Care Improvement Opportunity Tool

Hospital Index Dashboard Users Guide

Last updated: April 11, 2024

Change Log

CTRL + Click on "Section" to jump to the relevant section in this document.

Date Changed	Section	Description
04/11/2024	IX A: Annualization and Measurement Periods	Clarification on episode attribution across calendar years
04/11/2024	IX B: Index Score Development and Statistical Significance	Update to peer-group anchor weights and outlier calculation
04/11/2024	IX C: Risk Adjustment	Update to risk adjustment methodology
04/11/2024	Appendix: Exhibit C – Risk Adjustment Factors	New table showing the final risk adjustments applied to each episode

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Colorado Healthcare Affordability and
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Contents

I.   Background

Optumas has run both fee-for-service (FFS) claims and managed care encounters, with incurred dates from SFY18 - SFY23, through the Care Improvement Opportunity Tool (CIOT), an industry-standard episode of care grouper developed by Optumas in collaboration with Signify Health. CIOT uses detailed clinical algorithms to group claims and encounter data into episodes of care and compares the services provided, outcomes, and associated costs against clinically determined best practices to identify any inefficiencies in the form of Adverse Actionable Events (AAE).

The results from the CIOT can be used in actuarial, clinical, contractual, and operational settings. Optumas has been working with HCPF to analyze AAE rates and the distribution thereof among the 43 different episodes for various programs and provider groups within Colorado Medicaid. The CIOT groups claims and encounters into episodes of care based on clinical definitions of look-back and look-forward time periods centered around typical trigger claims and services for each type of episode.

II.   What are Episodes?

Episodes include all clinically related services for a discrete condition/ procedure for the entire continuum of care - management, surgery, ancillary, labs, Rx, etc., - for a given time frame.

- Each service within an episode is considered either **Typical** or **Potentially Actionable**

- Episodes have been defined and refined with volunteer clinical experts assembled in Clinical Working Groups

- Fully consistent with NQF recommendations on "groupers"

- Some episodes have been influenced more by provider participant input because of ongoing implementations in other states

  - ✓ Maternity
  - ✓ Orthopedic procedures
  - ✓ Behavioral Health episodes

- Each episode can be assigned to an attending provider (found on the episode's trigger event claim), such as the surgeon in the hospital

- Each episode can have multiple rendering providers who provided secondary/downstream care

- An individual member can have multiple episodes simultaneously, but there can only be one member involved in each episode

III. Overview of Episode Parameters and Components

Relevant Procedure (Px) Codes - CPT, HCPCS, ICD procedure codes

Relevant Diagnosis (Dx) Codes - Only looks at primary Dx on hospital claims; on non-hospital claims, can look at Dx codes in any position, depending on the situation.

1. **Actionable adverse event (AAE)** – Potentially avoidable complications for the episode

   a. Directly due to the condition/treatment, such as wound infection after surgery

   b. Patient safety issues such as drug-drug interactions, deep vein thrombosis

2. **Typical** – signs and symptoms such as chest pain, shortness of breath

Relevant Pharmacy (Rx) Codes – Retail pharmacy considered typical service. Pharmaceutical drugs administered in a hospital setting will be considered typical or AAE depending on the overall consideration for that hospital admission.

Episode Type - Chronic, Other (maternity), or Procedural; **hospitals are currently measured only on Procedural episodes**.

Trigger Codes - Procedure and/or diagnosis codes that clearly identify the presence of a condition, treatment, illness, or injury (ICD proc/CPT code).

- Never require multiple diagnosis codes to trigger

- Sufficient procedure codes do not need to be accompanied by diagnosis code

Confirmation Claim – **The following only applies for chronic episodes**- Pharmacy or Evaluation & Management claim (E&M) claim with a relevant diagnosis code → required because providers sometimes utilize temporary diagnosis codes on claims while they are ruling out potential diagnoses → do not want to consider the process of ruling out diagnosis same as trigger event for episode.

Episode Window - Defines the start and end of an episode.

Adverse Actionable Events (AAEs) - Based on **Service Assignments of Typical, Typical with AAE, or AAE.**

- Negatively affect patients and (potentially) avoidable (errors, readmissions, etc.)

IV. Assembling Components for Inpatient Procedural Episode

Outpatient Professional

Professional Services

Inpatient Professional

Facility Claims

Index Hospitalization

Readmission

30-day look-back

90-day look-forward
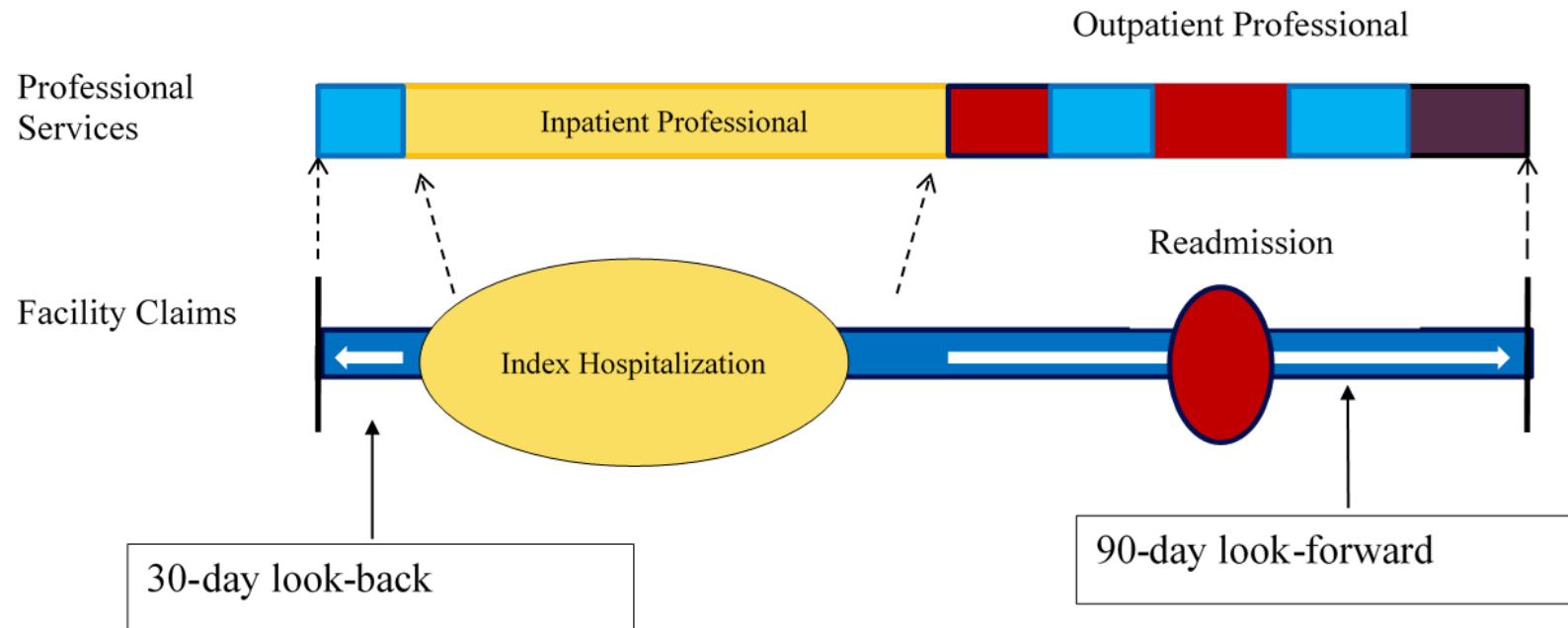
Key:

Claims for Adverse Actionable Events

Claims for typical care and services

Irrelevant

V. Episode Triggers

Episodes are identified through the presence of a trigger. Episodes triggers are a combination of procedure and diagnosis codes. The specific conditions that define episode triggers can vary by episode type. General trigger parameters are described below, but please refer to the specific episode definition for the parameters that apply to any given episode. Links to the episode definitions can be found in [Section VII.](#)

B. Procedural Episode Triggers

Three ways to trigger a procedural episode:

1. **Inpatient (IP) Stay** - Trigger procedure code in the principal position AND qualifying diagnosis code in the principal position

2. **Outpatient (OP) Facility** - Trigger procedure code in any position AND qualifying diagnosis code in any position on the same claim

3. **Professional** - Trigger procedure code in any position AND qualifying diagnosis code in any position on the same claim

Episode window for **procedural** episodes:

- Look-back period: 30 days prior to trigger date

- Look-forward period: 90 days post discharge (if IP stay) or 90 days postdate of procedure if non-inpatient. Deliveries are 60 days post discharge

- Some procedures have modified look-back or look-forward periods (e.g., colonoscopies)

C. Vaginal Delivery Episode Triggers

Three ways to trigger a **vaginal delivery** episode:

1. **Inpatient Stay** - Trigger procedure code in any position

2. **Outpatient Facility** - Trigger procedure code in any position

3. **Professional** - Trigger procedure code in any position

Episode window for **procedural** episodes:

- Look-back period: 3 days prior to trigger date

- Look-forward period: 60 days post-operative care time window

VI.   Procedural Episode Definitions and Descriptions

The procedural episode definitions can be downloaded via the [HTP website](#)

Exhibit B in the Appendix includes parameters for procedural episodes

VII.   What are AAEs?

- Adverse Actionable Events (AAEs) offer a powerful and detailed feedback loop to engage in process improvement through comparisons and root cause analysis

- An AAE is any event that negatively affects the patient and is potentially controllable by the health care delivery system – not just the individual provider or hospital

- AAEs may or may not be completely avoidable – goal is not to eliminate them but to reduce them as much as possible
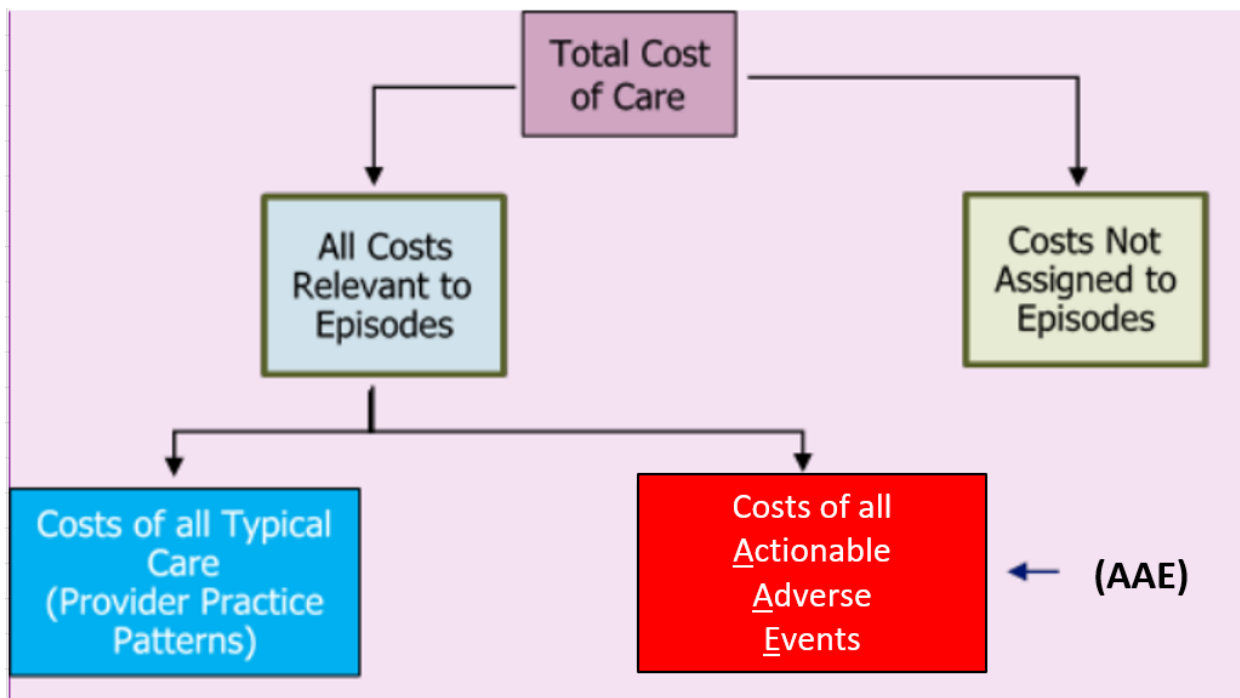
VIII. AAE Determination and Measurement

A. Relevant Service Identification

Once an episode is triggered, clinically relevant services are identified.

All relevant services within the timeframe of an episode are included within an episode. These include office visits, emergency room visits, inpatient professional or facility services, labs, radiology or ancillary services. Relevant diagnosis and procedure codes help identify which services are included. Some procedure codes are sufficient to stand alone, while others require typical or AAE diagnosis codes on the same claim/claim line to steer services into the episode.

Relevant services can be assigned to one of three categories based on the presence or lack of complication codes:

1. **Typical (T)** - Includes evidence-informed services related to care for the episode.

   e.g., anesthesia, implant, physical therapy for joint replacements

   Typical care is identified through the presence of a typical care diagnosis code (see episode definitions) and the presence of a relevant procedure code on the same claim/claim line.

2. **Typical with AAE (T-AAE)** - Services that contain an AAE diagnosis code but would have occurred anyway without the presence of the complication.

   Dollars not included in AAE costs, but services count as AAEs for AAE counts

   e.g., DVT, infection for joint replacements

3. **Adverse Actionable Event (AAE)** - Any event that negatively affects the patient and is potentially controllable by the health care delivery system (as identified by complication diagnosis codes and timing)

   AAE Costs **capture all costs of AAEs** occurring during the episode for which payments can be fully differentiated from those for typical services.

