overview of the Methodology

The Reconciliation Payments that is earned by a hospital through a CTI will be calculated through the following four steps:

1. Identify the Population
2. Construct the CTI Episodes
3. Establish and calculate a Target Price
4. Compare the TCOC during the Performance Period to the Target Price

### Step 1: Identify the Population

A CTI must include a “trigger” that a hospital uses to identify the population for whom they are accountable. For example, a CTI could be any hospital discharge with a DRG for major joint replacement of the lower extremity. Hospitals may propose any claims-based triggers as a CTI. The process for a hospital to propose a CTI is described in a Frequently Asked Questions document (CTI FAQs available on the HSCRC website).[[4]](#footnote-4) Users should refer to that document for information regarding how to receive approval for a CTI, the population characteristics available in the CCLF, and other information regarding population selection.[[5]](#footnote-5) Once a CTI has been approved, the HSCRC will use the CTI’s trigger conditions to identify the CTI population, described in Steps 1.A and 1.B.

#### Step 1.A: Determine the CTI Eligible Population

Before applying the CTI trigger, the HSCRC will exclude certain beneficiaries that are not eligible for a CTI. Ineligible beneficiaries are excluded from the CTI because their cost profile is unusual and therefore savings calculations on those beneficiaries would be unreliable. The exclusions include:

1. Beneficiaries who are not continuously enrolled in Medicare Part A and B or have a different primary payer
2. Beneficiaries with hospital stays longer than 60 days
3. **Optional:** Beneficiary who die during the year
4. **Optional:** Beneficiaries who receive End-Stage Renal Disease (ESRD)

Beneficiaries who die during the course of the year and beneficiaries who receive ESRD services tend to have high TCOC. Consequently, these beneficiaries are likely to be outliers when compared to the rest of the CTI population and excluded as the default. However, these beneficiaries may be optionally included in CTI if the purpose of that CTI is to manage the costs associated with those services. Thus, a hospital may propose a CTI that includes ESRD beneficiaries or those who may die during the year. The CT Steering Committee will make as an assessment as to whether those beneficiaries should be included, not included, or left to individual hospitals to decide.

#### Step 1.B: Identify Anchor Events

Once ineligible beneficiaries have been excluded, the HSCRC will identify beneficiaries that meet the CTI trigger criteria. For example, if a CTI is triggered by a hospital discharge with a SOI level of 2 or 3, then any beneficiary that does not receive a hospital discharge or those beneficiaries receive hospital discharge with an SOI of 1 or 4, will be excluded. The output of this step is a list of beneficiaries who met the triggering condition. Throughout this document, those beneficiaries are called “CTI Beneficiaries.”

### Step 2: Construct the CTI Episode

The following section describes the costs included in a CTI. Each beneficiary that meets the CTI trigger conditions will initiate a CTI Episode and hospitals are accountable for most Medicare Parts A and B costs that occur during that CTI Episode. When calculating CTI Episode costs, HSCRC will use the final action claims contained in the CCLF data file provided to the State of Maryland by CMS. This section follows methodology generally from the BPCI Advanced Clinical Episode Construction and Episode Care Improvement Program (ECIP) specifications.

#### Step 2.A: Construct the Episode Window

The hospital is accountable for the TCOC of CTI Beneficiaries for a certain number of days as determined by the hospital. For example, the hospital may specify that they wish to be accountable for a 90 day period of time. A beneficiary is assigned to the CTI on the day that they receive the trigger claim and removed from the CTI after the indicated time period. This is called the CTI “Episode Window.” For example, the CTI Episode Window could be the 90 days following a hospitalization with a SOI level of 2 or 3.

When proposing a CTI, a hospital may choose to include or exclude the triggering event. If the trigger event is included, the CTI Episode Window begins on the day that the triggering event was met. If the trigger event is excluded, the CTI Episode Window begins on the day after the triggering event was met. In the prior example, including the triggering hospital admission would mean that all hospital, physician, and other costs that are incurred during the hospitalization will be included in the CTI Episode. Excluding the triggering hospital admission would mean that only costs which are incurred after the patient is discharged from the hospital will be included. The output of this step is a list of beneficiaries and the Episode Window (dates of trigger and window end) associated with each beneficiary.

