

Care Improvement Opportunity Tool

Hospital Index Dashboard Users Guide

Last updated: June 27, 2022



CHASE

Colorado Healthcare Affordability and
Sustainability Enterprise

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I. Background

Optumas has run both fee-for-service (FFS) claims and managed care encounters, with incurred dates from SFY16 - SFY21, 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).

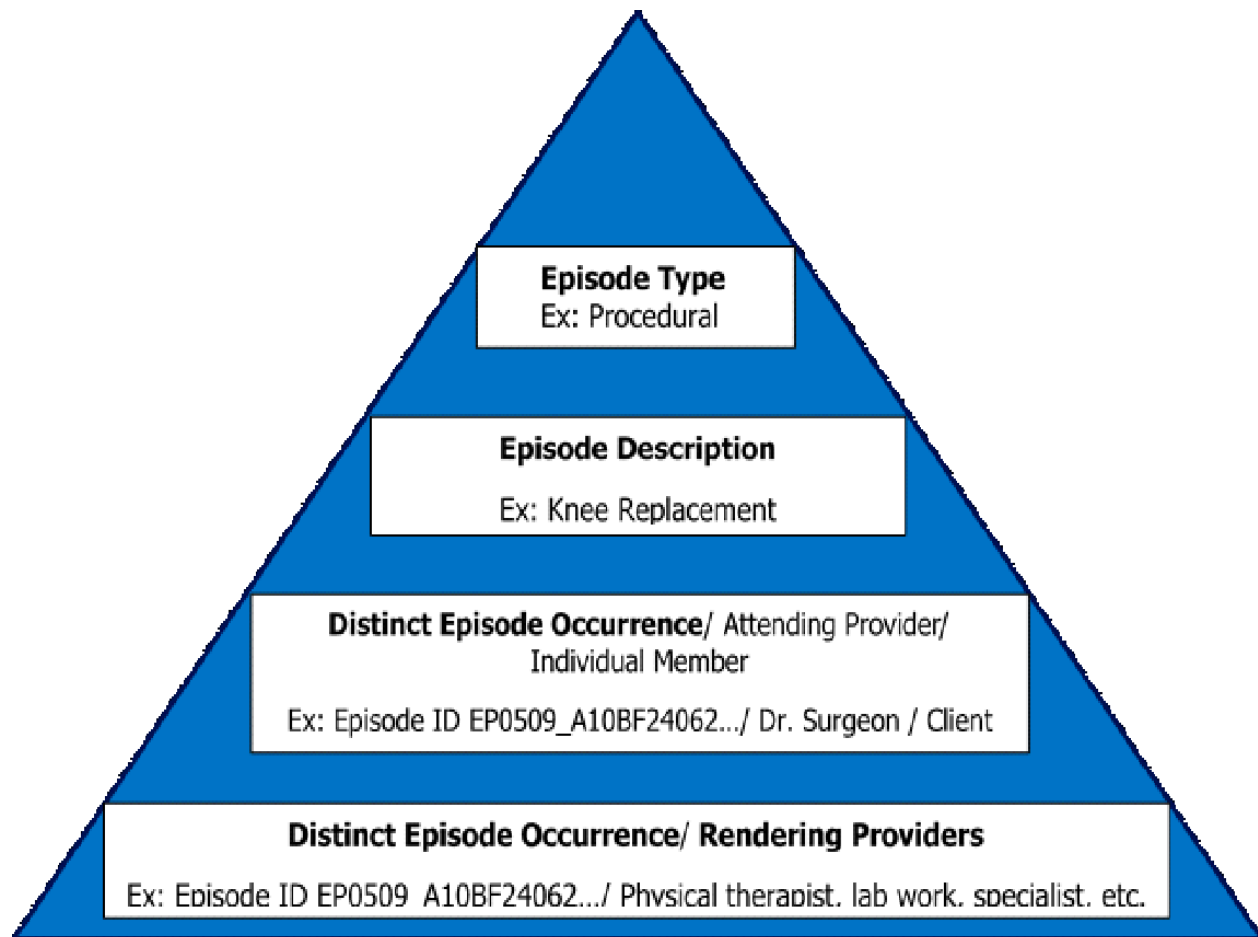
The results from the CIOT can be used in actuarial, clinical, contractual, and operational settings. Optumas has been working with HCPF to analyze AAE rates and the distribution thereof among the 43 different episodes for various programs and provider groups within Colorado Medicaid. The CIOT groups 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** - avoidable complications for the episode
Directly due to the condition/treatment, such as wound infection after surgery
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 - Pharmacy considered typical service unless it's related to a potentially avoidable hospitalization.

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

Associations - Episodes are related to one another through defined clinical associations

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

- Never require multiple diagnosis codes to trigger
- Sufficient procedure codes do not need to be accompanied by diagnosis code

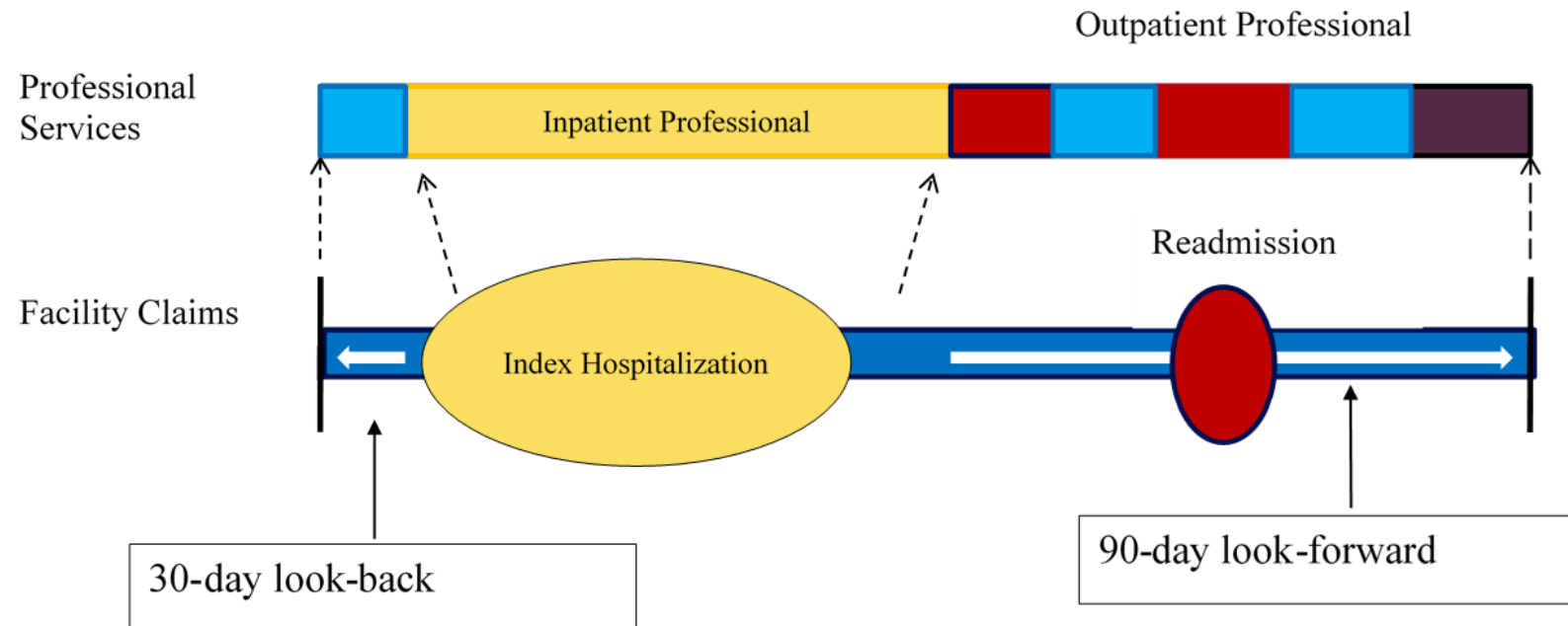
Confirmation Claim - Pharmacy or Evaluation & Management claim (E&M) claim with a relevant diagnosis code → required because providers sometimes utilize temporary diagnosis codes on claims while they are ruling out potential diagnoses → do not want to consider the process of ruling out diagnosis same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