B. Identification of AAEs

AAEs are identified from the claims assigned to an episode in one of two ways:

- The ICD-10 diagnosis codes in combination with relevant procedure codes

- Type of claim (e.g., readmission or admission in chronic episodes)

1. **Inpatient and Outpatient Procedures**
   - AAEs during the procedure (or during the stay for inpatient procedures)
   - Readmissions
   - Other AAEs in the post-discharge period

2. **Identification of Readmissions as AAE**
   - Readmissions are AAEs and are specific to the episode, identified from diagnosis codes relevant to the episode
   - More specific than common "all-cause" measure in use by Medicare and others

   All costs related to the readmission are categorized as AAE (includes Rx during readmission)

C. Split vs. Unsplit AAE Costs

The same claims are often assigned to multiple episodes. Since the dashboard contains claim-level data for all procedural episodes, a given claim will appear more than once in the detail underlying the dashboard.

3. **Split Dollars**

   Total dollars on a given claim are divided by the number of times a claim is used in the model within procedural episodes. When dollars exist in both a procedural episode(s) and a chronic episode, the dollars are fully attributed to the procedural episode(s) and then split across procedural episodes.

$100 Claim

| Episode A | Episode B | Episode C |
| $33 | $33 | $33 |
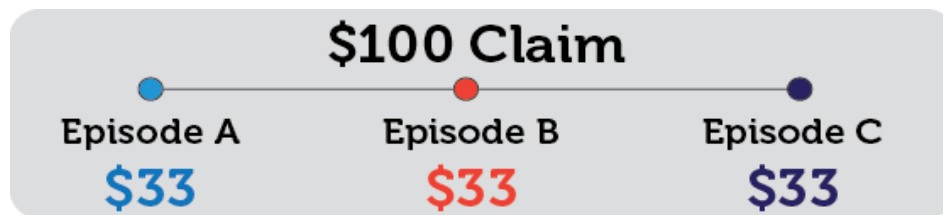
   - **Strength: Allows user to sum dollars across all episodes** and get back to the original cost when looking at **all episodes, at the same clinical association level** since dollars are not duplicated; however, it is fundamentally difficult to tie back to other reports of expenditures because the tool does not process and group 100 percent of the claims into episodes in the first place. All data

underlying the dashboard already constitutes less than half of what was originally fed into the tool

- **Weakness**: As you start to limit the number of episodes being evaluated, the split dollars will understate the total costs because you are likely dropping some of the occurrences within episodes necessary to get back to the true total

4. **Unsplit Dollars**

$100 Claim

| Episode A | Episode B | Episode C |
| $100 | $100 | $100 |

- Strength: Accurately shows costs when looking at a single episode

- **Weakness**: As you **include more episodes in your view**, the level of duplication will increase and the sum of unsplit dollars will **overstate the true total costs**

As a general rule, when analyzing a single episode in isolation, using unsplit costs is preferable; however, when looking in aggregate across multiple episodes, using the split costs is preferable.

IX. Technical Reporting Adjustments

A. Annualization and Measurement Periods

- The CIOT requires at least two years of incurred claims data to be run through the tool to produce reliable results

- Data runs consisting of **a single year of claims/encounters do not produce reliable results** from which HCPF would be able to make accurate quality incentive payments. This is because the tool **does not have sufficient data to construct complete episodes** due to the look back and look forward period required to complete the episode

- The best short-term approach is to split results into individual years based on the service dates of the underlying incurred claims for each episode, producing separate datapoints for each year. Claims that make up the episode would be grouped according to their incurred dates. An episode is then evaluated to determine the calendar year in which the majority of claims costs associated with the episode were incurred. Associated costs for the entire episode are then attributed to that calendar year within the index score modeling. This approach ensures that episodes are complete and all associated claims experience underly the index score calculation, even if the incurred period spans multiple calendar years. For example, if an episode cost $30,000 in total and had claims with service dates in both CY2020 and CY2021, and the costs were $14,000 in CY2020 and $16,000 in CY2021, the episode would be attributed to CY2021 within the index score calculation.

  - ✓ It is important to note that there is significant drop in episode volume within both the left and right tails of the time period submitted through the tool, due to the look-back and look-forward time periods centered around typical trigger claims and services as defined for the episode the tool identifies. This is why the index score is calculated on a calendar year basis

B. Index Score Development and Statistical Significance

1. Peer Groups

Hospitals are categorized into four (4) peer groups based on current bed size. This is an effort to recognize that hospitals of different sizes may be predisposed to certain episodes, i.e., larger hospitals may have more specialized services than smaller hospitals, and to align the weights and index

score calculation as such. The peer groups are: Bed Count: <26, Bed Count: 26 – 99, Bed Count: 100 – 299, Bed Count: > 299.

Index Scores should only be compared between hospitals that are in the same peer group.

2. **Index Score**

   The Index Score is calculated for each individual hospital using the following steps. Each step will be described in more detail below the summary.

   Summary of Index Score Calculation Steps

   1. Calculate peer group-specific Episode Weights and Baseline Raw Scores (these anchor weights were developed using SFY16-SFY21 experience)

   2. Calculate hospital-specific AAE %

   3. Calculate Hospital Index Score

   4. Calculate Index Score Outliers

   5. Repeat Steps 2-4 in iteration until no Index Score Outliers remain

   Summary of Index Score Credibility Analysis Steps

   Index Score Credibility Analysis requires an intermediate level of statistical knowledge.

   6. Run bootstrapping statistical sampling for increasing number of Iteration Scenarios: 10, 50, 100, 200, 300, 400, 500

   7. Calculate Sample Hospital Index Scores

   8. Calculate key statistics from Sample Hospital Index Scores

   9. Use Full Credibility Formula to determine credibility of Mean Index Score for each Iteration Scenario

   10. Calculate Confidence Interval around Mean Index Score for credible Iteration Scenarios based on result from Step 9

   11. Determine final list of hospitals that have a credible Hospital Index Score from Step 5

The examples provided for Index Score Calculation and Index Score Credibility are rounded for the purposes of this document. Reproduction of the same examples may yield slightly different results due to rounding.

3. **Walkthrough of Index Score Calculation**

   Index Scores should only be compared between hospitals that are in the same peer group.

   Step 1: Calculate peer-group specific Episode Weights and Baseline Raw Scores

   The following calculations are specific to each procedural episode and are across all hospitals within a peer group:

   a. Calculate Total Episode Paid Dollars

   b. Calculate Total Episode AAE Dollars

   c. Calculate Episode AAE % = Total Episode AAE Dollars divided by Total Episode Paid Dollars

   d. Calculate Simple Average Total Paid Dollars = simple average of Total Episode Paid Dollars across procedural episodes within a peer group

   e. Calculate Simple Average AAE % = simple average of Episode AAE % across procedural episodes within a peer group

   f. Calculate Episode Total Paid Dollar Relativity = Total Episode Paid Dollars divided by Simple Average Total Paid Dollars

   g. Calculate Episode AAE % Relativity = Episode AAE % divided by Simple Average AAE %

   h. Calculate Peer Group Episode Weight = Episode Total Paid Dollar Relativity multiplied by Episode AAE % Relativity

   i. Calculate Peer Group Baseline Raw Score = Episode AAE % multiplied by Weight

   Example Calculation for Episode Weights and Baseline Raw Scores is for illustrative purposes only.

Episode Category	Total Episode Paid Dollars (1a)	Total Episode AAE Dollars (1b)	AAE % (1c)=(1b)/(1a)	Simple Average Total Paid Dollars (1d)	Simple Average AAE % (1e)
Tonsillectomy	$950,000	$400,000	42.1%	$2,464,286	18.0%
Coronary Angioplasty	$650,000	$350,000	53.8%	$2,464,286	18.0%
Vaginal Delivery	$4,000,000	$450,000	11.3%	$2,464,286	18.0%
Gall Bladder Surgery	$3,000,000	$200,000	6.7%	$2,464,286	18.0%
Upper GI Endoscopy	$1,650,000	$100,000	6.1%	$2,464,286	18.0%
Hysterectomy	$2,650,000	$100,000	3.8%	$2,464,286	18.0%
Knee Arthroscopy	$4,350,000	$100,000	2.3%	$2,464,286	18.0%

Episode Category	Episode Total Paid Dollar Relativity (1f)=(1a)/(1d)	Episode AAE % Relativity (1g)=(1c)/(1e)	Peer Group Episode Weight (1h)=(1f)*(1g)	Peer Group Baseline Raw Score (1i)=(1h)*(1c)
Tonsillectomy	0.39	2.34	0.90	0.38
Coronary Angioplasty	0.26	2.99	0.79	0.42
Vaginal Delivery	1.62	0.62	1.01	0.11
Gall Bladder Surgery	1.22	0.37	0.45	0.03
Upper GI Endoscopy	0.67	0.34	0.23	0.01
Hysterectomy	1.08	0.21	0.23	0.01
Knee Arthroscopy	1.77	0.13	0.23	0.01

Step 2 Calculate hospital-specific AAE %

The following calculations are specific to each procedural episode for each individual hospital:

a. Calculate Hospital Episode Paid Dollars

b. Calculate Hospital Episode AAE Dollars

c. Calculate Hospital Episode AAE % = Hospital Episode AAE Dollars divided by Hospital Episode Paid Dollars

Example Calculation for Hospital Episode AAE % is for illustrative purposes only.

Episode Category	Hospital Episode Paid Dollars (2a)	Hospital Episode AAE Dollars (2b)	Hospital Episode AAE % (2c)=(2b)/(2a)
Tonsillectomy	$380,000	$80,000	21.1%
Coronary Angioplasty	$195,000	$140,000	71.8%
Vaginal Delivery	$1,600,000	$225,000	14.1%
Gall Bladder Surgery	$600,000	$40,000	6.7%
Upper GI Endoscopy	$660,000	$40,000	6.1%
Hysterectomy	$0	$0	N/A
Knee Arthroscopy	$1,740,000	$50,000	2.9%

Step 3 Calculate Hospital Index Score

The following calculations are specific to each individual hospital:

a. Calculate Episode Raw Score = Peer Group Episode Weight multiplied by Hospital Episode AAE %

b. Calculate Hospital Total Baseline = sum of all Peer Group Baseline Raw Scores for procedural episodes where hospital had historic experience

c. Calculate Episode Index Score = Episode Raw Score divided by Hospital Total Baseline multiplied by 100

Episode Category	Peer Group Episode Weight (1h)	Hospital Episode AAE % (2c)	Episode Raw Score (3a)=(1h)*(2c)	Hospital Total Baseline (3b)=Sum (1i)[1]	Episode Index Score (3c)=(3a)/(3b)*(100)
Tonsillectomy	0.90	21.1%	0.19	0.97	19.6
Coronary Angioplasty	0.79	71.8%	0.57	0.97	58.5
Vaginal Delivery	1.01	14.1%	0.14	0.97	14.7
Gall Bladder Surgery	0.45	6.7%	0.03	0.97	3.1
Upper GI Endoscopy	0.23	6.1%	0.01	0.97	1.4
Hysterectomy	0.23	N/A	N/A	N/A	N/A
Knee Arthroscopy	0.23	2.9%	0.01	0.97	0.7

Step 4: Calculate and remove Index Score Outliers

The following calculations are specific to each individual hospital:

a. Summarize the number of individual episodes by episode type
b. Calculate Index Score per Episode = Episode Index Score / Number of Episodes
c. Remove the episode with the highest AAE % for an episode category that has an Index Score per Episode over the outlier threshold.

- Only one episode for an episode category is removed at a time. This is an effort to remove a small number of episodes that generate a high portion of the Hospital Index Score.

- Please note that not all hospitals will have episodes removed during this process.

Example Calculation of Index Score Outliers is for illustrative purposes only.

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[1] Hospital Total Baseline shown in (3B) is the sum of all Peer Group baseline Scores from (1i) for episodes where the hospital had experience. In this example, the Peer Group Baseline Raw Score for Hysterectomy would not be included in the Hospital Total Baseline.

Episode Category	Number of Episodes (4a)	Episode Index Score (3c)	Index Score per Episode (4b)=(3c)/(4a)	Flag Outliers (4c)	New Number of Episodes (4d)
Tonsillectomy	200	19.62	0.10		200
Coronary Angioplasty	10	58.55	5.85	Y	9
Vaginal Delivery	300	14.74	0.05		300
Gall Bladder Surgery	100	3.11	0.03		100
Upper GI Endoscopy	300	1.41	0.00		300
Hysterectomy	0	N/A	N/A		N/A
Knee Arthroscopy	500	0.67	0.00		500

The outlier threshold was set to 5.0 in this example. This may vary from the final outlier threshold used for the Index Score calculation.

Step 5: Repeat Steps 1-4 in iteration until no Index Score Outliers remain

Steps 1-4 will be recalculated after the Index Score Outliers are removed from each hospital, where applicable. This will recalibrate the Hospital Episode AAE % used to calculate the Episode Index Score and Hospital Index Score Per Episode.

This process will repeat in iteration until no Index Score Outliers remain. Once that has been completed, the final Hospital Index Score is calculated as the sum of all Episode Index Scores. This is shown as (5A) at the end of the example calculation below.

The following tables represent the same examples from above in Steps 1-3, assuming the only Index Score Outliers are for the example hospital for Coronary Angioplasty.

Example re-calculation of steps 1-4 after removing Index score outliers – for illustrative purposes only.

Episode Category	Hospital Episode Paid Dollars (2a)	Hospital Episode AAE Dollars (2b)	Hospital Episode AAE % (2c)=(2b)/(2a)
Tonsillectomy	$380,000	$80,000	21.1%
Coronary Angioplasty	$85,000	$30,000	35.3%
Vaginal Delivery	$1,600,000	$225,000	14.1%
Gall Bladder Surgery	$600,000	$40,000	6.7%
Upper GI Endoscopy	$660,000	$40,000	6.1%
Hysterectomy	$0	$0	N/A
Knee Arthroscopy	$1,740,000	$50,000	2.9%

Note: Outliers are removed from Coronary Angioplasty episode based on example in Step 4 above.

