



# Detailed Business Requirements Breast Cancer Medical Oncology Episode

a1.0 c03 d01

State of Ohio

June 12, 2018

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# 1. INTRODUCTION

## 1.1 Versions and revisions

Episode design is an iterative process that typically involves multiple stakeholders. Once the design is finalized and the episode implemented, experience with the new payment model may generate new insights. The insights can in turn be leveraged to modify and improve the initial episode design. To keep track of the version of an episode used at any given time, a versioning system consisting of three numbers is employed:

- The algorithm version reflects the version of the software code used to produce the outputs for a particular episode. It is indicated by a major and minor version number, e.g., a1.1. The major algorithm version does not reset. The minor algorithm version resets when the major algorithm version is incremented.
- The configuration version reflects the version of the parameter settings and medical codes used to produce the outputs for a particular episode. The configuration includes for example the dollar amounts for the gain/risk sharing thresholds and the trigger diagnoses codes. The configuration version is indicated by a two digit number, e.g., c01. It is specific to the design decisions made by the organization that is implementing an episode and it does not reset.
- The documentation version reflects the version of the Detailed Business Requirements describing a particular episode. It is indicated by a two digit number, e.g., d01, and increments when a revision is made to the documentation without making a change to the algorithm or the configuration. It resets every time the algorithm or the configuration version changes.

| Version      | Date       | Changes   |
|--------------|------------|---|
| a1.0 c01 d01 | 07/14/2017 | ■ Initial base definition design  |
| a1.0 c02 d01 | 03/14/2018 | ■ DBR: Added the field 'HIC3 Code' to the input data in section 3.1 and revised section 4 accordingly to indicate that HIC3 codes should be pulled directly from claims rather than being cross-walked from the input field 'National Drug Code'. |

| Version | Date | Changes  |
|---------|------|--|
|         |      | <ul style="list-style-type: none"> <li>■ DBR: Updated the Source Table Name of the input field 'MCP ID' to specify that the T_CA_ICN.MCO_PROV_KEY should also be used.</li> <li>■ DBR: Updated section 4.1 to specify that preliminary potential trigger start and end dates can be extended if they overlap with another hospitalization.</li> <li>■ DBR: Updated section 4.1 to specify that potential triggers cannot be built off of professional claims that overlap with another hospitalization.</li> <li>■ DBR: Updated section 4.2 to clarify that overlap between episode windows is not allowed.</li> <li>■ DBR: Updated section 4.2 to indicate that inpatient potential triggers are given higher priority than outpatient potential triggers. Furthermore, among two or more potential triggers with the same start date and claim type, the potential trigger based on an episode-specific diagnosis is given priority.</li> <li>■ DBR: Updated section 4.4 to clarify that a separate methodology is applied to estimate the spend for inpatient, header-paid encounters.</li> <li>■ DBR: Updated section 4.6 to clarify that the Multiple payers exclusion is looking for switches at the payer name-level, not the MCP ID-level. This is required because a payer may be associated with multiple MCP IDs</li> <li>■ DBR: Removed legacy Multiple payer exclusion language from section 4.6</li> <li>■ DBR: Updated Glossary to indicate that hospitalization should not be extended to include transfers.</li> <li>■ DBR: Updated the definition of 'Hospitalization' in the Glossary to indicate that the Header To Date of Service field of the first inpatient claim should be used when its Discharge Date of the claim is not populated</li> <li>■ DBR: Updated the Glossary to expand the definition the Pharmacy claims to include both claim types P and Q.</li> <li>■ Configuration and DBR: Updated all ICD-9 code references to also specify ICD-10</li> <li>■ Configuration and DBR: Added the Exempt PAP exclusion in sections 2.3.6, 3.4.1, and 4.6. Added the lists "Business Exclusions - Exempt PAP - Specialty Types" and "Business Exclusions – Exempt PAP – Billing Provider Types”.</li> </ul> |