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.)
 - ✓ Identified on outpatient and professional claims and encounters

IV. Assembling Components for Inpatient Procedural Episode



Key:



Claims for Adverse Actionable Events



Claims for typical care and services



Irrelevant

V. Episode Associations

- Subsumed episode costs retain their typical/AAE designation
- Timing and order of events are used to identify associations in addition to clinical relevance
- Episode to episode associations for all episodes can be found in [Exhibit A - Episode Associations](#)

VI. 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](#).

A. 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)

B. 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

C. Pregnancy Episode Triggers

- Pregnancy episode is only triggered by the presence of a delivery episode. All delivery episodes automatically trigger a pregnancy episode
- Episode window for maternity episodes
 - ✓ Look-back period: 300 days prior to delivery trigger date
 - ✓ Look-forward period: No look-forward period
- Pregnancy can be looked at separately or in conjunction with the delivery

Episode	Look-Back	Look-Forward	Age Range	Maximum Eligibility Gap
PREGN	300 days	0 days	12-65	>30 days
VAGDEL	3 days	60 days	12-65	>0 days
C-SECT	3 days	60 days	12-65	>0 days

- Episodes are created but are filtered for analysis; general rule is episodes >90 days in duration allow up to a 30-day gap, episodes < 90 days in duration do not allow any gap
- **Most** other procedures and chronic conditions are **18-65 age limit**
- Exhibit B in the Appendix includes parameters for procedural episodes

VII. Procedural Episode Definitions and Descriptions

Click the links below to access the procedural episode definitions online:

[Bariatric Surgery](#)

[Breast Biopsy](#)

[CABG &/or Valve
Procedures](#)

[Cataract Surgery](#)

[Colonoscopy](#)

[Colorectal Resection](#)

[Coronary Angioplasty](#)

[C-Section](#)

[Gall Bladder Surgery](#)

[Hip Replacement & Hip
Revision](#)

[Hysterectomy](#)

[Knee Arthroscopy](#)

[Knee Replacement &
Knee Revision](#)

[Lumbar Laminectomy](#)

[Lumbar Spine Fusion](#)

[Lung Resection](#)

[Mastectomy](#)

[Pacemaker/Defibrillator](#)

[Prostatectomy](#)

[Shoulder Replacement](#)

[Tonsillectomy](#)

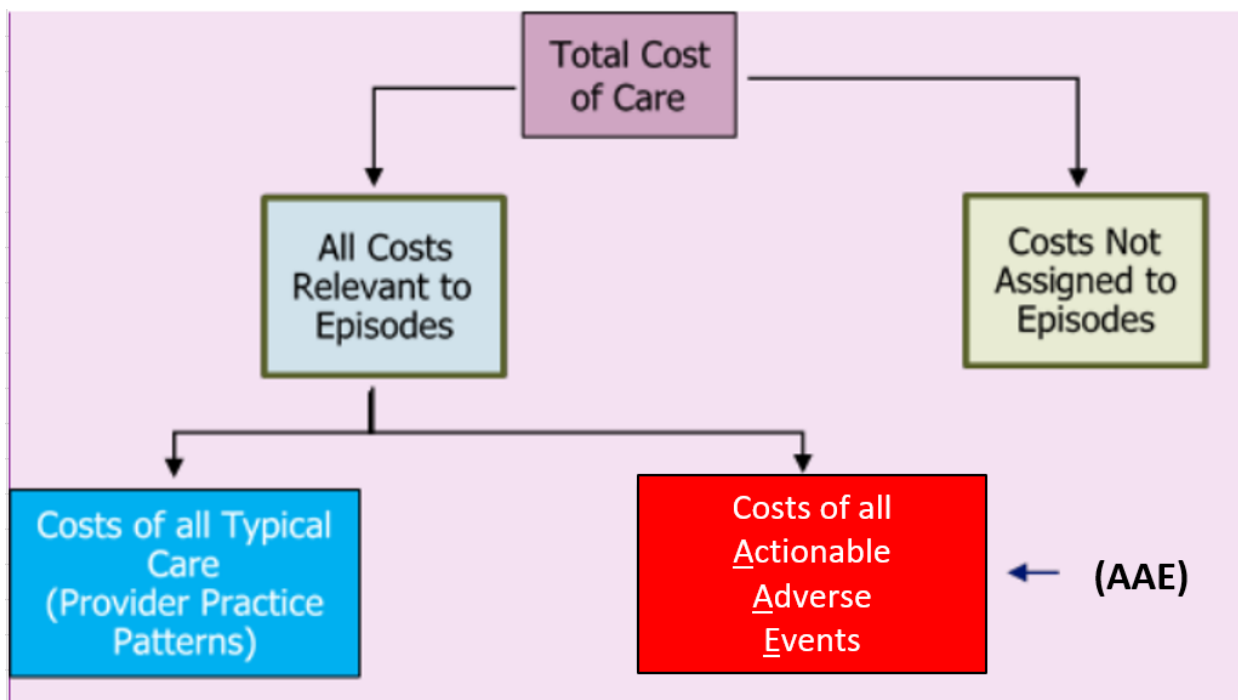
[Transurethral Resection
Prostate](#)

[Upper GI Endoscopy](#)

[Vaginal Delivery
Exhibit D -](#)

VIII. 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
- The AAE measure focuses on the core outcomes that matter from the patient's perspective, and captures a key goal of care for chronic patients: to attempt to avoid the occurrence of exacerbations (e.g. asthma attack, hospital admission due to uncontrolled schizophrenia), sequelae like diabetic foot or stroke and the development of physical co-morbidities such as liver toxicity in Substance Use Disorder (SUD) members
- AAEs may or may not be completely avoidable - goal is not to eliminate them but to reduce them as much as possible



IX. 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 actionable adverse event (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 ICD9/10 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

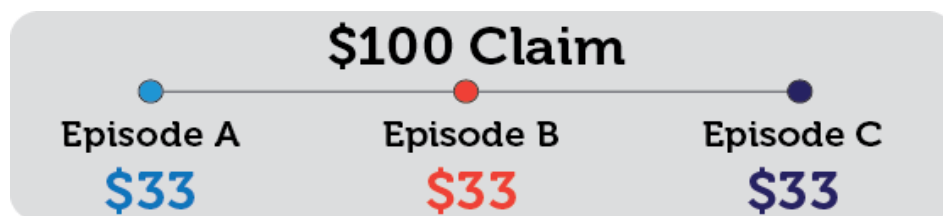
All costs related to the readmission are categorized as AAE (includes Rx during readmission)

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.