Episode Category	Peer Group Episode Weight (1h)	Hospital Episode AAE % (2c)	Episode Raw Score (3a)=(1h)*(2c)	Hospital Total Baseline (3b)=Sum (1i)^2	Episode Index Score (3c)=(3a)/(3b)*100
Tonsillectomy	0.90	21.1%	0.19	0.97	19.62
Coronary Angioplasty	0.79	35.3%	0.28	0.97	28.78
Vaginal Delivery	1.01	14.1%	0.14	0.97	14.74
Gall Bladder Surgery	0.45	6.7%	0.03	0.97	3.11
Upper GI Endoscopy	0.23	6.1%	0.01	0.97	1.41
Hysterectomy	0.23	N/A	N/A	N/A	N/A
Knee Arthroscopy	0.23	2.9%	0.01	0.97	0.67

Episode Category	Number of Episodes (4a)	Episode Index Score (3c)	Index Score per Episode (4b)=(3c)/(4a)	Flag Outliers (4c)	New Number of Episodes (4d)
Tonsillectomy	200	19.62	0.10		200
Coronary Angioplasty	9	28.78	3.20		9
Vaginal Delivery	300	14.74	0.05		300
Gall Bladder Surgery	100	3.11	0.03		100
Upper GI Endoscopy	300	1.41	0.00		300
Hysterectomy	N/A	N/A	N/A		N/A
Knee Arthroscopy	500	0.67	0.00		500

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[2] Hospital Total Baseline shown in (3B) is the sum of all Peer Group baseline Scores from (1i) for episodes where the hospital had experience. In this example, the Peer Group Baseline Raw Score for Hysterectomy would not be included in the Hospital Total Baseline.

Calculate Hospital Index Score = sum of Episode Index Score from (3C) after all outliers have been removed across all hospitals

Hospital Index Score (5a) = 68.33

4. **Walkthrough of Index Score Credibility Analysis**

Step 6: Run bootstrapping statistical sampling for increasing number of Iteration Scenarios: 10, 50, 100, 200, 300, 400, 500

The bootstrapping statistical sampling is a sampling technique that generates a random sample of data from the overall data set. In this case, it will generate a random sample of episodes for each hospital from all their episodes. A few key notes are provided below regarding the use of bootstrapping to determine the credibility of the Hospital Index Score from Step 5.

- The key advantage of using bootstrapping is that a Sample Hospital Index Score can be calculated for each sample, and the resulting Sample Hospital Index Scores from each sample can be used to calculate key statistics that will be used to determine the credibility of the Hospital Index Score calculated in Step 5

- The bootstrap sampling is done with replacement, meaning one episode is selected from the total, and then replaced, and then another episode is selected. This is performed for each hospital individually, such that each hospital sample will only contain their specific historic episode experience

- The Iteration Scenarios represent the number of individual bootstrapping samples that are generated. For example: Iteration Scenario "10" will generate 10 random bootstrapping samples for each hospital, Iteration Scenario "50" will generate 50 random bootstrapping samples for each hospital, etc.

- The resulting individual samples will not contain all episodes for each hospital, as this would result in the Sample Hospital Index Score being the same as the Hospital Index Score from Step 5 and not allow for statistical metrics to be calculated appropriately

- In general, the distribution of episodes within each individual sample will be similar to the overall distribution of episodes for each hospital

Step 7: Calculate Sample Hospital Index Scores

- A Sample Hospital Index Score is calculated using each individual bootstrapping sample for each individual hospital for all Iteration Scenarios

  ✓ For example: Iteration Scenario "10" will generate 10 Sample Hospital Index Scores for each individual hospital based on their specific bootstrap samples, Iteration Scenario "50" will generate 50 Sample Hospital Index Scores for each individual hospital based on their specific bootstrap samples, etc.

- The same process outlined in Steps 1-4 will be used to calculate the Sample Hospital Index Scores.

  ✓ The outlier calculation process will not be performed, as this has already been completed, and the final Peer Group Episode Weight and Peer Group Baseline Raw Score from the anchor weights will be used

Step 8: Calculate key statistics from Sample Hospital Index Scores

Calculate the following key statistics for each Iteration Scenario using the Sample Hospital Index Scores from Step 7:

a. Mean Index Score
b. Standard Deviation of Index Scores
c. Standard Deviation of the Mean Index Score

Example Statistical Measure Calculations for Iteration Scenario "10" – for illustrative purposes only.

Sample No.	Sample Hospital Index Score
1	67.8
2	71.8
3	71.2
4	69.9
5	61.9
6	70.7
7	66.0
8	63.9
9	62.8

Sample No.	Sample Hospital Index Score
10	62.0

Statistical Measure	Statistic
8a. Mean Sample Hospital Index Score	66.79
8b. Standard Deviation of Sample Hospital Index Scores	3.98
8c. Standard Deviation of Mean Sample Hospital Index Score	1.26

Step 9: Use Full Credibility Formula to determine credibility of Mean Index Score for each Iteration Scenario

The following calculations are specific to each individual hospital.

a. Select threshold for difference of sample mean to within a specified percentage of the true mean
   - This has been set at 5%

b. Select confidence level
   - This has been set at 90%

c. Calculate number of standard deviations for 90% Confidence Interval based on a normal distribution
   - 90% Confidence Interval Standard Deviations = 1.645

d. Calculate number of samples needed for the Mean Sample Hospital Index Score to be credible using the Full Credibility Formula
   - Number of Samples = (Standard Deviation of Sample Hospital Index Scores / Mean Sample Hospital Index Score)^2 * (Standard Deviation for 90% Confidence Interval / Threshold for difference of sample mean)^2

If the Number of Samples needed to be Fully Credible is less than or equal to the number of samples run for a specific Iteration Scenario, then the statistical measures for that Iteration Scenario are deemed credible. The following Steps 10 – 11 will only apply to Iteration Scenarios that have been determined to be fully credible.

Example Full Credibility Calculation for Iteration Scenario "10" is for illustrative purposes only.

Iteration Scenario	Mean Sample Hospital	Standard Deviation of	% Difference Threshold of Sample Mean	90% Confidence Interval	No. Samples to be Fully Credible

	Index Score (8a)	Sample Hospital Index Scores (8b)	to the True Mean (9a)	Standard Deviations (9c)	$(9d)=(8b/8a)^2 *(9c/9a)^2$
10	66.79	3.98	5%	1.645	4

In this example, the number of samples needed to be fully credibly is 3.84, which can be rounded up to next nearest whole number of 4. This is less than or equal to the number of samples in the Iteration Scenario, resulting in this Iteration Scenario being credible.

Step 10: Calculate Confidence Interval around Mean Index Score for credible Iteration Scenarios based on result from Step 9

The following calculations are specific to each individual hospital, and only apply to Iteration Scenarios that are deemed credible based on Step 9.

a. Select confidence level
   - This has been set at the same 90% used for Step 9

b. Calculate number of standard deviations for 90% Confidence Interval based on a normal distribution
   - 90% Confidence Interval Standard Deviations = 1.645

c. Calculate Lower Bound of Confidence Interval

d. Calculate Upper Bound of Confidence Interval

Iteration Scenario	Mean Sample Hospital Index Score (8a)	Standard Deviation of Mean Sample Hospital Index Score (8c)	90% Confidence Interval Standard Deviations (10b)	90% Confidence Interval: Lower Bound (10c)=(8b)-(8c)*(10b)	90% Confidence Interval: Upper Bound (10c)=(8a)+(8c)*(10b)
10	66.79	1.26	1.645	64.72	68.86

Step 11: Determine final list of hospitals that have a credible Hospital Index Score from Step 5

The following calculations are specific to each individual hospital, and only apply to Iteration Scenarios that are deemed credible based on Step 9.

a. If the Hospital Index Score is within at least one credible confidence interval, the Hospital Index Score for that hospital is determined to be credible.

b. If none of the Iterations Scenarios are deemed credible for a hospital, then the Hospital Index Score for that hospital is also determined to not be credible.

In the examples provided, the Hospital Index Score from Step 5 of 68.33 is within the 90% Confidence Interval of (64.72, 68.86) from Step 10, and is thus deemed a credible Hospital Index Score.

C. Risk Adjustment

Optumas and the Department have refined the risk adjustment methodology applied to the risk adjusted version of the hospital index score.

Risk factors were developed using the same set of procedural episodes used to develop the peer group weights that are applied within the index score calculation. These episodes are limited to only those that were attributed to a participating hospital within the six years of data (SFY16-SFY21) ran through the episode grouper. The following categories were reviewed to determine whether each had a significant impact on unsplit AAE costs as a percent of total episode unsplit costs for each type of procedural episode. Comments on whether the categories were ultimately included within the risk adjustment modeling are noted for each:

- **Category of Aid Factor:** no risk adjustment factor developed for differing populations (disabled/non-disabled, adults/children) as variations in AAE were not material when holding all other variables constant.

- **Gender Factor:** no risk adjustment factor developed for gender since the variations in AAE were not material holding other variables constant. Additionally, most procedural episodes apply to a single gender (e.g., Vaginal Delivery, C-Section, and Breast Biopsy).

- **Comorbidity Factor:** risk adjustment factor developed to account for members having multiple chronic conditions and comorbidities, excluding behavioral health conditions. Final factors developed based on number of conditions ranging from 0 to 4+.

- **Behavioral Health (BH) Factor:** risk adjustment factor developed to account for members having behavioral health conditions. Final factors

developed based on the presence of at least one behavioral health chronic episode.

Risk adjustment factors were developed by reviewing AAE costs as a percentage of the total episode cost for the various Comorbidity Factor (0 to 4+ conditions) and Behavioral Health Factor (0 or 1+ conditions) groupings for each type of procedural episode. The ratio of average AAE percent was calculated as the risk adjustment factors. The risk adjustment factors are shown in Appendix C.

Not all episodes are risk adjusted, due to either limited variation of AAE costs in these episodes, or lack of statistically different AAE costs. A risk factor of 1.00 indicates that no additional adjustment is applied for risk scores.

The risk adjustment factors are applied to the AAE costs for each episode attributed to the hospital and to each episode within the associated peer group. The final average risk score for each combination of hospital and procedural episode type is compared to their corresponding peer group average risk score, and the relative risk difference is applied as the risk adjustment impact to the hospital AAE. A hospital may see an increase or decrease to their AAE depending on how their relative risk profile compared to the peer group's risk profile. Additionally, there is now only one set of peer group weights and index score, as the peer group is held constant in both the risk adjusted and unadjusted scenarios. Examples of the risk adjustment application are shown for example episodes. The peer group risk score and hospital risk score are based on the average risk score for members that had that procedural episode, based on the number of comorbidities and behavioral health conditions.

		A	B	C = B / A
Hospital Name	**Episode Type**	**Peer Group Risk Score**	**Hospital Risk Score**	**Hospital Risk Relativity**
HOSPITAL	Colorectal Resection	1.44	1.30	0.90
HOSPITAL	Coronary Angioplasty	3.73	3.90	1.04
HOSPITAL	C-Section	1.53	1.50	0.98
HOSPITAL	Vaginal Delivery	1.43	1.50	1.05

		D	E	F = E / C	**Hospital vs. Peer Group**	
Hospital Name	**Episode Type**	**Peer Group AAE**	**Hospital AAE**	**Hospital Risk Adj. AAE**	**Risk Profile**	**Unadjusted AAE**
HOSPITAL	Colorectal Resection	9.4%	9.0%	10.0%	*Lower*	*Lower*
HOSPITAL	Coronary Angioplasty	7.2%	6.0%	5.7%	*Higher*	*Lower*
HOSPITAL	C-Section	2.9%	3.0%	3.1%	*Lower*	*Higher*
HOSPITAL	Vaginal Delivery	1.5%	2.0%	1.9%	*Higher*	*Higher*

Please note, the risk adjustment development and application was performed only for unsplit costs. As such, the risk adjustment application is not intended to be applied or reviewed at the split cost level.

D. Attribution to Facility and Attending Provider

Procedural episodes are generally centered around inpatient/outpatient (facility) services. Episodes with no inpatient/outpatient claims or with Provider ID discrepancies are not included within the hospital index score calculation.

For an episode to be attributed to a hospital, the episode must have one of the following:

- An inpatient trigger claim,

- An outpatient trigger claim, or

- A professional trigger claim whose incurred date of service corresponds to an inpatient/outpatient claim with a date span that captures the professional claim's service date.

For an episode to be attributed to a hospital there must be uniformity in the hospital identified by both the Provider ID and NPI populated on the claim under any of the methods outlined above. If the trigger claim was incurred at an ambulatory surgical center (POS = 24) or a birthing center (POS = 25), the episode is not attributed to a hospital and is removed from the subsequent index score calculation.

Inpatient/outpatient trigger claims rendered by applicable hospitals are attributed to the hospital where the trigger event occurred to the extent there are no provider ID discrepancies.

Professional triggers require additional review. The following results may occur when attempting to identify a corresponding facility claim associated with a professional trigger based on service date spans:

Results of service date mapping	Description of Provider IDs on Corresponding Facility Claims	Final Classification
No corresponding facility service found with a date span matching the professional trigger claim	N/A	Episode not attributed to a hospital since there are no corresponding facility triggers.
Single corresponding facility claim found with a date span matching the professional trigger claim	Only one hospital provider identified on the corresponding facility claim	Episode attributed to the hospital on corresponding facility claim
Multiple facility claims identified with a date span overlapping the professional trigger claim	Provider IDs vary across the corresponding facility claims or have missing provider information	Episode not attributed to any hospital since unable to determine responsible entity without additional detailed review
Multiple facility claims identified with a date span	Provider IDs are consistent across the	Episode attributed to the hospital on corresponding facility claims

overlapping the professional trigger claim	corresponding facility claims	

Episodes that have a successful attribution based on trigger claim information are retained for use within the hospital index modeling. Any unattributed episodes are excluded from subsequent modeling.