| Version             | Date       | Changes   |
|---------------------|------------|---|
|                     |            | <ul style="list-style-type: none"> <li>■ Configuration and DBR: Clarified that the age ranges for risk factors are inclusive of the minimum and value maximum values</li> <li>■ DBR and Configuration: Added male clinical exclusion</li> <li>■ DBR: Updated payer attribution language in the Glossary</li> <li>■ Configuration: Updated ICD-10 codes for exclusions and risk factors</li> <li>■ Configuration: Updated included claim codes for 'Included Procedures' list</li> </ul>   |
| <b>a1.0 c03 b01</b> | 06/12/2018 | <ul style="list-style-type: none"> <li>■ Configuration: Updated the following lists: 'Comorbidities Coma And Brain Damage - Diagnoses', 'Comorbidities Multiple Sclerosis - Diagnoses'</li> <li>■ Removed 'Exempt PAP' exclusion</li> <li>■ Added language in section 4.3 to reflect the use of ICD surgical procedure codes to identify included hospitalization</li> <li>■ DBR: Updated language on PAP attribution to clarify position of diagnosis code required on E&amp;M claims in section 4.5</li> <li>■ DBR: Added 'Gender' exclusion to section 4.6</li> <li>■ DBR: Updated language for quality metric 2 to clarify claim types in section 4.7</li> <li>■ DBR: Updated language in quality metric 1 to clarify the position of the diagnosis code required in section 4.7</li> </ul> |
| <b>a1.0 c04 b01</b> | 8/14/19    | <ul style="list-style-type: none"> <li>■ DBR: Clarified denominator of Quality Metric 3: Antineoplastic therapy before death</li> </ul>   |

## 1.2 Scope of this document

The Detailed Business Requirements (DBR) document serves as a guide to understand the definition of an episode. The DBR addresses three audiences:

- The episode owner who is accountable overall for the episode design and implementation
- The analytics team tasked with pressure testing the design of an episode and quality controlling the outputs from the episode algorithm
- The IT team tasked with implementing the algorithm to produce outputs for an episode

Section 2 of the DBR contains a description of the episode and is aimed at the episode owner and the analytics team. It addresses the following questions:

- **Patient journey:** Which patient cases are addressed by the episode?
- **Sources of value:** At which points in the patient journey do providers have most potential to improve quality of care and outcomes?
- **Design dimensions:** What decisions underlie the design of the episode?
  - Trigger: What events trigger an episode?
  - Episode duration: What is the duration of the episode?
  - Claims included and excluded: Which claims are included in or excluded from the episode spend?
  - Episode spend: How is spend for an episode calculated?
  - Principal Accountable Provider (PAP): Which provider is primarily held accountable for the outcomes of an episode?
  - Excluded episodes: Which episodes are excluded from a PAP's average episode spend for the purposes of calculating any gain/risk sharing?
  - Quality metrics: Which quality metrics are employed to inform PAPs about their quality of care?
  - Risk adjustment: What approach is taken to adjust episodes for risk factors that cannot be directly influenced by the PAP?
  - Gain and risk sharing: How are the gain and risk sharing amounts for PAPs determined?

Section 3 of the DBR explains the data flow of an episode. It is aimed at the analytics team and the IT team and addresses the following questions:

- **Input data:** What inputs does the episode algorithm require to build the episode?
- **Episode algorithm:** What is the intent of the episode design that needs to be reflected in the software code to produce the episode outputs?
- **Episode configuration:** What parameters (e.g., dollar amounts) and medical codes (e.g., diagnoses codes) need to be specified to define the episode?
- **Outputs:** What are the outputs of an episode algorithm?
- **Provider reports:** What information is included in the provider reports?

The algorithm logic in section 4 of the DBR is aimed at the IT team. It may also be helpful to the analytics team in their communication with the IT team over the course of quality controlling an episode. The algorithm logic addresses the following questions:

- What are the logical steps the episode algorithm needs to complete in order to produce the required outputs?
- Which cases does the algorithm need to address?
- Are there exceptions to the overall logic and, if so, how are they handled?