- **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 off some of the occurrences within episodes necessary to get back to the true total

4. Unsplit Dollars



- **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.

X. 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**, especially for the chronic episodes
- 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 three separate datapoints (one for each year). Claims that make up the episode would be grouped according to their incurred dates. This approach ensures that the reporting period experience is complete on an incurred basis, even though episodes may not retain all associated claims experience
- ✓ 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
2. Calculate hospital-specific AAE %
3. Calculate Hospital Index Score
4. Calculate Index Score Outliers
5. Repeat Steps 1-4 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 Steps

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:

- Calculate Total Episode Paid Dollars
- Calculate Total Episode AAE Dollars
- Calculate Episode AAE % = Total Episode AAE Dollars divided by Total Episode Paid Dollars
- Calculate Simple Average AAE Dollars = simple average of Total Episode AAE Dollars across procedural episodes within a peer group
- Calculate Simple Average AAE % = simple average of Episode AAE % across procedural episodes within a peer group
- Calculate Episode AAE Dollar Relativity = Total Episode AAE Dollars divided by Simple Average AAE Dollars
- Calculate Episode AAE % Relativity = Episode AAE % divided by Simple Average AAE %
- Calculate Peer Group Episode Weight = Episode AAE Dollar Relativity multiplied by Episode AAE % Relativity
- 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 AAE Dollars (1a)	Total Episode AAE Dollars (1b)	AAE % (1c)=(1b)/(1a)	Simple Average AAE Dollars (1d)	Simple Average AAE % (1e)
Tonsillectomy	\$950,000	\$400,000	42.1%	\$242,857	18.0%
Coronary Angioplasty	\$650,000	\$350,000	53.8%	\$242,857	18.0%
Vaginal Delivery	\$4,000,000	\$450,000	11.3%	\$242,857	18.0%
Gall Bladder Surgery	\$3,000,000	\$200,000	6.7%	\$242,857	18.0%
Upper GI Endoscopy	\$1,650,000	\$100,000	6.1%	\$242,857	18.0%
Hysterectomy	\$2,650,000	\$100,000	3.8%	\$242,857	18.0%
Knee Arthroscopy	\$4,350,000	\$100,000	2.3%	\$242,857	18.0%

Episode Category	Episode AAE Dollar Relativity (1f)=(1b)/(1d)	Episode AAE % Relativity (1g)=(1c)/(1e)	Peer Group Episode Weight (1h)=(1f)*(1g)	Peer Group Baseline Raw Score (1i)=(1h)*(1c)
Tonsillectomy	1.65	2.34	3.85	1.62
Coronary Angioplasty	1.44	2.99	4.31	2.32
Vaginal Delivery	1.85	0.62	1.16	0.13
Gall Bladder Surgery	0.82	0.37	0.31	0.02
Upper GI Endoscopy	0.41	0.34	0.14	0.01
Hysterectomy	0.41	0.21	0.09	0.00
Knee Arthroscopy	0.41	0.13	0.05	0.00

Step 2 Calculate hospital-specific AAE %

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

- Calculate Hospital Episode Paid Dollars
- Calculate Hospital Episode AAE Dollars
- 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:

- Calculate Episode Raw Score = Peer Group Episode Weight multiplied by Hospital Episode AAE %
- Calculate Hospital Total Baseline = sum of all Peer Group Baseline Raw Scores for procedural episodes where hospital had historic experience
- 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	3.85	21.1%	0.81	4.10	19.76
Coronary Angioplasty	4.31	71.8%	3.10	4.10	75.42
Vaginal Delivery	1.16	14.1%	0.16	4.10	3.97
Gall Bladder Surgery	0.31	6.7%	0.02	4.10	0.50
Upper GI Endoscopy	0.14	6.1%	0.01	4.10	0.20
Hysterectomy	0.09	N/A	N/A	N/A	N/A
Knee Arthroscopy	0.05	2.9%	0.00	4.10	0.04

Step 4: Calculate and remove Index Score Outliers

The following calculations are specific to each individual hospital:

- Summarize the number of individual episodes by episode type
- Calculate Index Score per Episode = Episode Index Score / Number of Episodes
- Remove all episodes for an episode category that has an Index Score per Episode over the outlier threshold.
 - 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.
- All episodes for Index Score Outliers will be removed for each hospital

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

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	19.76	0.10		200
Coronary Angioplasty	10	75.42	7.54	Y	-0-
Vaginal Delivery	300	3.97	0.01		300
Gall Bladder Surgery	100	0.50	0.00		100
Upper GI Endoscopy	300	0.20	0.00		300
Hysterectomy	0	N/A	N/A		N/A
Knee Arthroscopy	500	0.04	0.00		500

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.

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 Peer Group Episode Weight and Peer Group Baseline Raw Score used to calculate the Episode Index Score and Hospital Index Score.

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	Total Episode Paid Dollars (1a)	Total Episode AAE Dollars (1b)	AAE % (1c)=(1b)/(1a)	Simple Average AAE Dollars (1d)	Simple Average AAE % (1e)
Tonsillectomy	\$950,000	\$400,000	42.1%	\$222,857	16.9%
Coronary Angioplasty	\$455,000	\$210,000	46.2%	\$222,857	16.9%
Vaginal Delivery	\$4,000,000	\$450,000	11.3%	\$222,857	16.9%
Gall Bladder Surgery	\$3,000,000	\$200,000	6.7%	\$222,857	16.9%
Upper GI Endoscopy	\$1,650,000	\$100,000	6.1%	\$222,857	16.9%
Hysterectomy	\$2,650,000	\$100,000	3.8%	\$222,857	16.9%
Knee Arthroscopy	\$4,350,000	\$100,000	2.3%	\$222,857	16.9%

Episode Category	Episode AAE Dollar Relativity (1f)=(1b)/(1d)	Episode AAE % Relativity (1g)=(1c)/(1e)	Peer Group Episode Weight (1h)=(1f)*(1g)	Peer Group Baseline Raw Score (1i)=(1h)*(1c)
Tonsillectomy	1.79	2.49	4.47	1.88
Coronary Angioplasty	0.94	2.73	2.57	1.19
Vaginal Delivery	2.02	0.67	1.34	0.15
Gall Bladder Surgery	0.90	0.39	0.35	0.02
Upper GI Endoscopy	0.45	0.36	0.16	0.01
Hysterectomy	0.45	0.22	0.10	0.00
Knee Arthroscopy	0.45	0.14	0.06	0.00