#### Step 2.B: Exclude Overlapping Episodes

A CTI Beneficiary may only be included in one Episode Window under a CTI. If an Episode Window overlaps with another triggered Episode Window, the second Episode Window will be excluded. An overlap occurs if the episode windows have one or more dates in common. In Example 1 below, Beneficiary B002 met the triggering condition for the CTI twice, first on July 22, 2020 (episode number E002) and subsequently on October 13, 2020 (episode number E005). The first episode ends 90 days after July 22, on October 14th, and therefore overlaps with the second on October 13th and 14th. Because of the overlap, the second episode E005 will be excluded.

The overlaps are assessed across all hospitals. This means that the second episode (episode number E005) will be dropped, even if it is initiated with a different hospital. Additionally, the second episode will be dropped even if the hospital triggering the episode is the one that proposed the CTI and the triggering event for the first CTI episode occurred at a hospital that is not participating in the CTI.

***Example 1****. CTI Overlap Determination*

|  |  |  |  |
| --- | --- | --- | --- |
| *Episode Number* | *Bene ID* | *Episode Window* | *Comment* |
| *E001* | *B001* | *07/08/2020 - 10/06/2020* |  |
| *E002* | *B002* | *07/22/2020 - 10/20/2020* | *Overlaps with E-5\* and occurs first. Episode retained.* |
| *E003* | *B003* | *08/21/2020 - 11/19/2020* |  |
| *E004* | *B004* | *07/23/2020 - 10/21/2020* |  |
| *E005* | *B002* | *10/13/2020 -01/11/2021* | *Overlaps with X-2\* but occurs second. Episode dropped.* |
|  |  |  |  |

The process described above applies only to a single CTI; however, a single beneficiary could meet the triggering event for two different CTIs. For example, if CTI-01 is triggered by a hospitalization with SOI level 2 or 3 and CTI-02 is triggered by a chronic care management service provided by a primary care doctor, then a single beneficiary could potentially meet both criteria and be attributed to both CTIs. The default is to allow a beneficiary to be in two different CTIs simultaneously, meaning neither episode would be dropped.

However, the HSCRC will assess the number of CTI Episodes that overlap during the Baseline Period across different CTIs. If more than 15 percent of the Episode Windows for CTI-01 and CTI-02 overlap, then HSCRC will apply the same exclusion logic as described above. In other words, the first CTI Episode will be retained and the second CTI Episode will be dropped if more than 15 percent of episode windows overlap in two separate CTIs. In the example above, if a beneficiary meets the triggering criteria for CTI-01 and then subsequently meets the triggering criteria for CTI-02, then the CTI Episode for CTI-02 will be dropped.

#### Step 2.C: Adjust Certain Claim Types

Once the list of CTI Episodes is finalized, the HSCRC will calculate the costs incurred during the episode. All Medicare Parts A and B services will be included in the CTI Episode, except for the following:

1. Claims with a standardized payment amount less than or equal to zero;
2. Part B payments for drugs on the average sales price (ASP) list;
3. Blood clotting factor (HCPCS J7199);
4. Inpatient claims for hemophilia and clotting factors;
5. Pass-through payments for medical devices in OPPS hospital claims;
6. Claims that represent per-beneficiary-per-month (PBPM) payments for hospice claims;

These claims are excluded because they were found to introduce excessive volatility into most CTI costs. For example, within a DRG, those patients that happen to have hemophilia will likely have much higher costs. However, a hospital may propose a CTI that targets one or more of the excluded cost categories (e.g. a CTI that targets beneficiaries with hemophilia). In this instance, the relevant costs will be included in the CTI. Hospitals that are interested in a CTI that targets a population with common costs from the excluded list above should contact the HSCRC for technical assistance.

Additionally, certain services that straddle the CTI episode window will be prorated. A service straddles the episode window when the date of service on the claim is within the episode window but the claim through date extends beyond the end of the episode window. For example, a single skilled nursing facility (SNF) claim may be associated with a 2 week stay. If the beneficiary was admitted to the SNF one week prior to the end of the CTI episode window, then half of the SNF stay would have occurred during the episode and half of the SNF stay would have occurred outside of the episode window.