Episodes that are attributed to a hospital then go through a secondary attribution process where the **attending provider**, typically the **surgeon**, is identified based on the **episode's trigger claim** or corresponding professional claim if the trigger is a facility claim. The same criteria of uniform provider ID information applies when determining the attending provider attribution.

E. **Substance Use Disorder (SUD) Scrubbing and Other Episode Exclusions**

Unless the Department can obtain a legal opinion that SUD data can be shared with hospitals while complying with 42 CFR Part 2, the Department must scrub SUD data from the distributed dashboards, using the [BIDM's definition of SUD](#).

Any episodes that have at least one claim with a SUD service have been excluded from the Hospital Index calculation. SUD ICD-10 diagnoses must be within in the primary code position to be determined as an excluded SUD claim for Hospital Index purposes. Other SUD services are identified as having any of either: DRG, procedure code, revenue code, place of service, or provider type based on the list provided in Exhibit C. Excluding the entire episode from the Hospital Index calculation once an SUD service is identified within the procedural episodes removes the potential for skewed results and understated episode information that may occur if the episode were retained with only the non-SUD claims.

Other procedural episodes in addition to those with SUD services are excluded from the Hospital Index calculation based on termination flags identified within the episode grouper. These include the following categories that are either clinical in nature or defined by the grouper:

- Active Cancer Diagnosis
  - o Note, not all episodes for a member with active cancer are removed. For example, breast cancer is not filtered out for mastectomy.

- Age (member's age outside of range specified as standard for the episode type by the grouper)
- Incomplete Episode
- Left Against Medical Advice
- Orphan Trigger
- Multiple Payers (claims where there are Medicare or third-party liability payments)
- End-Stage Renal Disease
- Hemophilia
- Organ Transplant
- Sickle Cell Disease
- High Cost Episode (99th percentile of total episode cost by procedural episode type)

Additionally, after the above exclusions are applied, a hospital must have four or more episodes within a specific episode type for those procedures to be included within the Hospital Index calculation. If for example, a specific hospital has only two Knee Arthroscopy episodes within the two-year study period, the Knee Arthroscopy episodes will be deemed low volume and excluded from the Hospital Index. Please see the table below for an example of the application of the low volume threshold used to exclude episodes from the model.

Low Volume Episodes Exclusion

Procedural Episode	Hospital	Episode Count	Low Volume Exclusion?	Included Episodes
Bariatric Surgery	A	12	N	12
Breast Biopsy	A	50	N	50
C-Section	A	4	N	4
CABG &/or Valve Procedures	A	3	Y	0
Cataract Surgery	A	22	N	22
Colonoscopy	A	3	Y	0
Knee Arthroscopy	A	5	N	5
Tonsillectomy	A	1	Y	0
Total Episodes	**A**	**100**		**93**

F. Incorporation into HTP

CIOT and the Hospital Index will be utilized within the group of measures focused on clinical and operational efficiencies in the Hospital Transformation Program (HTP).

G. Population for 2023 Dashboard

Medicaid members enrolled in the Accountable Care Collaborative (ACC) between 1/1/2021 and 12/31/2022.

a. Exclusions

The CIOT model excludes members dually enrolled in Medicare and Medicaid, as well as members enrolled in PACE. The model assigns FFS claims and managed care encounters to episodes of care, so any claim or encounter that did not group to an episode will not be present in the CIOT results. Members who did not receive any care between 1/1/2021 and 12/31/2022 will not be present in the CIOT results.

H. Eligibility Types

The eligibility groups on the dashboard are an aggregation of client program aid codes, as well as member age, gender, disability status, and third-party liability (TPL) status at the time of service.

X. Dashboard Updates and Distribution

A. How the Dashboards are Created

1. Optumas runs claims and encounter data through the CIOT model

2. Raw CIOT output is summarized at the episode level, along with a separate table identifying claims associated with episode. Additional output tables also identify if each individual claim was considered typical or AAE within each associated episode.

3. Optumas crosswalks episode information onto each associated claim number, along with typical or AAE designation. The result allows for claim-level identification of typical and AAE, along with all other claim-level information, so it is actionable to HCPF and providers.

4. Tableau dashboard created by the Department and hosted on Optumas' Tableau Server.

    ✓ The CIOT model groups claims into clinically defined episodes → any claim that doesn't meet criteria for an episode is dropped from the underlying dataset in step 1 above.

B. What the Dashboards Shouldn't be Used to Measure

- **Care management** → the data is too old to be actionable (the episodes have already been completed)

C. When the Dashboards will be Updated

Note: Index score weighting and risk adjustment methods were updated in FY24, and applied retroactively to the CY20-21 index scores.

Fiscal Year	FY21	FY22	FY23	FY24	FY25	FY26
Underlying Data as of 7/1	FY14-19	FY15-21	FY16-22	FY18-23	FY18-24	FY18-25
Index Score Data Points	1. CY15-16 2. CY16-17 3. CY17-18	1. CY15-16 2. CY16-17 3. CY17-18 4. CY18-19	1. CY16-17 2. CY17-18 3. CY18-19 4. CY19-20 5. CY20-21	1. CY16-17 2. CY17-18 3. CY18-19 4. CY19-20 5. CY20-21 6. CY21-22	1. CY16-17 2. CY17-18 3. CY18-19 4. CY19-20 5. CY20-21 6. CY21-22 7. CY22-23	1. CY16-17 2. CY17-18 3. CY18-19 4. CY19-20 5. CY20-21 6. CY21-22 7. CY22-23 8. CY23-24

XI. Guidance on Identifying Opportunities and Interpreting Hospital Index Dashboards

A. Start with biggest bang for our buck.

- Identify which episodes, categories of service, providers, etc. have the **highest AAE costs relative to the Peer Group**. Use the Peer Group Comparison and Hospital Detail dashboards to identify opportunities in these areas.

Episode Description (Risk Adj. Detail Deliverable)	Total Cost	AAE Cost	AAE %	Peer Group AAE %	Hospital Index Score Breakdown	Peer Group Index Score Breakdown	Episode Count
Bariatric Surgery	$665,470	$30,559	4.59%	4.85%	1.84	1.94	66
Breast Biopsy	$207,920	$26	0.01%	0.07%	0.00	0.00	132
C-Section	$4,941,842	$157,087	3.18%	2.91%	3.29	3.01	697
CABG &/or Valve Procedures	$1,049,544	$56,960	5.43%	5.49%	3.60	3.63	24
Cataract Surgery	$154,215	$2,385	1.55%	4.12%	0.11	0.30	59
Colonoscopy	$788,101	$7,887	1.00%	1.73%	0.07	0.12	656
Colorectal Resection	$1,197,227	$166,019	13.87%	12.43%	53.49	47.97	47
Coronary Angioplasty	$1,334,918	$142,514	10.68%	7.19%	17.31	11.66	82

Overview of AAE Percentage and Avg Total Cost per Episode by Episode Description
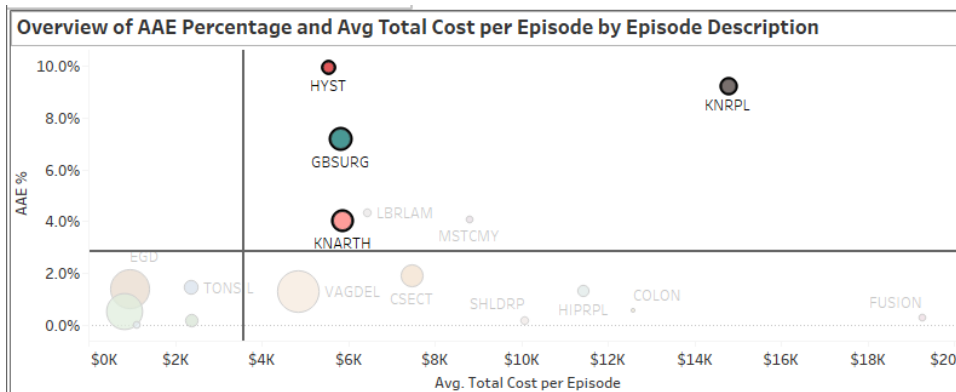
- The overview of episodes that is pictured above is on the **Hospital Detail** dashboard and displays volume (based on size of the bubble), AAE %, and Avg Total Cost per Episode. **Episodes in the upper-right quadrant are above average** in Average Total Cost and in AAE %.

COS	Total Cost	AAE Cost	AAE %	Episode Count
Inpatient	$2,704,313	$366,433	13.5%	285
Professional	$777,309	$28,456	3.7%	300
Outpatient - ER	$23,634	$10,090	42.7%	55
Home Health	$26,114	$5,913	22.6%	28
Outpatient - Non-..	$220,835	$5,412	2.5%	271
FQHC/RHC	$34,380	$4,977	14.5%	96
Lab/Rad	$82,329	$1,768	2.1%	299
DME	$59,856	$1,361	2.3%	173
Emergency Trans..	$4,364	$883	20.2%	14
Rx	$333,679	$0	0.0%	297

Elig Type	Total Cost	AAE Cost	AAE %	Episode Cou..
AwDC	$2,676,088	$231,885	8.7%	198
Disabled	$1,083,138	$160,610	14.8%	64
AFDC Parent	$452,129	$32,694	7.2%	35
Expansion Adult	$102,315	$103	0.1%	10
Other	$673	$0	0.0%	1

- When viewing AAE % it is important to look at **volume** in addition to costs. Reducing a high AAE % that only impacted one member or was worth only a few dollars is not likely to be as effective as lowering a high AAE % associated with lots of costs and/or members.

- The CIOT algorithms consider all **Rx costs as typical**, except those associated with inpatient or ED visits that were driven by chronic condition exacerbation. Please refer to other tools for Rx management in particular.

B. **Make fair and meaningful comparisons.**

- Variation in average episode cost is partially driven by **variation in reimbursement rates** across providers. Before drawing conclusions about efficiency of care due to differences in cost, use the tool to drill down and look at unit pricing.

- In addition to unit pricing considerations, you also need to **account for episode mix** when comparing average episode cost. For example, a provider might have a higher average episode treatment cost because they saw more members with expensive procedures like a hip replacement than other physicians who might have only seen members for tonsillectomies. The graph below shows the variation in treatment of only the Knee Replacement & Knee Revision episodes, which is more meaningful. The dashed reference lines represent the average across the peer group, and the solid reference lines represent the average within the selected hospital.

AAE Percentage and Total Cost by Master Episode ID
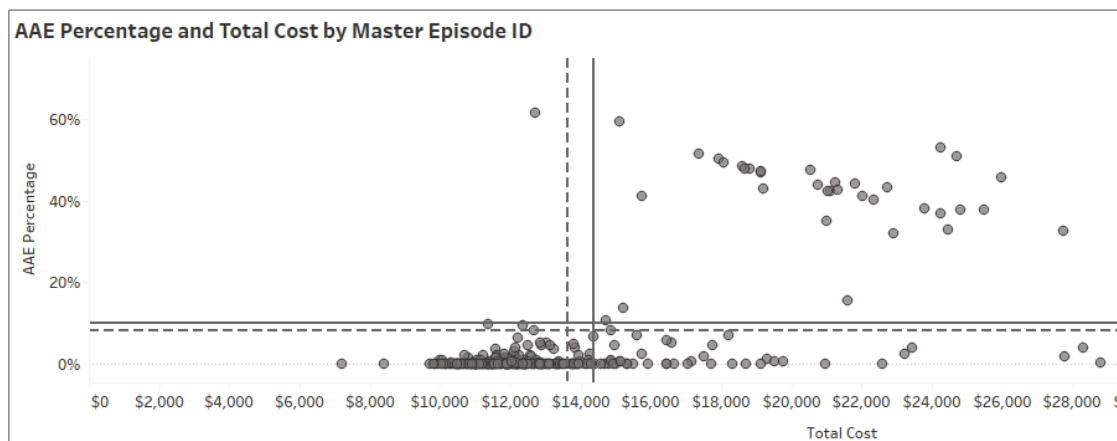
- The **Members dashboard** can be used to view and download the data at the member level across different variables such as age, race, county, etc. Member name, Medicaid ID, and DOB are provided to give users the ability to use the Hospital Index data in tandem with EHRs.

- The **Claims dashboard** is used to view and download data at the claim level. Use the filters above to narrow down the selection and to view individual episodes at a deeper level, with claims sorted chronologically. The 13-digit number embedded within the Claim ID fields will typically represent the ICN. The Claim ID field can be expanded by clicking "+" to view the procedure codes on the claim.

C. Identifying patterns.

- Are there particular conditions, diagnosis codes, DRGs, services, or providers where AAE costs are consistently high?

AAE Dx Code Desc	Total Cost	AAE Cost	AAE %	Episode Cou..
PERITONEAL ABSCESS	$47,880	$47,880	100.0%	63
SEPSIS, UNSPECIFIED ORGAN..	$31,480	$31,480	100.0%	82
PERFORATION OF INTESTINE ..	$20,598	$20,598	100.0%	36
ACUTE KIDNEY FAILURE, UNS..	$13,893	$13,893	100.0%	43
OTH POSTPROCEDURAL COM..	$11,814	$11,814	100.0%	33
PLEURAL EFFUSION, NOT ELS..	$11,203	$11,203	100.0%	16
HYPOKALEMIA	$10,974	$10,974	100.0%	47

- Does the same AAE or a **high AAE %** for a particular provider consistently occur at similar points in treatment? The below charts show a few selected providers that have higher concentrations of AAE in the post-procedure phase of the episode. Drill down deeper into the episode to view what is driving the AAE Cost by looking at diagnosis codes, services, and DRGs.