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	\$0	\$0	N/A
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%

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	4.47	21.1%	0.94	2.07	45.51
Coronary Angioplasty	2.57	N/A	N/A	2.07	N/A
Vaginal Delivery	1.34	14.1%	0.19	2.07	9.14
Gall Bladder Surgery	0.35	6.7%	0.02	2.07	1.14
Upper GI Endoscopy	0.16	6.1%	0.01	2.07	0.47
Hysterectomy	0.10	N/A	N/A	2.07	N/A
Knee Arthroscopy	0.06	2.9%	0.00	2.07	0.08

Episode Category	Number of Episodes (4a)	Episode Index Score (3c)	Index Score per Episode (4b)=(3c)/(4a)	Flag Outliers (4c)
Tonsillectomy	200	45.51	0.23	
Coronary Angioplasty	0	N/A	N/A	N/A
Vaginal Delivery	300	9.14	0.03	
Gall Bladder Surgery	100	1.14	0.01	
Upper GI Endoscopy	300	0.47	0.00	
Hysterectomy	N/A	N/A	N/A	N/A
Knee Arthroscopy	500	0.08	0.00	

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

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.

Hospital Index Score (5a) = 56.34

4. Walkthrough of Index Score Credibility Analysis Steps

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

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 Step 5 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	55.9
2	59.2
3	58.7
4	57.6
5	51.0
6	58.3
7	54.4
8	52.7
9	51.8
10	51.1

Statistical Measure	Statistic
8a. Mean Sample Hospital Index Score	55.07
8b. Standard Deviation of Sample Hospital Index Scores	3.28
8c. Standard Deviation of Mean Sample Hospital Index Score	1.04

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.

- Select threshold for difference of sample mean to within a specified percentage of the true mean
 - This has been set at 5%
- Select confidence level
 - This has been set at 90%
- Calculate number of standard deviations for 90% Confidence Interval based on a normal distribution
 - 90% Confidence Interval Standard Deviations = 1.645
- Calculate number of samples needed for the Mean Sample Hospital Index Score to be credible using the Full Credibility Formula
 - Number of Samples = $(\text{Standard Deviation of Sample Hospital Index Scores} / \text{Mean Sample Hospital Index Score})^2 * (\text{Standard Deviation for 90\% Confidence Interval} / \text{Threshold for difference of sample mean})^2$

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	Standard Deviation of Sample Hospital Index Scores (8a)	Mean Sample Hospital Index Score (8b)	% Difference Threshold of Sample Mean to the True Mean (9a)	90% Confidence Interval Standard Deviations (9c)	No. Samples to be Fully Credible (9d) = $(8a/8b)^2 * (9c/9a)^2$
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10	3.28	55.07	5%	1.645	4
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In this example, the number of samples need 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.

- Select confidence level
 - This has been set at the same 90% used for Step 9
- Calculate number of standard deviations for 90% Confidence Interval based on a normal distribution
 - 90% Confidence Interval Standard Deviations = 1.645
- Calculate Lower Bound of Confidence Interval
- Calculate Upper Bound of Confidence Interval

Iteration Scenario	Mean Sample Hospital Index Score (8b)	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)=(8b)+(8c)*(10b)
10	55.07	1.04	1.645	53.36	56.78

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.

- 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.
 - A 0.5% threshold has been added to the top and bottom of each confidence interval to capture hospitals with narrow confidence intervals that would otherwise be deemed not 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 56.34 is within the 90% Confidence Interval of (53.36, 56.78) 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 5+.
- **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 5+ conditions) and Behavioral Health Factor (0 or 1+ conditions) groupings. The ratio of average AAE percent, mix adjusted using the distribution of groups across all episodes, was calculated as the risk adjustment factors. The risk adjustment factors are shown in the tables below:

Chronic Episodes	Factor
0	1.00
1	1.38
2	1.77
3	2.37
4	2.71
5+	3.00
BH Episodes	Factor
0	1.00
1+	1.30

The following episodes are not risk adjusted, or are partially adjusted, and were not included in the development of the respective risk adjustment factors due to limited variation of AAE costs for in these episodes.

- Breast Biopsy and Cataract Surgery do not receive the Comorbidity adjustment or the Behavioral Health adjustment due to lack of significant variation in AAE related to variation in those factors.
- Upper GI Endoscopy does not receive the Comorbidity adjustment, but receives the Behavior Health adjustment due to lack of significant variation in AAE related to variation in those factors.

All other procedural episodes within the hospital index score are adjusted based on the number of chronic and BH episodes the member has within each calendar year. The risk adjustment factors are applied to the AAE costs for each episode. Examples of the risk adjustment application are shown for various episodes and sample members based on their count of chronic and BH episodes in the following tables:

Table 1 – Procedural Episode Information

Procedural Episode	Medicaid Member	Total Cost	Typical \$	AAE \$	AAE %
Bariatric Surgery	A	\$9,900	\$9,600	\$300	3.0%
Breast Biopsy	A	\$1,700	\$1,600	\$100	5.9%
C-Section	B	\$7,700	\$7,300	\$400	5.2%
CABG &/or Valve Procedures	C	\$41,500	\$39,900	\$1,600	3.9%
Cataract Surgery	C	\$2,800	\$2,700	\$100	3.6%
Colonoscopy	D	\$1,300	\$1,250	\$50	3.8%
Knee Arthroscopy	E	\$5,800	\$5,600	\$200	3.4%
Tonsillectomy	F	\$3,600	\$3,400	\$200	5.6%
Upper GI Endoscopy	F	\$1,800	\$1,760	\$40	2.2%

Table 2 – Member Chronic and BH Information and Risk Factors

Procedural Episode	Medicaid Member	Chronic Episode Count	BH Episode Count	Comorbidity Factor	BH Factor	Total Risk Factor ³
Bariatric Surgery	A	3	1	2.37	1.30	3.07
Breast Biopsy ¹	A	3	1	1.00	1.00	1.00
C-Section	B	0	2	1.00	1.30	1.30
CABG &/or Valve Procedures	C	8	0	3.00	1.00	3.00
Cataract Surgery ¹	C	1	1	1.00	1.00	1.00
Colonoscopy	D	2	0	1.77	1.00	1.77
Knee Arthroscopy	E	4	2	2.71	1.30	3.52
Tonsillectomy	F	0	0	1.00	1.00	1.00
Upper GI Endoscopy ²	F	4	2	1.00	1.30	1.30

¹ Breast Biopsy and Cataract Surgery are not adjusted by the Comorbidity Factor or the BH Factor.

² Upper GI Endoscopy does not receive the Comorbidity Factor but does receive the BH Factor.

³ Total Risk Factor may differ from the product of the Comorbidity Factors and BH Factors shown due to rounding.