Claims for services provided by Critical Access Hospitals, Home Health Agency (HHA), Hospice, Inpatient Psychiatric Facility (IPF), Long-Term Care Hospital (LTC-IP), Skilled Nursing Facility, Inpatient Rehabilitation Facility (IRF), Acute Care Hospitals (ACH) will be prorated on a per diem basis. The proportion of the service that falls within the CTI episode window will be multiplied by the total cost of the service to determine how much cost is included in the episode window. For example, if half of the SNF services is included in the episode than half of the SNF costs will be included in the episode.

Other services types (physician, OPPS, and durable medical equipment (DME)) will have 100% of the costs assigned to the episode since these service types are not typically provided over a prolonged period of time.

#### Step 2.D: Aggregate Episode Costs and Winsorize

Once the episode costs have been adjusted, all remaining claims will be aggregated by spending category. That is to say, all hospital costs, physician costs, etc. will be reported separately. An example is shown below.

***Example 2.*** *Cost Aggregation across an Episode*

|  |  |
| --- | --- |
| Spending Category | Episode Costs |
| Regulated – IP and OP Hospital | $13,277 |
| Physician Fee Schedule (PFS) | $4,350 |
| Inpatient Rehab Facility | $3,560 |
| Skilled Nursing Facility (SNF) | $5,600 |
| Home Health Agency (HHA) | $3,075 |
| Other (DME, Hospice, unregulated OPPS etc.) | $450 |
| Total | **$30,312** |
|  |  |

The total episode spending will be winsorized meaning that costs below the 1st percentile and costs over the 99th percentile will be truncated. This process will ensure that very expensive or very inexpensive episodes do not drive the results of the episode spending. Note that winsorization is determined based on total episode spending and not each cost category separately. An example is show in the table below.

***Example 3.*** *CTI Episode Costs and Winsorization Effect*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Episode ID | Bene ID | Episode Window | Costs | Comment |
| *E001* | *B001* | *07/08/2020 - 10/06/2020* | $18,102 |  |
| *E002* | *B002* | *07/22/2020 - 10/20/2020* | $17,287 |  |
| *E003* | *B003* | *08/21/2020 - 11/19/2020* | $91,606 | Winsorized to the 99th percentile threshold of $32k |
| *E004* | *B004* | *07/23/2020 - 10/21/2020* | $24,016 |  |
| *E005* | *B002* | *10/13/2020 -01/11/2021* | $20 | Winsorized to the 1st percentile threshold of $2.5k |
|  |  |  |  |  |

Episode E003 is above the 99th percentile of all episodes (in this example the 99th percentile is $32 thousand) and so its costs are reduced to be $32 thousand. Additionally, episode E005 is below the 1st percentile (in this example the 1st percentile is $2.5 thousand) and so its costs are increased to be $2.5 thousand.

### Step 3: Calculate a Target Price

This section describes how the CTI target price is calculated from the aggregated episode prices (“baseline costs”) described in Step 2. Baseline costs are inflated into current year dollar to establish the target price (Step 3.A below). The inflation methodology ensures that the target price is represented in current year dollars. Once an updated payment amount has been calculated through Step 3, the episode costs will be risk-adjusted (Steps 3.B and C below).

The risk adjustment approach will differ based on whether the CTI is triggered by a hospital stay or not. For a hospital-triggered CTI, the risk adjustment will be based on the APR-DRG & SOI combination. For non-hospital-triggered CTI, the risk adjustment will be based on a HCC strata. In either approach, a separate target price will be established for each APR-DRG & SOI combination or HCC strata.

After risk adjustment is applied, the target price will be equal to the average updated costs of the Baseline Period episode within each APR-DRG & SOI combination and HCC strata (described in Step 3.D).

#### Step 3.A: Update Factor Calculation

Each of the six settings of care shown in Step 2 (Regulated, Physician, Inpatient Rehab, SNF, Home Health, and Other) are inflated separately using a setting specific update factor. Regulated hospital payments will be inflated according to the HSCRC rate orders, as discussed below. The remaining five settings of care are updated using the Medicare update factors that are included in the fee-schedules for the relevant setting of care.