Total Cost and AAE Cost by Weeks from Trigger Claim

AAE Percentage and Avg Total Cost per Episode by Attending Provider
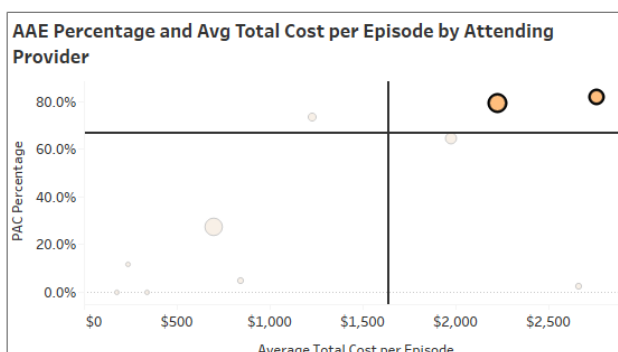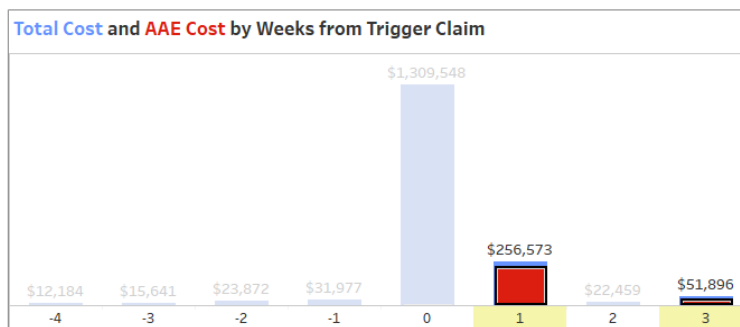
D. Additional Considerations

- Bear in mind that different provider types have **differing amounts of influence** over each episode type and/or description. The amount of each provider type's influence will **change over time**, as well as potentially vary by the sub-population.

- Consider **how long** it will likely take a proposed intervention **to impact performance** on an episode. Outcome/performance improvements that cannot be realized for several years (or decades) will not help the provider pass near-term Hospital Index metrics but should still be pursued to the extent feasible (i.e., in addition to the interventions that will produce near-term results).

- Consider the **resources** that will be required to address performance on a particular episode/implement a proposed intervention. Prioritize interventions that will achieve the biggest bang for your buck, that potentially require less capital (or staff) investments and/or will be simpler to implement.

XII.   Appendix

A. Exhibit A – Procedural Episode Parameters

EPISODES	Acronym	Look-Back	Look-Forward	Age Range
Cataract Surgery	CTRTSU	30 days	90 days	18-65
Tonsillectomy	TONSIL	30 days	90 days	2-65
Lung Resection	LNGSRG	30 days	90 days	18-65
CABG and Related Procedures	CXCABG	30 days	90 days	18-65
Pacemakers/defibrillators	PCMDFR	7 days	30 days	18-65
PCI	PCI	30 days	90 days	18-65
Upper GI endoscopy	EGD	3 days	14 days	18-65
Colon Resection	COLON	30 days	90 days	18-65
Colonoscopy	COLOS	3 days	14 days	18-65
Bariatric Surgery	BARI	30 days	90 days	18-65
GB Surgery	GBSURG	30 days	90 days	18-65
Knee Arthroscopy	KNARTH	30 days	90 days	18-65
Hip Replacement / Hip Revision	HIPRPL	30 days	90 days	18-65
Knee Replacement / Knee Revision	KNRPL	30 days	90 days	18-65
Lumbar Spine Fusion	FUSION	30 days	180 days	18-65
Lumbar Discectomy / Laminectomy	LBRLAM	30 days	90 days	18-65
Shoulder Replacement	SHLDRP	30 days	90 days	18-65
Breast Biopsy	BSTBIO	7 days	7 days	18-65
Mastectomy	MSTCMY	30 days	90 days	18-65
Prostatectomy	PRSCMY	30 days	90 days	18-65
TURP (Transurethral prostate resection)	TURP	30 days	90 days	18-65
Hysterectomy	HYST	60 days	90 days	18-65
Vaginal Delivery	VAGDEL	3 days	60 days	12-65
C-Section	CSECT	3 days	60 days	12-65

B. Exhibit B – BIDM Definition of SUD for Data Scrubbing

Type	Code	Description
APRDRG	770	Drug & Alcohol Abuse or Dependence, Left Against Medical Advice
APRDRG	772	Alcohol & Drug Dependence w Rehab or Rehab/detox Therapy
APRDRG	773	Opioid Abuse & Dependence
APRDRG	774	Cocaine Abuse & Dependence
APRDRG	775	Alcohol Abuse & Dependence
APRDRG	776	Other Drug Abuse & Dependence
APRDRG	816	Toxic Effects of Non-Medicinal Substances
CMSDRG	0433	Cirrhosis and Alcoholic Hepatitis with CC
CMSDRG	0521	Alcohol/Drug Abuse or Dependence w/CC
CMSDRG	0522	Alc/Drug Abuse or Depend w/o Rehabilitation Therapy w/o CC
CMSDRG	0523	Alc/Drug Abuse or Depend w/Rehabilitation Therapy w/o CC
CMSDRG	0936	Alc/Drug Depend w/Rehab Age <21 years
CPT4_Code	4158F	Pt Edu Re Alcoh Drnkng Done
CPT4_Code	4290F	Pt Scrned For Inj Drug Use
CPT4_Code	4306F	Pt Tlk Psych & Rx Opd Addic
CPT4_Code	4320F	Pt Talk Psychsoc&rx Oh Dpnd
CPT4_Code	80100	Drug Screen Qualitate/multi
CPT4_Code	80101	Drug Screen Single
CPT4_Code	80102	Drug Confirmation
CPT4_Code	80154	Assay Of Benzodiazepines
CPT4_Code	80299	Quantitative Assay Drug
CPT4_Code	82055	Assay Of Ethanol
CPT4_Code	82075	Assay Of Breath Ethanol
CPT4_Code	82145	Assay Of Amphetamines
CPT4_Code	82205	Assay Of Barbiturates
CPT4_Code	82441	Test For Chlorohydrocarbons
CPT4_Code	82491	Chromotography Quant Sing
CPT4_Code	82520	Assay Of Cocaine
CPT4_Code	82646	Assay Of Dihydrocodeinone
CPT4_Code	82649	Assay Of Dihydromorphinone
CPT4_Code	83840	Assay Of Methadone
CPT4_Code	83925	Assay Of Opiates
CPT4_Code	83992	Assay For Phencyclidine
CPT4_Code	99408	Audit/dast 15-30 Min
CPT4_Code	99409	Audit/dast Over 30 Min
CPT4_Code	G0396	Alcohol/subs Interv 15-30mn
CPT4_Code	G0397	Alcohol/subs Interv >30 Min
CPT4_Code	G0431	Drug Screen Multiple Class
CPT4_Code	G0434	Drug Screen Multi Drug Class
CPT4_Code	H0001	Alcohol And/or Drug Assess
CPT4_Code	H0002	Alcohol And/or Drug Screenin
CPT4_Code	H0003	Alcohol And/or Drug Screenin
CPT4_Code	H0004	Alcohol And/or Drug Services
CPT4_Code	H0005	Alcohol And/or Drug Services

Type	Code	Description
CPT4_Code	H0006	Alcohol And/or Drug Services
CPT4_Code	H0007	Alcohol And/or Drug Services
CPT4_Code	H0008	Alcohol And/or Drug Services
CPT4_Code	H0009	Alcohol And/or Drug Services
CPT4_Code	H0010	Alcohol And/or Drug Services
CPT4_Code	H0011	Alcohol And/or Drug Services
CPT4_Code	H0012	Alcohol And/or Drug Services
CPT4_Code	H0013	Alcohol And/or Drug Services
CPT4_Code	H0014	Alcohol And/or Drug Services
CPT4_Code	H0015	Alcohol And/or Drug Services
CPT4_Code	H0016	Alcohol And/or Drug Services
CPT4_Code	H0017	Alcohol And/or Drug Services
CPT4_Code	H0018	Alcohol And/or Drug Services
CPT4_Code	H0019	Alcohol And/or Drug Services
CPT4_Code	H0020	Alcohol And/or Drug Services
CPT4_Code	H0021	Alcohol And/or Drug Training
CPT4_Code	H0022	Alcohol And/or Drug Interven
CPT4_Code	H0023	Alcohol And/or Drug Outreach
CPT4_Code	H0024	Alcohol And/or Drug Preventi
CPT4_Code	H0025	Alcohol And/or Drug Preventi
CPT4_Code	H0026	Alcohol And/or Drug Preventi
CPT4_Code	H0027	Alcohol And/or Drug Preventi
CPT4_Code	H0028	Alcohol And/or Drug Preventi
CPT4_Code	H0029	Alcohol And/or Drug Preventi
CPT4_Code	H0030	Alcohol And/or Drug Hotline
CPT4_Code	H0047	Alcohol/drug Abuse Svc Nos
CPT4_Code	H0049	Alcohol/drug Screening
CPT4_Code	H0050	Alcohol/drug Service 15 Min
CPT4_Code	H2034	A/d Halfway House, Per Diem
CPT4_Code	H2035	A/d Tx Program, Per Hour
CPT4_Code	H2036	A/d Tx Program, Per Diem
CPT4_Code	S3005	Eval Self-Assess Depression
CPT4_Code	S9445	Pt Education Noc Individ
CPT4_Code	S9475	Ambulatory Setting Substance
CPT4_Code	T1006	Family/couple Counseling
CPT4_Code	T1007	Treatment Plan Development
CPT4_Code	T1008	Day Treatment For Individual
CPT4_Code	T1009	Child Sitting Services
CPT4_Code	T1010	Meals When Receive Services
CPT4_Code	T1011	Alcohol/substance Abuse Noc
CPT4_Code	T1012	Alcohol/substance Abuse Skil
CPT4_Code	T1019	Detox: provision of daily needs
CPT4_Code	T1023	Program Intake Assessment
EAPG	00311	Full Day Partial Hospitalization for Substance Abuse
EAPG	00313	Half Day Partial Hospitalization for Substance Abuse
EAPG	00320	Case Management & Treatment Plan Development - Mental Health or Substance Abuse
EAPG	00840	Opioid Abuse & Dependence
EAPG	00841	Cocaine Abuse & Dependence

Type	Code	Description
EAPG	00842	Alcohol Abuse & Dependence
EAPG	00843	Other Drug Abuse & Dependence
EAPG	00854	Toxic Effects of Non-Medicinal Substances
ICD10DX	F1010	Alcohol abuse, uncomplicated
ICD10DX	F10120	Alcohol abuse with intoxication, uncompl
ICD10DX	F10121	Alcohol abuse with intoxication delirium
ICD10DX	F10129	Alcohol abuse with intoxication, unspeci
ICD10DX	F1014	Alcohol abuse with alcohol-induced mood
ICD10DX	F10150	Alcohol abuse w alcoh-induce psychotic d
ICD10DX	F10151	Alcohol abuse w alcoh-induce psychotic d
ICD10DX	F10159	Alcohol abuse with alcohol-induced psych
ICD10DX	F10180	Alcohol abuse with alcohol-induced anxie
ICD10DX	F10181	Alcohol abuse with alcohol-induced sexua
ICD10DX	F10182	Alcohol abuse with alcohol-induced sleep
ICD10DX	F10188	Alcohol abuse with other alcohol-induced
ICD10DX	F1019	Alcohol abuse with unspecified alcohol-i
ICD10DX	F1020	Alcohol dependence, uncomplicated
ICD10DX	F1021	Alcohol dependence, in remission
ICD10DX	F10220	Alcohol dependence with intoxication, un
ICD10DX	F10221	Alcohol dependence with intoxication del
ICD10DX	F10229	Alcohol dependence with intoxication, un
ICD10DX	F10230	Alcohol dependence with withdrawal, unco
ICD10DX	F10231	Alcohol dependence with withdrawal delir
ICD10DX	F10232	Alcohol dependence w withdrawal with per
ICD10DX	F10239	Alcohol dependence with withdrawal, unsp
ICD10DX	F1024	Alcohol dependence with alcohol-induced
ICD10DX	F10250	Alcohol depend w alcoh-induce psychotic
ICD10DX	F10251	Alcohol depend w alcoh-induce psychotic
ICD10DX	F10259	Alcohol dependence w alcoh-induce psycho
ICD10DX	F1026	Alcohol depend w alcoh-induce persisting
ICD10DX	F1027	Alcohol dependence with alcohol-induced
ICD10DX	F10280	Alcohol dependence with alcohol-induced
ICD10DX	F10281	Alcohol dependence with alcohol-induced
ICD10DX	F10282	Alcohol dependence with alcohol-induced
ICD10DX	F10288	Alcohol dependence with other alcohol-in
ICD10DX	F1029	Alcohol dependence with unspecified alco
ICD10DX	F10920	Alcohol use, unspecified with intoxicati
ICD10DX	F10921	Alcohol use, unspecified with intoxicati
ICD10DX	F10929	Alcohol use, unspecified with intoxicati
ICD10DX	F1094	Alcohol use, unspecified with alcohol-in
ICD10DX	F10950	Alcohol use, unsp w alcoh-induce psych d
ICD10DX	F10951	Alcohol use, unsp w alcoh-induce psych d
ICD10DX	F10959	Alcohol use, unsp w alcohol-induced psyc
ICD10DX	F1096	Alcohol use, unsp w alcoh-induce persist
ICD10DX	F10980	Alcohol use, unsp with alcohol-induced a
ICD10DX	F10981	Alcohol use, unsp with alcohol-induced s
ICD10DX	F10982	Alcohol use, unspecified with alcohol-in
ICD10DX	F10988	Alcohol use, unspecified with other alco
ICD10DX	F1099	Alcohol use, unsp with unspecified alcoh