Table 3 – Apply Risk Factors to AAE Costs

Procedural Episode	Medicaid Member	Unadjusted AAE \$	Total Risk Factor	Risk Adjusted AAE \$
Bariatric Surgery	A	\$300	3.07	\$97.72
Breast Biopsy	A	\$100	1.00	\$100.00
C-Section	B	\$400	1.30	\$308.40
CABG &/or Valve Procedures	C	\$1,600	3.00	\$532.98
Cataract Surgery	C	\$100	1.00	\$100.00
Colonoscopy	D	\$50	1.77	\$28.30

Knee Arthroscopy	E	\$200	3.52	\$56.86
Tonsillectomy	F	\$200	1.00	\$200.00
Upper GI Endoscopy	F	\$40	1.30	\$30.84

Table 4 – Risk Adjusted Episode Costs

Procedural Episode	Medicaid Member	Typical \$	Risk Adjusted AAE \$	Risk Adjusted Episode Total	Risk Adjusted AAE %
Bariatric Surgery	A	\$9,600	\$97.72	\$9,697.72	1.0%
Breast Biopsy	A	\$1,600	\$100.00	\$1,700.00	5.9%
C-Section	B	\$7,300	\$308.40	\$7,608.40	4.1%
CABG &/or Valve Procedures	C	\$39,900	\$532.98	\$40,432.98	1.3%
Cataract Surgery	C	\$2,700	\$100.00	\$2,800.00	3.6%
Colonoscopy	D	\$1,250	\$28.30	\$1,278.30	2.2%
Knee Arthroscopy	E	\$5,600	\$56.86	\$5,656.86	1.0%
Tonsillectomy	F	\$3,400	\$200.00	\$3,600.00	5.6%
Upper GI Endoscopy	F	\$1,760	\$30.84	\$1,790.84	1.7%

After the risk adjustment is applied, a new set of risk adjusted weights are also developed for each peer group using the risk adjusted AAE unsplit costs. This will be the basis for calculating a risk adjusted hospital index score, which uses the same process for index score calculation and subsequent credibility analyses as the unadjusted hospital index score. Since a new risk adjusted hospital index score is calculated using a new set of risk adjusted peer group weights, an individual hospital may see either an increase or decrease relative to the unadjusted index score based on their risk adjusted experience compared to the peer group.

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 (generally centered around inpatient/outpatient services) are attributed to facilities based on uniformity in the provider IDs on these claims.

- Episodes with provider ID discrepancies between claims or no inpatient/outpatient claims at all were not incorporated into the model

- If there are inpatient claims within the procedural episode, then check only these claims for uniformity in provider IDs. If there are only outpatient claims at most, then check only these claims for uniformity in provider IDs (sometimes cross walked from NPIs). Any episodes with multiple inpatient claims (or outpatient, if inpatient claims do not exist) in which services are rendered at more than one facility are currently not attributed to a hospital. This methodology captures roughly 80 percent of the Procedural, Filter ID = 1 episodes

Episodes are also assigned to an **attending provider**, typically the **surgeon**, as identified by the **episode's trigger claim**.

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

Until 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-9/ICD-10 diagnoses must be within 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 a 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
- Age (member's age outside of range specified as standard for the episode type by the grouper)
- Incomplete Episode
- Leave Against Medical Advice

- Orphan Trigger
- 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 2022 Dashboard release

Medicaid members with claims and managed care encounters that grouped into a procedural episode of care in calendar years 2019 and 2020.

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 7/1/16 and 6/30/22 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.

XI. 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 not directly connected to any claims (and thus not actionable).
 3. Optumas crosswalks AAE percentages back to claims 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 in 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

Fiscal Year	FY21	FY22	FY23
Underlying Data as of 7/1	FY14-19	FY15-20	FY16-21
Index Score Data Points	1. CY17-18	1. CY17-18 2. CY18-19	1. CY17-18 2. CY18-19 3. CY19-20

D. Regional Accountable Entity Access to Hospital Dashboards

Because each hospital's Index Score is based on performance across all locations and some hospitals have multiple locations in multiple regions, it was not feasible to separate and report on hospitals by Regional Accountable Entity (RAE) region. Instead, RAE dashboards identify hospital utilization wherever it occurs in any of the episode levels/types **without referencing the hospital's specific Index score**. For instance, hospital utilization that is associated with any chronic episode will be found in the **Rendering Providers portion** of the RAE dashboard and will likely be identified as an AAE because ambulatory sensitive conditions should not require hospital-level care if they are well managed.

RAEs can see which provider has been identified as the attending provider for procedural episodes, but their dashboards will show the member's historical PCMP as the attending/attributed provider for all other episode types.

XII. Guidance on Identifying Opportunities and Interpreting Hospital Index Dashboards

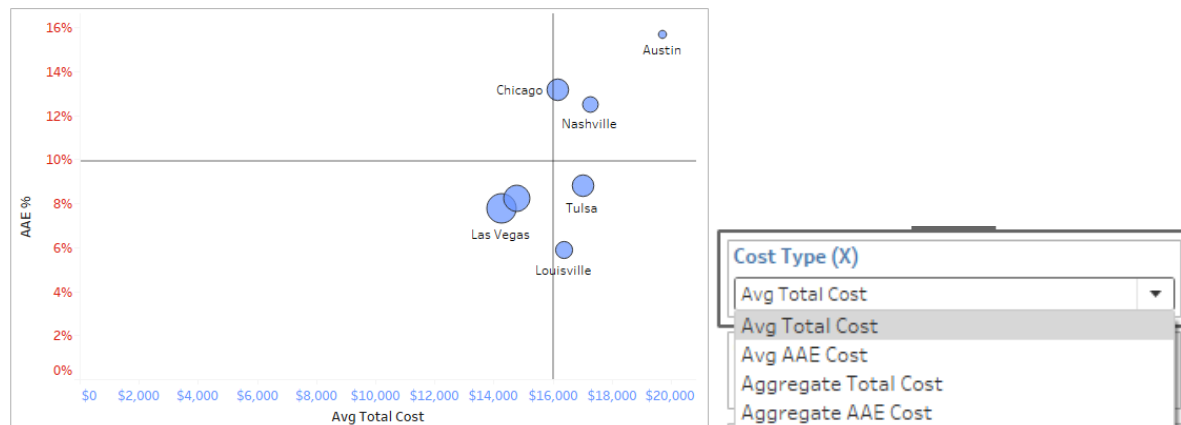
A. Start with biggest bang for our buck.