Regulated hospital costs[[6]](#footnote-6) will be standardized and then updated based on the rate orders. First, hospital utilization will be separated out by the rate center utilization that occurs during a CTI episode window. Second, the costs will be standardized and then updated. Standardization is necessary to eliminate any change in hospital costs which is caused by hospitals increasing their charges in order to meet their GBR, rather than the HSCRC update factors. The standardized costs will be updated based on the change in the HSCRC rate orders.

The example shows the process in three steps:

1. Hospital costs will be standardized by multiplying the number of units by the rate order for each applicable rate center. In the example below, column B is multiplied by column C and is reported in column D;
2. The percentage increase in the rate orders between the baseline year and the Performance Period is multiplied by the standardized costs. In the example below, column E is divided by column B and then multiplied by column D. The updated costs are reported in column F;
3. The updated hospital costs will be aggregated across all rate centers in order to calculate the total updated hospital costs.

***Example 4.*** *Standardized and Updated Prices for Hospitals*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Rate Center | Units | Rate Order  Yr1 | Standardized Cost | Rate Order  Yr2 | Updated Costs |
| (A) | (B) | (C) | (D) | (E) | (F) |
| ADM | 140 | $100 | $14000 | $110 | $15400 |
| CAT | 561 | $160 | $89760 | $176 | $98736 |
| EKG | 376 | $50 | $18800 | $55 | $20680 |
| EMG | 990 | $60 | $59400 | $66 | $65340 |
| MRI | 240 | $200 | $48000 | $220 | $52800 |
|  |  |  |  |  |  |

Unregulated costs will be aggregated based on the update factors established by CMS in the relevant fee schedules. A different approach is used in each setting of care, based on the underlying inputs to those rate centers. The approach described here is based on CMS’ approach for the Bundled Payment for Care Improvement Advanced (BCPI-A) model. The update factor approach for each setting of care is described as follows:

1. **Update Factor for SNF.** The fee schedule for SNFs changed on October 1, 2019. Therefore, the claims in the Baseline Period will be repriced under the Patient-Driven Payment Model (PCPM) that is described in the SNF final rule using the rates and weights for the Performance Period. [[7]](#footnote-7)
2. **Update Factor for HHA.** The fee schedule for HHA changed on January 1, 2019. Therefore, the claims in the Baseline Period will be repriced under the Patient-Driven Groupings Model (PDGM) that is described in the HHA final rule using the base rates and weights for the Performance Period.
3. **Update Factor for PFS.** The fee schedule for physicians will be updated by the weighted average of anesthesia and physician update factors where the weights are the payment for anesthesia and physician carrier claims in the Baseline Period and Performance Periods that are included in the relevant final rules.
4. **Update Factor for IRF.** The fee schedule for Inpatient Rehabilitation Facilities will be based on the ratio of the Performance Period conversion factor to the baseline year conversion factor that were included in the final rule for the relevant year.
5. **Update Factor for Other Spending.** Costs that falls into a setting of care other than one of those listed above will be updated by the chained Medicare Economic Index (MEI) between the baseline and Performance Period. The MEI is calculated and published by CMS.[[8]](#footnote-8)

All episodes will be inflated by the update factor for the relevant spending type. An aggregate update factor will also be calculated. This updated factor will be reported to hospitals to inform them of the overall inflation in their CTI population – if cost growth in their CTI population is kept below the aggregate update factor, then the hospital will achieve savings. However, this aggregate update factor represents the weighted average of the update factors for each other setting of care.

The aggregated update factor is the weighted average of each update factor. It is calculated in two steps. First, the ratio of spending in each setting of care to its total episode spending is calculated. Then, the ratio is multiplied by the update factor for each setting of care and summed across all setting of care. The formula for which is shown below.

#### Step 3.B: Calculate Statewide Anchor Factors

In this step, the CTI episodes will be risk adjusted based on their APR-DRG & SOI or HCC strata. Each CTI Episode will be risk adjusted based on the statewide ratio of costs between each APR-DRG & SOI / HCC strata. This process is necessary to control for the small cell sizes that are likely to exist for an individual hospital’s APR-DRG & SOI / HCC strata.