Type	Code	Description
ICD10DX	F1110	Opioid abuse, uncomplicated
ICD10DX	F11120	Opioid abuse with intoxication, uncompli
ICD10DX	F11121	Opioid abuse with intoxication delirium
ICD10DX	F11122	Opioid abuse with intoxication with perc
ICD10DX	F11129	Opioid abuse with intoxication, unspecif
ICD10DX	F1114	Opioid abuse with opioid-induced mood di
ICD10DX	F11150	Opioid abuse w opioid-induced psychotic
ICD10DX	F11151	Opioid abuse w opioid-induced psychotic
ICD10DX	F11159	Opioid abuse with opioid-induced psychot
ICD10DX	F11181	Opioid abuse with opioid-induced sexual
ICD10DX	F11182	Opioid abuse with opioid-induced sleep d
ICD10DX	F11188	Opioid abuse with other opioid-induced d
ICD10DX	F1119	Opioid abuse with unspecified opioid-ind
ICD10DX	F1120	Opioid dependence, uncomplicated
ICD10DX	F1121	Opioid dependence, in remission
ICD10DX	F11220	Opioid dependence with intoxication, unc
ICD10DX	F11221	Opioid dependence with intoxication deli
ICD10DX	F11222	Opioid dependence w intoxication with pe
ICD10DX	F11229	Opioid dependence with intoxication, uns
ICD10DX	F1123	Opioid dependence with withdrawal
ICD10DX	F1124	Opioid dependence with opioid-induced mo
ICD10DX	F11250	Opioid depend w opioid-induc psychotic d
ICD10DX	F11251	Opioid depend w opioid-induc psychotic d
ICD10DX	F11259	Opioid dependence w opioid-induced psych
ICD10DX	F11281	Opioid dependence with opioid-induced se
ICD10DX	F11282	Opioid dependence with opioid-induced sl
ICD10DX	F11288	Opioid dependence with other opioid-indu
ICD10DX	F1129	Opioid dependence with unspecified opioi
ICD10DX	F1190	Opioid use, unspecified, uncomplicated
ICD10DX	F11920	Opioid use, unspecified with intoxicatio
ICD10DX	F11921	Opioid use, unspecified with intoxicatio
ICD10DX	F11922	Opioid use, unsp w intoxication with per
ICD10DX	F11929	Opioid use, unspecified with intoxicatio
ICD10DX	F1193	Opioid use, unspecified with withdrawal
ICD10DX	F1194	Opioid use, unspecified with opioid-indu
ICD10DX	F11950	Opioid use, unsp w opioid-induc psych di
ICD10DX	F11951	Opioid use, unsp w opioid-induc psych di
ICD10DX	F11959	Opioid use, unsp w opioid-induced psycho
ICD10DX	F11981	Opioid use, unsp with opioid-induced sex
ICD10DX	F11982	Opioid use, unspecified with opioid-indu
ICD10DX	F11988	Opioid use, unspecified with other opioi
ICD10DX	F1199	Opioid use, unsp with unspecified opioid
ICD10DX	F1210	Cannabis abuse, uncomplicated
ICD10DX	F12120	Cannabis abuse with intoxication, uncomp
ICD10DX	F12121	Cannabis abuse with intoxication deliriu
ICD10DX	F12122	Cannabis abuse with intoxication with pe
ICD10DX	F12129	Cannabis abuse with intoxication, unspec
ICD10DX	F12150	Cannabis abuse with psychotic disorder w
ICD10DX	F12151	Cannabis abuse with psychotic disorder w

Type	Code	Description
ICD10DX	F12159	Cannabis abuse with psychotic disorder,
ICD10DX	F12180	Cannabis abuse with cannabis-induced anx
ICD10DX	F12188	Cannabis abuse with other cannabis-induc
ICD10DX	F1219	Cannabis abuse with unspecified cannabis
ICD10DX	F1220	Cannabis dependence, uncomplicated
ICD10DX	F1221	Cannabis dependence, in remission
ICD10DX	F12220	Cannabis dependence with intoxication, u
ICD10DX	F12221	Cannabis dependence with intoxication de
ICD10DX	F12222	Cannabis dependence w intoxication w per
ICD10DX	F12229	Cannabis dependence with intoxication, u
ICD10DX	F12250	Cannabis dependence with psychotic disor
ICD10DX	F12251	Cannabis dependence w psychotic disorder
ICD10DX	F12259	Cannabis dependence with psychotic disor
ICD10DX	F12280	Cannabis dependence with cannabis-induce
ICD10DX	F12288	Cannabis dependence with other cannabis-
ICD10DX	F1229	Cannabis dependence with unsp cannabis-i
ICD10DX	F1290	Cannabis use, unspecified, uncomplicated
ICD10DX	F12920	Cannabis use, unspecified with intoxicat
ICD10DX	F12921	Cannabis use, unspecified with intoxicat
ICD10DX	F12922	Cannabis use, unsp w intoxication w perc
ICD10DX	F12929	Cannabis use, unspecified with intoxicat
ICD10DX	F12950	Cannabis use, unsp with psychotic disord
ICD10DX	F12951	Cannabis use, unsp w psychotic disorder
ICD10DX	F12959	Cannabis use, unsp with psychotic disord
ICD10DX	F12980	Cannabis use, unspecified with anxiety d
ICD10DX	F12988	Cannabis use, unsp with other cannabis-i
ICD10DX	F1299	Cannabis use, unsp with unsp cannabis-in
ICD10DX	F1310	Sedative, hypnotic or anxiolytic abuse,
ICD10DX	F13120	Sedatv/hyp/anxiolytc abuse w intoxicatio
ICD10DX	F13121	Sedatv/hyp/anxiolytc abuse w intoxicatio
ICD10DX	F13129	Sedative, hypnotic or anxiolytic abuse w
ICD10DX	F1314	Sedative, hypnotic or anxiolytic abuse w
ICD10DX	F13150	Sedatv/hyp/anxiolytc abuse w psychotic d
ICD10DX	F13151	Sedatv/hyp/anxiolytc abuse w psychotic d
ICD10DX	F13159	Sedatv/hyp/anxiolytc abuse w psychotic d
ICD10DX	F13180	Sedative, hypnotic or anxiolytic abuse w
ICD10DX	F13181	Sedative, hypnotic or anxiolytic abuse w
ICD10DX	F13182	Sedative, hypnotic or anxiolytic abuse w
ICD10DX	F13188	Sedative, hypnotic or anxiolytic abuse w
ICD10DX	F1319	Sedative, hypnotic or anxiolytic abuse w
ICD10DX	F1320	Sedative, hypnotic or anxiolytic depende
ICD10DX	F1321	Sedative, hypnotic or anxiolytic depende
ICD10DX	F13220	Sedatv/hyp/anxiolytc dependence w intoxi
ICD10DX	F13221	Sedatv/hyp/anxiolytc dependence w intoxi
ICD10DX	F13229	Sedatv/hyp/anxiolytc dependence w intoxi
ICD10DX	F13230	Sedatv/hyp/anxiolytc dependence w withdr
ICD10DX	F13231	Sedatv/hyp/anxiolytc dependence w withdr
ICD10DX	F13232	Sedatv/hyp/anxiolytc depend w w/drawal w
ICD10DX	F13239	Sedatv/hyp/anxiolytc dependence w withdr

Type	Code	Description
ICD10DX	F1324	Sedative, hypnotic or anxiolytic depende
ICD10DX	F13250	Sedatv/hyp/anxiolytc depend w psychotic
ICD10DX	F13251	Sedatv/hyp/anxiolytc depend w psychotic
ICD10DX	F13259	Sedatv/hyp/anxiolytc dependence w psycho
ICD10DX	F1326	Sedatv/hyp/anxiolytc depend w persisting
ICD10DX	F1327	Sedatv/hyp/anxiolytc dependence w persis
ICD10DX	F13280	Sedatv/hyp/anxiolytc dependence w anxiet
ICD10DX	F13281	Sedatv/hyp/anxiolytc dependence w sexual
ICD10DX	F13282	Sedative, hypnotic or anxiolytic depende
ICD10DX	F13288	Sedative, hypnotic or anxiolytic depende
ICD10DX	F1329	Sedative, hypnotic or anxiolytic depende
ICD10DX	F1390	Sedative, hypnotic, or anxiolytic use, u
ICD10DX	F13920	Sedatv/hyp/anxiolytc use, unsp w intoxic
ICD10DX	F13921	Sedatv/hyp/anxiolytc use, unsp w intoxic
ICD10DX	F13929	Sedatv/hyp/anxiolytc use, unsp w intoxic
ICD10DX	F13930	Sedatv/hyp/anxiolytc use, unsp w withdra
ICD10DX	F13931	Sedatv/hyp/anxiolytc use, unsp w withdra
ICD10DX	F13932	Sedatv/hyp/anxiolytc use, unsp w w/drawa
ICD10DX	F13939	Sedatv/hyp/anxiolytc use, unsp w withdra
ICD10DX	F1394	Sedative, hypnotic or anxiolytic use, un
ICD10DX	F13950	Sedatv/hyp/anxiolytc use, unsp w psych d
ICD10DX	F13951	Sedatv/hyp/anxiolytc use, unsp w psych d
ICD10DX	F13959	Sedatv/hyp/anxiolytc use, unsp w psychot
ICD10DX	F1396	Sedatv/hyp/anxiolytc use, unsp w persist
ICD10DX	F1397	Sedatv/hyp/anxiolytc use, unsp w persist
ICD10DX	F13980	Sedatv/hyp/anxiolytc use, unsp w anxiety
ICD10DX	F13981	Sedatv/hyp/anxiolytc use, unsp w sexual
ICD10DX	F13982	Sedative, hypnotic or anxiolytic use, un
ICD10DX	F13988	Sedative, hypnotic or anxiolytic use, un
ICD10DX	F1399	Sedative, hypnotic or anxiolytic use, un
ICD10DX	F1410	Cocaine abuse, uncomplicated
ICD10DX	F14120	Cocaine abuse with intoxication, uncompl
ICD10DX	F14121	Cocaine abuse with intoxication with del
ICD10DX	F14122	Cocaine abuse with intoxication with per
ICD10DX	F14129	Cocaine abuse with intoxication, unspeci
ICD10DX	F1414	Cocaine abuse with cocaine-induced mood
ICD10DX	F14150	Cocaine abuse w cocaine-induc psychotic
ICD10DX	F14151	Cocaine abuse w cocaine-induc psychotic
ICD10DX	F14159	Cocaine abuse with cocaine-induced psych
ICD10DX	F14180	Cocaine abuse with cocaine-induced anxie
ICD10DX	F14181	Cocaine abuse with cocaine-induced sexua
ICD10DX	F14182	Cocaine abuse with cocaine-induced sleep
ICD10DX	F14188	Cocaine abuse with other cocaine-induced
ICD10DX	F1419	Cocaine abuse with unspecified cocaine-i
ICD10DX	F1420	Cocaine dependence, uncomplicated
ICD10DX	F1421	Cocaine dependence, in remission
ICD10DX	F14220	Cocaine dependence with intoxication, un
ICD10DX	F14221	Cocaine dependence with intoxication del
ICD10DX	F14222	Cocaine dependence w intoxication w perc

Type	Code	Description
ICD10DX	F14229	Cocaine dependence with intoxication, un
ICD10DX	F1423	Cocaine dependence with withdrawal
ICD10DX	F1424	Cocaine dependence with cocaine-induced
ICD10DX	F14250	Cocaine depend w cocaine-induc psych dis
ICD10DX	F14251	Cocaine depend w cocaine-induc psychotic
ICD10DX	F14259	Cocaine dependence w cocaine-induc psych
ICD10DX	F14280	Cocaine dependence with cocaine-induced
ICD10DX	F14281	Cocaine dependence with cocaine-induced
ICD10DX	F14282	Cocaine dependence with cocaine-induced
ICD10DX	F14288	Cocaine dependence with other cocaine-in
ICD10DX	F1429	Cocaine dependence with unspecified coca
ICD10DX	F1490	Cocaine use, unspecified, uncomplicated
ICD10DX	F14920	Cocaine use, unspecified with intoxicati
ICD10DX	F14921	Cocaine use, unspecified with intoxicati
ICD10DX	F14922	Cocaine use, unsp w intoxication with pe
ICD10DX	F14929	Cocaine use, unspecified with intoxicati
ICD10DX	F1494	Cocaine use, unspecified with cocaine-in
ICD10DX	F14950	Cocaine use, unsp w cocaine-induc psych
ICD10DX	F14951	Cocaine use, unsp w cocaine-induc psych
ICD10DX	F14959	Cocaine use, unsp w cocaine-induced psyc
ICD10DX	F14980	Cocaine use, unsp with cocaine-induced a
ICD10DX	F14981	Cocaine use, unsp with cocaine-induced s
ICD10DX	F14982	Cocaine use, unspecified with cocaine-in
ICD10DX	F14988	Cocaine use, unspecified with other coca
ICD10DX	F1499	Cocaine use, unsp with unspecified cocai
ICD10DX	F1510	Other stimulant abuse, uncomplicated
ICD10DX	F15120	Other stimulant abuse with intoxication,
ICD10DX	F15121	Other stimulant abuse with intoxication
ICD10DX	F15122	Oth stimulant abuse w intoxication w per
ICD10DX	F15129	Other stimulant abuse with intoxication,
ICD10DX	F1514	Other stimulant abuse with stimulant-ind
ICD10DX	F15150	Oth stimulant abuse w stim-induce psych
ICD10DX	F15151	Oth stimulant abuse w stim-induce psych
ICD10DX	F15159	Oth stimulant abuse w stim-induce psycho
ICD10DX	F15180	Oth stimulant abuse with stimulant-induc
ICD10DX	F15181	Oth stimulant abuse w stimulant-induced
ICD10DX	F15182	Other stimulant abuse with stimulant-ind
ICD10DX	F15188	Other stimulant abuse with other stimula
ICD10DX	F1519	Other stimulant abuse with unsp stimulan
ICD10DX	F1520	Other stimulant dependence, uncomplicate
ICD10DX	F1521	Other stimulant dependence, in remission
ICD10DX	F15220	Other stimulant dependence with intoxica
ICD10DX	F15221	Other stimulant dependence with intoxica
ICD10DX	F15222	Oth stimulant dependence w intox w perce
ICD10DX	F15229	Other stimulant dependence with intoxica
ICD10DX	F1523	Other stimulant dependence with withdraw
ICD10DX	F1524	Oth stimulant dependence w stimulant-ind
ICD10DX	F15250	Oth stim depend w stim-induce psych diso
ICD10DX	F15251	Oth stimulant depend w stim-induce psych