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

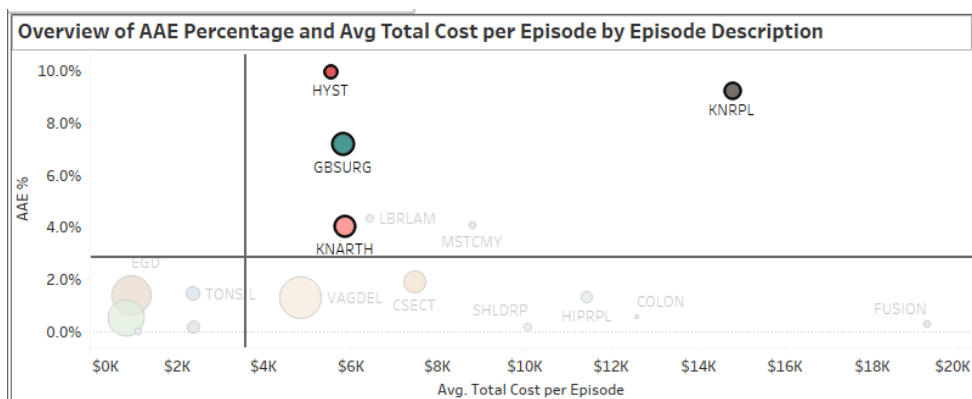
Episode Description	Total Cost	AAE Cost	AAE %	Episode Count
Bariatric Surgery	\$1,874,767	\$170,654	9.1%	158
Breast Biopsy	\$541,188	\$465	0.1%	296
C-Section	\$11,153,935	\$356,024	3.2%	1,361
CABG &/or Valve Procedures	\$216,714	\$7,638	3.5%	6
Cataract Surgery	\$1,022,116	\$51,334	5.0%	380
Colonoscopy	\$2,088,307	\$25,340	1.2%	2,081
Colorectal Resection	\$1,504,297	\$87,319	5.8%	50
Coronary Angioplasty	\$2,199,938	\$254,623	11.6%	122
Gall Bladder Surgery	\$3,274,745	\$197,527	6.0%	554

- Rows with orange text on the Index Score Calculation dashboard are episodes with higher peer group-specific [episode index score weights](#).

AAE % and Avg Total Cost by Hospital



- Use the Peer Group Comparison dashboard (pictured above) to view performance among peers for procedural episodes, with the ability to drill down into each episode, category of service, eligibility type, etc. Data points are suppressed when episode volume sums to 30 episodes or less. The Cost Type X (pictured above) and Cost Type Y parameters can be used to toggle the measures being shown in the views.



- 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

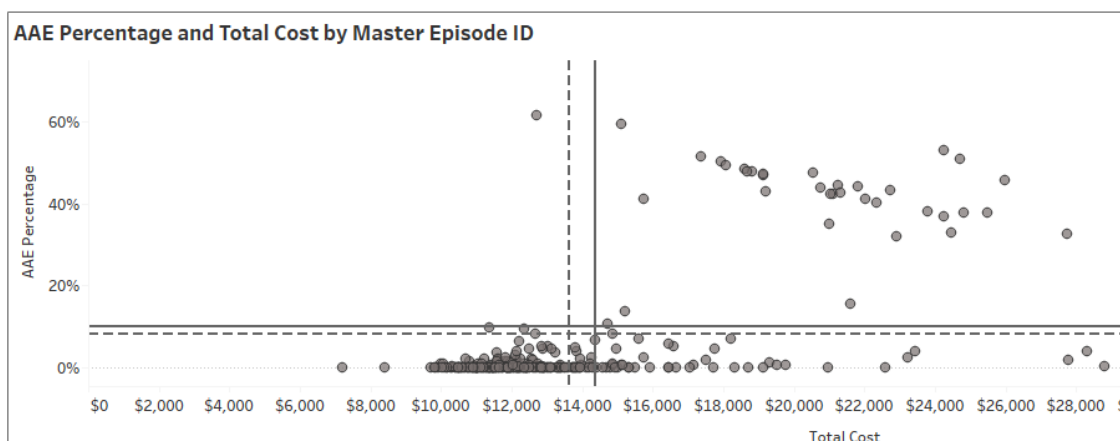
Elig Type	Total Cost	AAE Cost	AAE %	Episode Cou...
AwDC	\$2,676,088	\$231,885	8.7%	198
Disabled	\$1,083,138	\$160,610	14.8%	64
AFDC Parent	\$452,129	\$32,694	7.2%	35
Expansion Adult	\$102,315	\$103	0.1%	10
Other	\$673	\$0	0.0%	1

- 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.



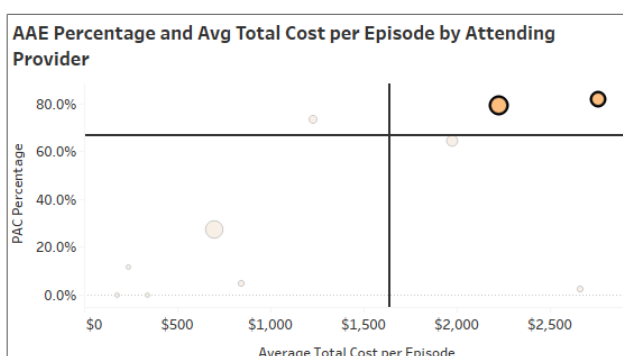
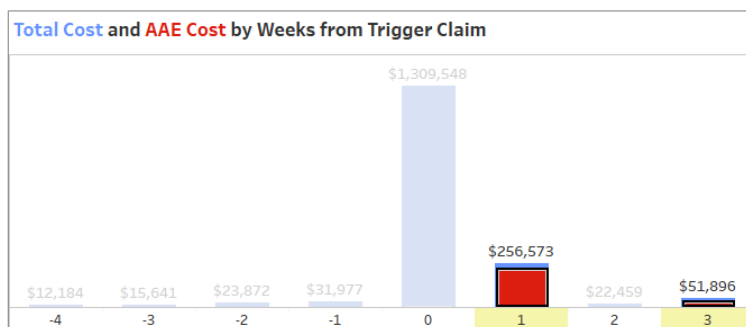
- The **Members dashboard** can be used to view and download the data at the member level across different variables such as age, race, county, etc. Member name, Medicaid ID, and DOB are provided to give users the ability to use the Hospital Index data in tandem with EHRs.
- The **Claims dashboard**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



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.

XIII. Appendix

A. Exhibit A - Episode Associations

Episodes are constructed at two different levels. Episodes can be viewed in isolation, or in the context of clinically related underlying disease states. Specifically, the costs associated with procedural episodes can be subsumed into chronic episodes with the latter view.

An association indicates a relationship between two episodes. In an association, two episodes coexist, with one being subsidiary to the other **provided that their time windows overlap**. The subsidiary episode and the services assigned to it may be viewed (analyzed) on its own, but it may also be viewed, at another level, as assigned to the primary episode. At the upper level the episodes are, in effect, consolidated. The table below identifies the episode-to-episode associations indicating the primary and secondary episode, the level at which the secondary episode is associated to the primary and the type of association (complication vs. typical).