The process has two parts:

1. **Calculate Anchor Factors.** Conceptually, each anchor factor is the ratio for an average cost for a given APR-DRG & SOI / HCC strata relative to the state mean of the APR DRG – SOI combination with the highest volume. The anchor factor for each APR-DRG & SOI / HCC strata is calculated.
2. **Calculate Hospital Weights.** Once the statewide anchor factors have been calculated, a hospital specific weight will be calculated. The hospital weight is the weighted average of the statewide anchor factors, where the weights are the number of episodes that are in the relevant APR-DRG & SOI / HCC strata at the given hospital.

An example of the anchor factor calculation is shown below for a CTI that has three HCC strata. The most numerous strata is HCC between 0.75 and 1.25. Therefore, all other anchor factors can be thought of as how inexpensive/expensive the other strata are relative to the most numerous strata. The calculation is show in column D and is made by dividing each value of column C by the average episode cost for the most numerous HCC strata (in this case $1876).

***Example 5.*** *Calculation of Statewide Anchor Factors*

|  |  |  |  |
| --- | --- | --- | --- |
| HCC Strata | Number of Episodes | Average Episode Costs | Anchor Factor |
| (A) | (B) | (C) | (D) |
| <0.75 | 481 | $939 | 0.5 |
| 0.75-1.25 | 933 | $1876 | 1.0 |
| >1.25 | 323 | $2252 | 1.2 |
|  |  |  |  |

Once the statewide anchor factors are known, the hospital specific weights are calculated by taking the weighted average of the statewide anchor factors using the hospital’s volume. This process normalizes episodes costs based on the statewide distribution of costs. For instance, it inflates the costs for each CTI Episode that fall into the first HCC strata by 2 because statewide CTI episodes in the first strata are half as expensive.

Mathematically, the calculation is the average of the anchor factors in example 5 weighted using the episode volume by HCC strata at the individual hospital. In this case, the weighted average is 0.91. This indicates that based on statewide patterns, the average across all CTI Episode should be 91% of the average costs in the most numerous HCC strata. In example 6 below, the average of all CTI Episodes for the hospital ($1623) is 94% of the average of all CTI Episodes that are in the middle HCC strata ($1732).

***Example 6.*** *Example of Hospital Weight Calculation*

|  |  |  |  |
| --- | --- | --- | --- |
| Episode | HCC Strata | Episode Costs | Normalized Costs |
| (A) | (B) | (C) | (D) |
| E001 | <0.75 | $664 | $730 |
| E002 | <0.75 | $758 | $833 |
| E003 | <0.75 | $1102 | $1,211 |
| E004 | 0.75-1.25 | $1721 | $1,891 |
| E005 | 0.75-1.25 | $1301 | $1,430 |
| E006 | 0.75-1.25 | $1856 | $2,040 |
| E007 | 0.75-1.25 | $2049 | $2,252 |
| E008 | >1.25 | $2191 | $2,408 |
| E009 | >1.25 | $2996 | $3,292 |
| E010 | >1.25 | $1592 | $1,749 |
|  |  |  |  |

In order to normalize the difference between statewide patters and the hospital’s CTI episodes, all values are multiplied by the reciprocal of the hospital’s weight (in this case 1/0.91) at which point the average of the adjusted costs across all CTI will be equal to the average costs in the most numerous HCC strata. After the costs are risk adjusted, the target price for the CTI will be calculated.

#### Step 3.C: Calculate CTI Target Prices

Each hospital will have a target price that is equal to the average CTI episode cost in the baseline period. Each APR-DRG & SOI / HCC strata will have a difference target price. For example, APR-DRG 001 will be separated into the four different severity levels and the target price for each severity level will be established equal to the average update costs for all episodes in the Baseline Period that had the matching APR-DRG and severity level. A similar process will be established for the HCC strata. If the HCC is grouped into three strata that lies within <0.75, 0.75-1.25, and 1.25+, then the target price for HCC scores between 0.75-1.25 would be equal to the average price for all those baseline CTI episodes that have an HCC score that lies within the indicated range.