Type	Code	Description
ICD10DX	F15259	Oth stimulant depend w stim-induce psych
ICD10DX	F15280	Oth stimulant dependence w stim-induce a
ICD10DX	F15281	Oth stimulant dependence w stim-induce s
ICD10DX	F15282	Oth stimulant dependence w stimulant-ind
ICD10DX	F15288	Oth stimulant dependence with oth stimul
ICD10DX	F1529	Oth stimulant dependence w unsp stimulan
ICD10DX	F1590	Other stimulant use, unspecified, uncomp
ICD10DX	F15920	Other stimulant use, unsp with intoxicat
ICD10DX	F15921	Other stimulant use, unspecified with in
ICD10DX	F15922	Oth stimulant use, unsp w intox w percep
ICD10DX	F15929	Other stimulant use, unsp with intoxicat
ICD10DX	F1593	Other stimulant use, unspecified with wi
ICD10DX	F1594	Oth stimulant use, unsp with stimulant-i
ICD10DX	F15950	Oth stim use, unsp w stim-induce psych d
ICD10DX	F15951	Oth stim use, unsp w stim-induce psych d
ICD10DX	F15959	Oth stimulant use, unsp w stim-induce ps
ICD10DX	F15980	Oth stimulant use, unsp w stimulant-indu
ICD10DX	F15981	Oth stimulant use, unsp w stim-induce se
ICD10DX	F15982	Oth stimulant use, unsp w stimulant-indu
ICD10DX	F15988	Oth stimulant use, unsp with oth stimula
ICD10DX	F1599	Oth stimulant use, unsp with unsp stimul
ICD10DX	F1610	Hallucinogen abuse, uncomplicated
ICD10DX	F16120	Hallucinogen abuse with intoxication, un
ICD10DX	F16121	Hallucinogen abuse with intoxication wit
ICD10DX	F16122	Hallucinogen abuse w intoxication w perc
ICD10DX	F16129	Hallucinogen abuse with intoxication, un
ICD10DX	F1614	Hallucinogen abuse with hallucinogen-ind
ICD10DX	F16150	Hallucinogen abuse w psychotic disorder
ICD10DX	F16151	Hallucinogen abuse w psychotic disorder
ICD10DX	F16159	Hallucinogen abuse w psychotic disorder,
ICD10DX	F16180	Hallucinogen abuse w hallucinogen-induce
ICD10DX	F16183	Hallucign abuse w hallucign persisting p
ICD10DX	F16188	Hallucinogen abuse with other hallucinog
ICD10DX	F1619	Hallucinogen abuse with unsp hallucinoge
ICD10DX	F1620	Hallucinogen dependence, uncomplicated
ICD10DX	F1621	Hallucinogen dependence, in remission
ICD10DX	F16220	Hallucinogen dependence with intoxicatio
ICD10DX	F16221	Hallucinogen dependence with intoxicatio
ICD10DX	F16229	Hallucinogen dependence with intoxicatio
ICD10DX	F1624	Hallucinogen dependence w hallucinogen-i
ICD10DX	F16250	Hallucinogen dependence w psychotic diso
ICD10DX	F16251	Hallucinogen dependence w psychotic diso
ICD10DX	F16259	Hallucinogen dependence w psychotic diso
ICD10DX	F16280	Hallucinogen dependence w anxiety disord
ICD10DX	F16283	Hallucign depend w hallucign persisting
ICD10DX	F16288	Hallucinogen dependence w oth hallucinog
ICD10DX	F1629	Hallucinogen dependence w unsp hallucino
ICD10DX	F1690	Hallucinogen use, unspecified, uncomplic
ICD10DX	F16920	Hallucinogen use, unsp with intoxication

Type	Code	Description
ICD10DX	F16921	Hallucinogen use, unsp with intoxication
ICD10DX	F16929	Hallucinogen use, unspecified with intox
ICD10DX	F1694	Hallucinogen use, unsp w hallucinogen-in
ICD10DX	F16950	Hallucinogen use, unsp w psychotic disor
ICD10DX	F16951	Hallucinogen use, unsp w psychotic disor
ICD10DX	F16959	Hallucinogen use, unsp w psychotic disor
ICD10DX	F16980	Hallucinogen use, unsp w anxiety disorde
ICD10DX	F16983	Hallucign use, unsp w hallucign persist
ICD10DX	F16988	Hallucinogen use, unsp w oth hallucinoge
ICD10DX	F1699	Hallucinogen use, unsp w unsp hallucinog
ICD10DX	F1810	Inhalant abuse, uncomplicated
ICD10DX	F18120	Inhalant abuse with intoxication, uncomp
ICD10DX	F18121	Inhalant abuse with intoxication deliriu
ICD10DX	F18129	Inhalant abuse with intoxication, unspec
ICD10DX	F1814	Inhalant abuse with inhalant-induced moo
ICD10DX	F18150	Inhalant abuse w inhalnt-induce psych di
ICD10DX	F18151	Inhalant abuse w inhalnt-induce psych di
ICD10DX	F18159	Inhalant abuse w inhalant-induced psycho
ICD10DX	F1817	Inhalant abuse with inhalant-induced dem
ICD10DX	F18180	Inhalant abuse with inhalant-induced anx
ICD10DX	F18188	Inhalant abuse with other inhalant-induc
ICD10DX	F1819	Inhalant abuse with unspecified inhalant
ICD10DX	F1820	Inhalant dependence, uncomplicated
ICD10DX	F1821	Inhalant dependence, in remission
ICD10DX	F18220	Inhalant dependence with intoxication, u
ICD10DX	F18221	Inhalant dependence with intoxication de
ICD10DX	F18229	Inhalant dependence with intoxication, u
ICD10DX	F1824	Inhalant dependence with inhalant-induce
ICD10DX	F18250	Inhalant depend w inhalnt-induce psych d
ICD10DX	F18251	Inhalant depend w inhalnt-induce psych d
ICD10DX	F18259	Inhalant depend w inhalnt-induce psychot
ICD10DX	F1827	Inhalant dependence with inhalant-induce
ICD10DX	F18280	Inhalant dependence with inhalant-induce
ICD10DX	F18288	Inhalant dependence with other inhalant-
ICD10DX	F1829	Inhalant dependence with unsp inhalant-i
ICD10DX	F1890	Inhalant use, unspecified, uncomplicated
ICD10DX	F18920	Inhalant use, unspecified with intoxicat
ICD10DX	F18921	Inhalant use, unspecified with intoxicat
ICD10DX	F18929	Inhalant use, unspecified with intoxicat
ICD10DX	F1894	Inhalant use, unsp with inhalant-induced
ICD10DX	F18950	Inhalant use, unsp w inhalnt-induce psyc
ICD10DX	F18951	Inhalant use, unsp w inhalnt-induce psyc
ICD10DX	F18959	Inhalant use, unsp w inhalnt-induce psyc
ICD10DX	F1897	Inhalant use, unsp with inhalant-induced
ICD10DX	F18980	Inhalant use, unsp with inhalant-induced
ICD10DX	F18988	Inhalant use, unsp with other inhalant-i
ICD10DX	F1899	Inhalant use, unsp with unsp inhalant-in
ICD10DX	F1910	Other psychoactive substance abuse, unco
ICD10DX	F19120	Oth psychoactive substance abuse w intox

Type	Code	Description
ICD10DX	F19121	Oth psychoactive substance abuse with in
ICD10DX	F19122	Oth psychoactv substance abuse w intox w
ICD10DX	F19129	Other psychoactive substance abuse with
ICD10DX	F1914	Oth psychoactive substance abuse w mood
ICD10DX	F19150	Oth psychoactv substance abuse w psych d
ICD10DX	F19151	Oth psychoactv substance abuse w psych d
ICD10DX	F19159	Oth psychoactive substance abuse w psych
ICD10DX	F1916	Oth psychoactv substance abuse w persist
ICD10DX	F1917	Oth psychoactive substance abuse w persi
ICD10DX	F19180	Oth psychoactive substance abuse w anxie
ICD10DX	F19181	Oth psychoactive substance abuse w sexua
ICD10DX	F19182	Oth psychoactive substance abuse w sleep
ICD10DX	F19188	Oth psychoactive substance abuse w oth d
ICD10DX	F1919	Oth psychoactive substance abuse w unsp
ICD10DX	F1920	Other psychoactive substance dependence,
ICD10DX	F1921	Other psychoactive substance dependence,
ICD10DX	F19220	Oth psychoactive substance dependence w
ICD10DX	F19221	Oth psychoactive substance dependence w
ICD10DX	F19222	Oth psychoactv substance depend w intox
ICD10DX	F19229	Oth psychoactive substance dependence w
ICD10DX	F19230	Oth psychoactive substance dependence w
ICD10DX	F19231	Oth psychoactive substance dependence w
ICD10DX	F19232	Oth psychoactv sub depend w w/drawal w p
ICD10DX	F19239	Oth psychoactive substance dependence wi
ICD10DX	F1924	Oth psychoactive substance dependence w
ICD10DX	F19250	Oth psychoactv substance depend w psych
ICD10DX	F19251	Oth psychoactv substance depend w psych
ICD10DX	F19259	Oth psychoactv substance depend w psycho
ICD10DX	F1926	Oth psychoactv substance depend w persis
ICD10DX	F1927	Oth psychoactive substance dependence w
ICD10DX	F19280	Oth psychoactive substance dependence w
ICD10DX	F19281	Oth psychoactive substance dependence w
ICD10DX	F19282	Oth psychoactive substance dependence w
ICD10DX	F19288	Oth psychoactive substance dependence w
ICD10DX	F1929	Oth psychoactive substance dependence w
ICD10DX	F1990	Other psychoactive substance use, unspec
ICD10DX	F19920	Oth psychoactive substance use, unsp w i
ICD10DX	F19921	Oth psychoactive substance use, unsp w i
ICD10DX	F19922	Oth psychoactv sub use, unsp w intox w p
ICD10DX	F19929	Oth psychoactive substance use, unsp wit
ICD10DX	F19930	Oth psychoactive substance use, unsp w w
ICD10DX	F19931	Oth psychoactive substance use, unsp w w
ICD10DX	F19932	Oth psychoactv sub use, unsp w w/drawal
ICD10DX	F19939	Other psychoactive substance use, unsp w
ICD10DX	F1994	Oth psychoactive substance use, unsp w m
ICD10DX	F19950	Oth psychoactv sub use, unsp w psych dis
ICD10DX	F19951	Oth psychoactv sub use, unsp w psych dis
ICD10DX	F19959	Oth psychoactv substance use, unsp w psy
ICD10DX	F1996	Oth psychoactv sub use, unsp w persist a

Type	Code	Description
ICD10DX	F1997	Oth psychoactive substance use, unsp w p
ICD10DX	F19980	Oth psychoactive substance use, unsp w a
ICD10DX	F19981	Oth psychoactive substance use, unsp w s
ICD10DX	F19982	Oth psychoactive substance use, unsp w s
ICD10DX	F19988	Oth psychoactive substance use, unsp w o
ICD10DX	F1999	Oth psychoactive substance use, unsp w u
ICD10DX	F550	Abuse of antacids
ICD10DX	F551	Abuse of herbal or folk remedies
ICD10DX	F552	Abuse of laxatives
ICD10DX	F553	Abuse of steroids or hormones
ICD10DX	F554	Abuse of vitamins
ICD10DX	F558	Abuse of other non-psychoactive substanc
ICD10DX	G312	Degeneration of nervous system due to al
ICD10DX	G720	Drug-induced myopathy
ICD10DX	G721	Alcoholic myopathy
ICD10DX	K2920	Alcoholic gastritis without bleeding
ICD10DX	K2921	Alcoholic gastritis with bleeding
ICD10DX	K700	Alcoholic fatty liver
ICD10DX	K7010	Alcoholic hepatitis without ascites
ICD10DX	K7011	Alcoholic hepatitis with ascites
ICD10DX	K702	Alcoholic fibrosis and sclerosis of live
ICD10DX	K7030	Alcoholic cirrhosis of liver without asc
ICD10DX	K7031	Alcoholic cirrhosis of liver with ascite
ICD10DX	K7040	Alcoholic hepatic failure without coma
ICD10DX	K7041	Alcoholic hepatic failure with coma
ICD10DX	K709	Alcoholic liver disease, unspecified
ICD10DX	O99320	Drug use complicating pregnancy, unspeci
ICD10DX	O99321	Drug use complicating pregnancy, first t
ICD10DX	O99322	Drug use complicating pregnancy, second
ICD10DX	O99323	Drug use complicating pregnancy, third t
ICD10DX	O99324	Drug use complicating childbirth
ICD10DX	O99325	Drug use complicating the puerperium
ICD10DX	P043	Newborn affected by maternal use of alco
ICD10DX	P0441	Newborn affected by maternal use of coca
ICD10DX	P0449	Newborn affected by maternal use of drug
ICD10DX	P962	Withdrawal symptoms from therapeutic use
ICD10DX	Q860	Fetal alcohol syndrome (dysmorphic)
ICD10DX	T401x4S	Poisoning by heroin, undetermined, seque
ICD10DX	T402x4S	Poisoning by other opioids, undetermined
ICD10DX	T403x4S	Poisoning by methadone, undetermined, se
ICD10DX	T404x4S	Poisoning by oth synthetic narcotics, un
ICD10DX	T405x1A	Poisoning by cocaine, accidental (uninte
ICD10DX	T405x4A	Poisoning by cocaine, undetermined, init
ICD10DX	T405x4S	Poisoning by cocaine, undetermined, sequ
ICD10DX	T405x5A	Adverse effect of cocaine, initial encou
ICD10DX	T405x5S	Adverse effect of cocaine, sequela
ICD10DX	T40604A	Poisoning by unsp narcotics, undetermine
ICD10DX	T40604S	Poisoning by unspecified narcotics, unde
ICD10DX	T40694A	Poisoning by other narcotics, undetermin