Primary Episode	Secondary/Subsumed Episode
C-Section	Vaginal Delivery
Pregnancy	Vaginal Delivery
Pregnancy	C-Section
Arrhythmia / Heart Block / Condn Dis	CABG &/or Valve Procedures
Arrhythmia / Heart Block / Condn Dis	Coronary Angioplasty
Arrhythmia / Heart Block / Condn Dis	Pacemaker / Defibrillator
Coronary Artery Disease	CABG &/or Valve Procedures
Coronary Artery Disease	Coronary Angioplasty
Coronary Artery Disease	Pacemaker / Defibrillator
Crohn's Disease	Colorectal Resection
Crohn's Disease	Colonoscopy
Gastro-Esophageal Reflux Disease	Upper GI Endoscopy
Heart Failure	CABG &/or Valve Procedures
Heart Failure	Coronary Angioplasty
Heart Failure	Pacemaker / Defibrillator
Low Back Pain	Lumbar Spine Fusion
Low Back Pain	Lumbar Laminectomy
Osteoarthritis	Lumbar Spine Fusion
Osteoarthritis	Lumbar Laminectomy
Osteoarthritis	Hip Replacement & Hip Revision
Osteoarthritis	Knee Arthroscopy
Osteoarthritis	Knee Replacement & Knee Revision
Osteoarthritis	Shoulder Replacement

B. Exhibit B - 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

C. Exhibit C - 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

Type	Code	Description
EAPG	00840	Opioid Abuse & Dependence
EAPG	00841	Cocaine Abuse & Dependence
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

Type	Code	Description
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
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

Type	Code	Description
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
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

Type	Code	Description
ICD10DX	F1321	Sedative, hypnotic or anxiolytic depende
ICD10DX	F13220	Sedativ/hyp/anxiolytic dependence w intoxi
ICD10DX	F13221	Sedativ/hyp/anxiolytic dependence w intoxi
ICD10DX	F13229	Sedativ/hyp/anxiolytic dependence w intoxi
ICD10DX	F13230	Sedativ/hyp/anxiolytic dependence w withdr
ICD10DX	F13231	Sedativ/hyp/anxiolytic dependence w withdr
ICD10DX	F13232	Sedativ/hyp/anxiolytic depend w w/drawal w
ICD10DX	F13239	Sedativ/hyp/anxiolytic dependence w withdr
ICD10DX	F1324	Sedative, hypnotic or anxiolytic depende
ICD10DX	F13250	Sedativ/hyp/anxiolytic depend w psychotic
ICD10DX	F13251	Sedativ/hyp/anxiolytic depend w psychotic
ICD10DX	F13259	Sedativ/hyp/anxiolytic dependence w psycho
ICD10DX	F1326	Sedativ/hyp/anxiolytic depend w persisting
ICD10DX	F1327	Sedativ/hyp/anxiolytic dependence w persis
ICD10DX	F13280	Sedativ/hyp/anxiolytic dependence w anxiet
ICD10DX	F13281	Sedativ/hyp/anxiolytic 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	Sedativ/hyp/anxiolytic use, unsp w intoxic
ICD10DX	F13921	Sedativ/hyp/anxiolytic use, unsp w intoxic
ICD10DX	F13929	Sedativ/hyp/anxiolytic use, unsp w intoxic
ICD10DX	F13930	Sedativ/hyp/anxiolytic use, unsp w withdra
ICD10DX	F13931	Sedativ/hyp/anxiolytic use, unsp w withdra
ICD10DX	F13932	Sedativ/hyp/anxiolytic use, unsp w w/drawa
ICD10DX	F13939	Sedativ/hyp/anxiolytic use, unsp w withdra
ICD10DX	F1394	Sedative, hypnotic or anxiolytic use, un
ICD10DX	F13950	Sedativ/hyp/anxiolytic use, unsp w psych d
ICD10DX	F13951	Sedativ/hyp/anxiolytic use, unsp w psych d
ICD10DX	F13959	Sedativ/hyp/anxiolytic use, unsp w psychot
ICD10DX	F1396	Sedativ/hyp/anxiolytic use, unsp w persist
ICD10DX	F1397	Sedativ/hyp/anxiolytic use, unsp w persist
ICD10DX	F13980	Sedativ/hyp/anxiolytic use, unsp w anxiety
ICD10DX	F13981	Sedativ/hyp/anxiolytic 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

Type	Code	Description
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
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

Type	Code	Description
ICD10DX	F15188	Other stimulant abuse with other stimula
ICD10DX	F1519	Other stimulant abuse with unsp stimulan
ICD10DX	F1520	Other stimulant dependence, uncomplacate
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
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

Type	Code	Description
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
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

Type	Code	Description
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
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

Type	Code	Description
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
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

Type	Code	Description
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
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

Type	Code	Description
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
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
ICD9DX	2910	Alcohol withdrawal delirium
ICD9DX	2911	Alcohol-induced persisting amnestic disorder
ICD9DX	2912	Alcohol-induced persisting dementia
ICD9DX	2913	Alcohol-induced psychotic disorder with hallucinations
ICD9DX	29181	Alcohol withdrawal
ICD9DX	29182	Alcohol induced sleep disorders
ICD9DX	29189	Other alcohol-induced mental disorders
ICD9DX	2919	Unspecified alcohol-induced mental disorders
ICD9DX	2920	Drug withdrawal
ICD9DX	29211	Drug-induced psychotic disorder with delusions
ICD9DX	29212	Drug-induced psychotic disorder with hallucinations
ICD9DX	2922	Pathological drug intoxication
ICD9DX	29281	Drug-induced delirium

Type	Code	Description
ICD9DX	29282	Drug-induced persisting dementia
ICD9DX	29283	Drug-induced persisting amnestic disorder
ICD9DX	29284	Drug-induced mood disorder
ICD9DX	29285	Drug induced sleep disorders
ICD9DX	29289	Other specified drug-induced mental disorders
ICD9DX	2929	Unspecified drug-induced mental disorder
ICD9DX	30300	Acute alcoholic intoxication in alcoholism, unspecified
ICD9DX	30301	Acute alcoholic intoxication in alcoholism, continuous
ICD9DX	30302	Acute alcoholic intoxication in alcoholism, episodic
ICD9DX	30303	Acute alcoholic intoxication in alcoholism, in remission
ICD9DX	30390	Other and unspecified alcohol dependence, unspecified
ICD9DX	30391	Other and unspecified alcohol dependence, continuous
ICD9DX	30392	Other and unspecified alcohol dependence, episodic
ICD9DX	30393	Other and unspecified alcohol dependence, in remission
ICD9DX	30400	Opioid type dependence, unspecified
ICD9DX	30401	Opioid type dependence, continuous
ICD9DX	30402	Opioid type dependence, episodic
ICD9DX	30403	Opioid type dependence, in remission
ICD9DX	30410	Sedative, hypnotic or anxiolytic dependence, unspecified
ICD9DX	30411	Sedative, hypnotic or anxiolytic dependence, continuous
ICD9DX	30412	Sedative, hypnotic or anxiolytic dependence, episodic
ICD9DX	30413	Sedative, hypnotic or anxiolytic dependence, in remission
ICD9DX	30420	Cocaine dependence, unspecified
ICD9DX	30421	Cocaine dependence, continuous
ICD9DX	30422	Cocaine dependence, episodic
ICD9DX	30423	Cocaine dependence, in remission
ICD9DX	30430	Cannabis dependence, unspecified
ICD9DX	30431	Cannabis dependence, continuous
ICD9DX	30432	Cannabis dependence, episodic
ICD9DX	30433	Cannabis dependence, in remission
ICD9DX	30440	Amphetamine and other psychostimulant dependence, unspecified
ICD9DX	30441	Amphetamine and other psychostimulant dependence, continuous
ICD9DX	30442	Amphetamine and other psychostimulant dependence, episodic
ICD9DX	30443	Amphetamine and other psychostimulant dependence, in remission
ICD9DX	30450	Hallucinogen dependence, unspecified
ICD9DX	30451	Hallucinogen dependence, continuous
ICD9DX	30452	Hallucinogen dependence, episodic
ICD9DX	30453	Hallucinogen dependence, in remission
ICD9DX	30460	Other specified drug dependence, unspecified
ICD9DX	30461	Other specified drug dependence, continuous
ICD9DX	30462	Other specified drug dependence, episodic
ICD9DX	30463	Other specified drug dependence, in remission
ICD9DX	30470	Combinations of opioid type drug with any other drug dependence, unspecified