***Example 7.*** *Calculation of Target Prices.*

|  |  |  |  |
| --- | --- | --- | --- |
| Episode | HCC | Normalized Costs | Target Price |
| E001 | <0.75 | $730 | Average =  $925 |
| E002 | <0.75 | $833 |
| E003 | <0.75 | $1,211 |
| E004 | 0.75-1.25 | $1,891 | Average =  $1903 |
| E005 | 0.75-1.25 | $1,430 |
| E006 | 0.75-1.25 | $2,040 |
| E007 | 0.75-1.25 | $2,252 |
| E008 | >1.25 | $2,408 | Average =  $2483 |
| E009 | >1.25 | $3,292 |
| E010 | >1.25 | $1,749 |
|  |  |  |  |

Hospitals will receive a single preliminary target price for their CTI, which is equal to the weighted average of the target prices for each APR-DRG & SOI / HCC strata. However, hospitals should be aware that the weights will be updated using the performance period utilization in each APR-DRG & SOI / HCC strata. This process is necessary to adjust for changes in case mix that occur between the baseline period and the performance period. In this example, the preliminary target price is based on 3 cases in the 1st strata, 4 cases in the 2nd strata, and 3 cases in the 3rd strata.

If the distribution of cases changes in the performance period (such as gaining two cases in the 1st strata and losing two cases in the 3rd strata) then the final target price will be different than the preliminary target price. Hospitals should be aware that the final target will always be based on baseline period target prices for each APR-DRG & SOI / HCC strata and weights equal to the number of cases in each strata during the performance year.

### Step 4: Calculation of the Reconciliation Payment

After the target price is established, the savings that the hospital achieves will be calculated by comparing the CTI episode costs in the Performance Period to the target price. The costs associated with the CTI episodes in the Performance Period will be calculated using the same Steps 1 and 2 that were described above, replacing the Baseline Period with the Performance Period.

Additionally, regulated hospital costs are standardized using the Performance Period rate order and risk adjustment is applied to the Performance Period episodes. These steps are described below in 4.A and 4.B. respectively. Lastly, the hospital’s CTI savings are calculated by comparing CTI episode costs to the Target Price and then multiplying by the number of episodes. This is described in Step 4.C.

The CTI savings will be calculated using the CCLF data, which will be updated on a monthly basis. The HSCRC will identify the CTI Beneficiaries who met the triggering criteria following each monthly refresh. The list of CTI Beneficiaries will then be provided to the hospital monthly and hospitals will have a variety of data tools to analyze the costs and utilization patterns of those beneficiaries. These tools will be described in the FAQ document.[[9]](#footnote-9)

The initial data on the hospitals performance in the CTI will become available 90 days after the end of the episode. The hospital will receive real time data on their performance in the CTI but the hospital’s savings will be finalized only after the Performance Period is completed and hospitalizations should be aware that initial performance may not reflect their final performance after more episodes have completed.

#### Step 4.A: Standardize Regulated Hospital Costs

Regulated hospital costs included in the CTI episodes will be repriced using the hospital’s most recent rate order. This calculation is identical to the calculation made in Step 3.B, with the exception that the Performance Period rate center utilization will be used instead of the Baseline Period rate center utilization.

#### Step 4.B: Risk-Adjust Performance Period Episodes

The risk-adjustment process from Step 3 will be repeated for the Performance Period episodes. Additionally, a final target price will be calculated using the count of each APR-DRG & SOI / HCC strata in the Performance Period. This step is necessary to adjust for a change in the case-mix between the Baseline Period the Performance Period. However, hospitals should be aware that this will change the hospital’s Target Price.

#### Step 4.C: Calculate the Per Episode Savings Amount

The hospital’s CTI savings will be calculated by comparing the average, risk-adjusted, costs of all episodes in the Performance Period to the target price. The total savings are calculated through a two-step process:

1. Calculate the difference between the average risk-adjusted episode costs in the Performance Period and the target price;
2. Multiple the per episode savings (as determined above) by the number of CTI episodes that were initiated during the Performance Period.