Type	Code	Description
ICD10DX	T40694S	Poisoning by other narcotics, undetermin
ICD10DX	T407x1A	Poisoning by cannabis (derivatives), acc
ICD10DX	T407x4S	Poisoning by cannabis (derivatives), und
ICD10DX	T408x1A	Poisoning by lysergide, accidental (unin
ICD10DX	T408x4S	Poisoning by lysergide ?LSD?, undetermin
ICD10DX	T40901A	Poisoning by unsp psychodyslept, acciden
ICD10DX	T40991A	Poisoning by oth psychodyslept, accident
ICD10DX	T43601A	Poisoning by unsp psychostim, accidental
ICD10DX	T510x1A	Toxic effect of ethanol, accidental (uni
ICD10DX	T510X2A	Toxic effect of ethanol, intentional sel
ICD10DX	T510X3A	Toxic effect of ethanol, assault, initia
ICD10DX	T510X4A	Toxic effect of ethanol, undetermined, i
ICD10DX	T511X1A	Toxic effect of methanol, accidental (un
ICD10DX	T511X2A	Toxic effect of methanol, intentional se
ICD10DX	T511X3A	Toxic effect of methanol, assault, initi
ICD10DX	T511X4A	Toxic effect of methanol, undetermined,
ICD10DX	T518x1D	Toxic effect of alcohols, accidental (un
ICD10DX	T518x2D	Toxic effect of oth alcohols, intentiona
ICD10DX	T518x3D	Toxic effect of other alcohols, assault,
ICD10DX	T518x4D	Toxic effect of other alcohols, undeterm
ICD10DX	T5191XA	Toxic effect of unsp alcohol, accidental
ICD10DX	T5191xD	Toxic effect of unsp alcohol, accidental
ICD10DX	T5192XA	Toxic effect of unsp alcohol, intentiona
ICD10DX	T5192xD	Toxic effect of unsp alcohol, intentiona
ICD10DX	T5193XA	Toxic effect of unspecified alcohol, ass
ICD10DX	T5193xD	Toxic effect of unspecified alcohol, ass
ICD10DX	T5194XA	Toxic effect of unsp alcohol, undetermin
ICD10DX	T5194xD	Toxic effect of unsp alcohol, undetermin
ICD10DX	Z6372	Alcoholism and drug addiction in family
ICD10DX	Z7141	Alcohol abuse counseling and surveillanc
ICD10DX	Z7142	Counseling for family member of alcoholi
ICD10DX	Z7151	Drug abuse counseling and surveillance o
ICD10DX	Z7152	Counseling for family member of drug abu
ICD10DX	Z811	Family history of alcohol abuse and depe
ICD10DX	Z813	Family history of psychoactv substance a
ICD10DX	Z814	Family history of other substance abuse
ICD10Proc	HZ2ZZZZ	Detoxification Services for Substance Ab
ICD10Proc	HZ30ZZZ	Indiv Counsel for Substance Abuse Treatm
ICD10Proc	HZ31ZZZ	Indiv Counsel for Substance Abuse Treatm
ICD10Proc	HZ32ZZZ	Indiv Counsel for Substance Abuse, Cogni
ICD10Proc	HZ33ZZZ	Individual Counseling for Substance Abus
ICD10Proc	HZ34ZZZ	Indiv Counsel for Substance Abuse Treatm
ICD10Proc	HZ35ZZZ	Indiv Counsel for Substance Abuse Treatm
ICD10Proc	HZ36ZZZ	Indiv Counsel for Substance Abuse Treatm
ICD10Proc	HZ37ZZZ	Indiv Counsel for Substance Abuse, Motiv
ICD10Proc	HZ38ZZZ	Indiv Counsel for Substance Abuse Treatm
ICD10Proc	HZ39ZZZ	Indiv Counsel for Substance Abuse Treatm
ICD10Proc	HZ3BZZZ	Indiv Counsel for Substance Abuse Treatm
ICD10Proc	HZ40ZZZ	Group Counseling for Substance Abuse Tre

Type	Code	Description
ICD10Proc	HZ41ZZZ	Group Counseling for Substance Abuse Tre
ICD10Proc	HZ42ZZZ	Group Counsel for Substance Abuse, Cogni
ICD10Proc	HZ43ZZZ	Group Counseling for Substance Abuse Tre
ICD10Proc	HZ44ZZZ	Group Counsel for Substance Abuse Treatm
ICD10Proc	HZ45ZZZ	Group Counseling for Substance Abuse Tre
ICD10Proc	HZ46ZZZ	Group Counsel for Substance Abuse Treatm
ICD10Proc	HZ47ZZZ	Group Counsel for Substance Abuse, Motiv
ICD10Proc	HZ48ZZZ	Group Counsel for Substance Abuse Treatm
ICD10Proc	HZ49ZZZ	Group Counsel for Substance Abuse Treatm
ICD10Proc	HZ4BZZZ	Group Counseling for Substance Abuse Tre
ICD10Proc	HZ93ZZZ	Pharmacotherapy for Substance Abuse Trea
ICD10Proc	HZ96ZZZ	Pharmacotherapy for Substance Abuse Trea
Rev_Code	0116	Detoxification Room and Board - Private
Rev_Code	0126	Detoxification Room and Board - Semi-Private 2Bed
Rev_Code	0136	Detoxification Room and Board - Semi-Private 3&4Bed
Rev_Code	0146	Detoxification Room and Board - Private Deluxe
Rev_Code	0156	Detoxification Room and Board - Ward 5 or more Beds
Rev_Code	0906	Psychiatric/Psychological Trt: Intensive out serv - chem dep
Rev_Code	0944	Other Therapeutic Services - Drug Rehabilitation
Rev_Code	0945	Other Therapeutic Services - Alcohol Rehabilitation
Rev_Code	1002	Behavior Health R&B - Residential Chemical Dependency
POS_CD	55	A facility which provides treatment for substance (alcohol and drug) abuse to live-in residents who do not require acute medical care. Services include individual and group therapy and counseling, family counseling, laboratory tests, medications and supplies, psychological testing, and room and board.
POS_CD	57	A location which provides treatment for substance (alcohol and drug) abuse on an ambulatory basis. Services include individual and group therapy and counseling, family counseling, laboratory tests, medications and supplies, and psychological testing
PROC_MOD_1_CD	HF	Substance Abuse Services, as determined by the provider.
PROC_MOD_2_CD	HF	Substance Abuse Services, as determined by the provider.
PROC_MOD_3_CD	HF	Substance Abuse Services, as determined by the provider.
PROC_MOD_4_CD	HF	Substance Abuse Services, as determined by the provider.
BILL_PROV_TYP_CD	64	Substance Use Disorder - Clinics
REND_PROV_TYP_CD	64	Substance Use Disorder - Clinics
BILL_PROV_SPCLTY_CD	113	BI Substance Abuse Counseling
REND_PROV_SPCLTY_CD	113	BI Substance Abuse Counseling
BILL_PROV_SPCLTY_CD	182	OP Substance Abuse Benefit
REND_PROV_SPCLTY_CD	182	OP Substance Abuse Benefit
BILL_PROV_SPCLTY_CD	399	Substance Use Disorder - Individuals
REND_PROV_SPCLTY_CD	399	Substance Use Disorder - Individuals
BILL_PROV_SPCLTY_CD	477	Substance Use Disorder - Clinics
REND_PROV_SPCLTY_CD	477	Substance Use Disorder - Clinics
BILL_PROV_TYP_CD	63	Substance Use Disorder - Individuals
REND_PROV_TYP_CD	63	Substance Use Disorder - Individuals
BILL_PROV_SPCLTY_CD	678	Substance Abuse Counseling BI

Type	Code	Description
REND_PROV_SPCLTY_CD	678	Substance Abuse Counseling BI
BILL_PROV_SPCLTY_CD	711	Substance Abuse Counseling CCT-DD/SLS
REND_PROV_SPCLTY_CD	711	Substance Abuse Counseling CCT-DD/SLS

C. Exhibit C – Risk Adjustment Factors

Behavioral Health Risk Factors

BH Episode Count	Factor
0	1.00
1+	1.30

Chronic Condition Comorbidity Risk Factors

Procedural Episode	Chronic Episodes	Final Risk Score
Bariatric Surgery	0	1.00
Bariatric Surgery	1	1.00
Bariatric Surgery	2	1.00
Bariatric Surgery	3	1.00
Bariatric Surgery	4+	1.00
Breast Biopsy	0	1.00
Breast Biopsy	1	1.00
Breast Biopsy	2	1.00
Breast Biopsy	3	1.00
Breast Biopsy	4+	1.00
C-Section	0	1.00
C-Section	1	1.78
C-Section	2	1.78
C-Section	3	3.22
C-Section	4+	3.22
CABG &/or Valve Procedures	0	1.00
CABG &/or Valve Procedures	1	1.00
CABG &/or Valve Procedures	2	1.00
CABG &/or Valve Procedures	3	1.00
CABG &/or Valve Procedures	4+	1.00
Cataract Surgery	0	1.00
Cataract Surgery	1	1.00
Cataract Surgery	2	1.00
Cataract Surgery	3	1.00
Cataract Surgery	4+	1.00
Colonoscopy	0	1.00
Colonoscopy	1	1.46
Colonoscopy	2	2.75
Colonoscopy	3	3.41

Procedural Episode	Chronic Episodes	Final Risk Score
Colonoscopy	4+	3.53
Colorectal Resection	0	1.00
Colorectal Resection	1	1.14
Colorectal Resection	2	1.14
Colorectal Resection	3	1.60
Colorectal Resection	4+	1.60
Coronary Angioplasty	0	1.00
Coronary Angioplasty	1	1.98
Coronary Angioplasty	2	1.98
Coronary Angioplasty	3	4.02
Coronary Angioplasty	4+	4.02
Gall Bladder Surgery	0	1.00
Gall Bladder Surgery	1	1.41
Gall Bladder Surgery	2	1.41
Gall Bladder Surgery	3	2.41
Gall Bladder Surgery	4+	3.59
Hip Replacement & Hip Revision	0	1.00
Hip Replacement & Hip Revision	1	1.00
Hip Replacement & Hip Revision	2	1.00
Hip Replacement & Hip Revision	3	1.00
Hip Replacement & Hip Revision	4+	1.00
Hysterectomy	0	1.00
Hysterectomy	1	1.04
Hysterectomy	2	1.52
Hysterectomy	3	1.58
Hysterectomy	4+	1.90
Knee Arthroscopy	0	1.00
Knee Arthroscopy	1	1.24
Knee Arthroscopy	2	2.38
Knee Arthroscopy	3	2.38
Knee Arthroscopy	4+	7.41
Knee Replacement & Knee Revision	0	1.00
Knee Replacement & Knee Revision	1	1.00
Knee Replacement & Knee Revision	2	1.00
Knee Replacement & Knee Revision	3	1.00
Knee Replacement & Knee Revision	4+	1.65
Lumbar Laminectomy	0	1.00
Lumbar Laminectomy	1	1.00

Procedural Episode	Chronic Episodes	Final Risk Score
Lumbar Laminectomy	2	1.00
Lumbar Laminectomy	3	1.00
Lumbar Laminectomy	4+	1.00
Lumbar Spine Fusion	0	
Lumbar Spine Fusion	1	1.00
Lumbar Spine Fusion	2	1.00
Lumbar Spine Fusion	3	1.00
Lumbar Spine Fusion	4+	2.98
Lung Resection	0	1.00
Lung Resection	1	1.00
Lung Resection	2	1.00
Lung Resection	3	1.00
Lung Resection	4+	1.00
Mastectomy	0	1.00
Mastectomy	1	1.00
Mastectomy	2	1.00
Mastectomy	3	1.00
Mastectomy	4+	1.00
Pacemaker / Defibrillator	0	1.00
Pacemaker / Defibrillator	1	1.00
Pacemaker / Defibrillator	2	1.00
Pacemaker / Defibrillator	3	1.00
Pacemaker / Defibrillator	4+	1.00
Prostatectomy	0	1.00
Prostatectomy	1	1.00
Prostatectomy	2	1.00
Prostatectomy	3	1.00
Prostatectomy	4+	1.00
Shoulder Replacement	0	1.00
Shoulder Replacement	1	1.00
Shoulder Replacement	2	1.00
Shoulder Replacement	3	1.00
Shoulder Replacement	4+	1.00
Tonsillectomy	0	1.00
Tonsillectomy	1	1.00
Tonsillectomy	2	1.00
Tonsillectomy	3	1.00
Tonsillectomy	4+	1.00
Transurethral resection prostate	0	1.00
Transurethral resection prostate	1	1.00
Transurethral resection prostate	2	1.00
Transurethral resection prostate	3	1.00

Procedural Episode	Chronic Episodes	Final Risk Score
Transurethral resection prostate	4+	1.00
Upper GI Endoscopy	0	1.00
Upper GI Endoscopy	1	1.00
Upper GI Endoscopy	2	1.00
Upper GI Endoscopy	3	1.00
Upper GI Endoscopy	4+	1.00
Vaginal Delivery	0	1.00
Vaginal Delivery	1	1.90
Vaginal Delivery	2	1.90
Vaginal Delivery	3	1.90
Vaginal Delivery	4+	3.03