Type	Code	Description
ICD9DX	30471	Combinations of opioid type drug with any other drug dependence, continuous
ICD9DX	30472	Combinations of opioid type drug with any other drug dependence, episodic
ICD9DX	30473	Combinations of opioid type drug with any other drug dependence, in remission
ICD9DX	30480	Combinations of drug dependence excluding opioid type drug, unspecified
ICD9DX	30481	Combinations of drug dependence excluding opioid type drug, continuous
ICD9DX	30482	Combinations of drug dependence excluding opioid type drug, episodic
ICD9DX	30483	Combinations of drug dependence excluding opioid type drug, in remission
ICD9DX	30490	Unspecified drug dependence, unspecified
ICD9DX	30491	Unspecified drug dependence, continuous
ICD9DX	30492	Unspecified drug dependence, episodic
ICD9DX	30493	Unspecified drug dependence, in remission
ICD9DX	30500	Alcohol abuse, unspecified
ICD9DX	30501	Alcohol abuse, continuous
ICD9DX	30502	Alcohol abuse, episodic
ICD9DX	30503	Alcohol abuse, in remission
ICD9DX	30520	Cannabis abuse, unspecified
ICD9DX	30521	Cannabis abuse, continuous
ICD9DX	30522	Cannabis abuse, episodic
ICD9DX	30523	Cannabis abuse, in remission
ICD9DX	30530	Hallucinogen abuse, unspecified
ICD9DX	30531	Hallucinogen abuse, continuous
ICD9DX	30532	Hallucinogen abuse, episodic
ICD9DX	30533	Hallucinogen abuse, in remission
ICD9DX	30540	Sedative, hypnotic or anxiolytic abuse, unspecified
ICD9DX	30541	Sedative, hypnotic or anxiolytic abuse, continuous
ICD9DX	30542	Sedative, hypnotic or anxiolytic abuse, episodic
ICD9DX	30543	Sedative, hypnotic or anxiolytic abuse, in remission
ICD9DX	30550	Opioid abuse, unspecified
ICD9DX	30551	Opioid abuse, continuous
ICD9DX	30552	Opioid abuse, episodic
ICD9DX	30553	Opioid abuse, in remission
ICD9DX	30560	Cocaine abuse, unspecified
ICD9DX	30561	Cocaine abuse, continuous
ICD9DX	30562	Cocaine abuse, episodic
ICD9DX	30563	Cocaine abuse, in remission
ICD9DX	30570	Amphetamine or related acting sympathomimetic abuse, unspecified
ICD9DX	30571	Amphetamine or related acting sympathomimetic abuse, continuous

Type	Code	Description
ICD9DX	30572	Amphetamine or related acting sympathomimetic abuse, episodic
ICD9DX	30573	Amphetamine or related acting sympathomimetic abuse, in remission
ICD9DX	30580	Antidepressant type abuse, unspecified
ICD9DX	30581	Antidepressant type abuse, continuous
ICD9DX	30582	Antidepressant type abuse, episodic
ICD9DX	30583	Antidepressant type abuse, in remission
ICD9DX	30590	Other, mixed, or unspecified drug abuse, unspecified
ICD9DX	30591	Other, mixed, or unspecified drug abuse, continuous
ICD9DX	30592	Other, mixed, or unspecified drug abuse, episodic
ICD9DX	30593	Other, mixed, or unspecified drug abuse, in remission
ICD9DX	4255	Alcoholic cardiomyopathy
ICD9DX	53530	Alcoholic gastritis, without mention of hemorrhage
ICD9DX	53531	Alcoholic gastritis, with hemorrhage
ICD9DX	5710	Alcoholic fatty liver
ICD9DX	5711	Acute alcoholic hepatitis
ICD9DX	5712	Alcoholic cirrhosis of liver
ICD9DX	5713	Alcoholic liver damage, unspecified
ICD9DX	64830	Drug dependence of mother, unspecified as to episode of care or not applicable
ICD9DX	64831	Drug dependence of mother, delivered, with or without mention of antepartum condition
ICD9DX	64832	Drug dependence of mother, delivered, with mention of postpartum complication
ICD9DX	64833	Drug dependence of mother, antepartum condition or complication
ICD9DX	64834	Drug dependence of mother, postpartum condition or complication
ICD9DX	76071	Alcohol affecting fetus or newborn via placenta or breast milk
ICD9DX	76072	Narcotics affecting fetus or newborn via placenta or breast milk
ICD9DX	76073	Hallucinogenic agents affecting fetus or newborn via placenta or breast milk
ICD9DX	76075	Cocaine affecting fetus or newborn via placenta or breast milk
ICD9DX	7795	Drug withdrawal syndrome in newborn
ICD9DX	9800	Toxic effect of ethyl alcohol
ICD9DX	9801	Toxic effect of methyl alcohol
ICD9DX	9809	Toxic effect of unspecified alcohol
ICD9DX	E8600	Accidental poisoning by alcoholic beverages
ICD9DX	V113	Personal history of alcoholism
ICD9DX	V6141	Alcoholism in family
ICD9DX	V6142	Substance abuse in family
ICD9DX	V6542	Counseling on substance use and abuse
ICD9Proc	9445	Drug addiction counseling
ICD9Proc	9446	Alcoholism counseling
ICD9Proc	9453	Referral for alcoholism rehabilitation

Type	Code	Description
ICD9Proc	9454	Referral for drug addiction rehabilitation
ICD9Proc	9461	Alcohol rehabilitation
ICD9Proc	9462	Alcohol detoxification
ICD9Proc	9463	Alcohol rehabilitation and detoxification
ICD9Proc	9464	Drug rehabilitation
ICD9Proc	9465	Drug detoxification
ICD9Proc	9466	Drug rehabilitation and detoxification
ICD9Proc	9467	Combined alcohol and drug rehabilitation
ICD9Proc	9468	Combined alcohol and drug detoxification
ICD9Proc	9469	Combined alcohol and drug rehabilitation and detoxification
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

Type	Code	Description
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
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