An example showing the calculation of a CTI’s reconciliation payments is shown below:

**Scenario:**

Intervention Start Date: 1/1/2019

Base Period: CY2018

Performance Period: 6 Months Ended 6/30/19

Episode Length: 180 Days

Episode Start: Trigger Date + 1

Payment Start Date: 7/1/2020

Inflation (Base to Performance): 1.50%

**Beneficiaries Meeting Cohort Trigger Events:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ID | Date Meeting Trigger Criteria | Group | Episode Window | Total Cost During Episode Window | Cost PBPM  (Total Cost/# of Perform. Period Beneficiaries) |
| A | 12/31/2017 | Excluded | N/A |  |  |
| B | 1/1/2018 | Base | 01/02/18 - 07/01/18 | $4,949 | $825 |
| C | 5/31/2018 | Base | 06/01/18 - 11/28/18 | $4,945 | $824 |
| D | 6/5/2018 | Base | 06/06/18 - 12/03/18 | $4,861 | $810 |
| E | 7/4/2018 | Base | 07/05/18 - 01/01/19 | $4,840 | $807 |
| F | 12/30/2018 | Base | 12/31/18 - 06/29/19 | $4,780 | $797 |
| G | 1/1/2019 | Performance | 01/02/19 - 07/01/19 | $4,397 | $733 |
| H | 3/5/2019 | Performance | 03/06/19 - 09/02/19 | $4,336 | $723 |
| I | 3/7/2019 | Performance | 03/08/19 - 09/04/19 | $4,296 | $716 |
| J | 4/18/2019 | Performance | 04/19/19 - 10/16/19 | $4,425 | $738 |
| K | 5/15/2019 | Performance | 05/16/19 - 11/12/19 | $4,357 | $726 |
| H | 5/17/2019 | Excluded | N/A |  |  |
| E | 6/30/2019 | Performance | 07/01/19 - 12/28/19 | $4,467 | $745 |
| M | 7/1/2019 | Next Performance Period | 07/02/19 - 12/29/19 | $4,470 | $745 |

**Savings Calculation**

|  |  |  |
| --- | --- | --- |
|  | PBPM | Notes |
| Baseline Period Costs (5 beneficiaries) | | |
| Base | $812 | Adds together PBPM costs for B, C, D, E, & F ($4,062) then divides by number of base period beneficiaries (5) |
| Inflation Rate | 1.50% |  |
| Target Price | $825 | Multiples the base by 1 plus the inflation rate |
| Performance Period Costs (6 beneficiaries) | | |
| Performance Costs | $730 | Adds together PBPM costs for G, H, I, J, K, & E ($4,380) then divides by number of Performance Period beneficiaries (6) |
| Reconciliation Calculation | | |
| Savings PBPY | $95 | Subtracts Performance Costs from Target Price |
| Savings Total | $568 | Multiplies Savings PBPY by Performance Period beneficiaries (6) |
| Savings % | 11.5% | Divides Savings PBPY by the Target Price |

1. <https://hscrc.maryland.gov/Documents/October%202019%20Public%20Post-Meeting%20Materials.pdf> [↑](#footnote-ref-1)
2. Ibid. [↑](#footnote-ref-2)
3. Ibid. [↑](#footnote-ref-3)
4. HSCRC Care Transformation Steering Committee website: <https://www.google.com/url?q=https://hscrc.maryland.gov/Pages/Care-Transformation-Steering-Committee.aspx&sa=D&source=hangouts&ust=1573842900993000&usg=AFQjCNFdcrfaENXSy2OKK3zVW7UGKXp2Tw> [↑](#footnote-ref-4)
5. Ibid. [↑](#footnote-ref-5)
6. Only hospital rate centers for which there are consistent volume units are included; primarily this excludes the labs and drugs rate centers. [↑](#footnote-ref-6)
7. https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/List-of-SNF-Federal-Regulations.html [↑](#footnote-ref-7)
8. https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MedicareProgramRatesStats/MarketBasketData.html [↑](#footnote-ref-8)
9. HSCRC Care Transformation Steering Committee website: <https://www.google.com/url?q=https://hscrc.maryland.gov/Pages/Care-Transformation-Steering-Committee.aspx&sa=D&source=hangouts&ust=1573842900993000&usg=AFQjCNFdcrfaENXSy2OKK3zVW7UGKXp2Tw> [↑](#footnote-ref-9)