The DBR document does not cover the following topics:

- Background on how episodes compare to the current payment system
- Clinical rationale for inclusions and exclusions
- Intermediate analyses used during design of the episode
- Meeting materials used during design of the episode
- Guidance on data collection/transformation/storage
- Guidance on the episode algorithm coding approach

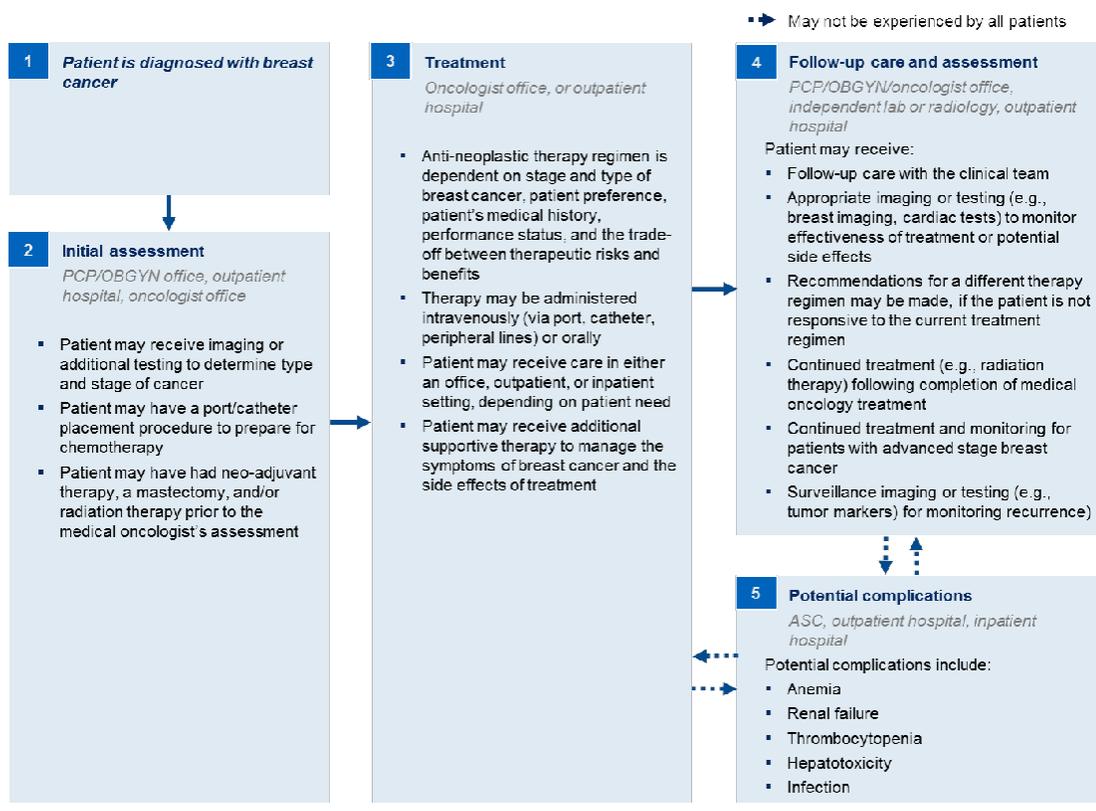
## 2. DESCRIPTION OF THE EPISODE

### 2.1 Patient journey

The episode described in this document pertains to patients who are receiving antineoplastic treatment for breast cancer. As depicted in Exhibit 2, the patient journey begins when a patient is diagnosed with breast cancer. Upon diagnosis of breast cancer, the patient may receive further imaging or additional testing to evaluate breast cancer stage and histologic type. The medical oncologist, in coordination with a surgeon and/or radiation oncologist in the case of non-metastatic disease, will determine a patient's therapy regimen. Depending on factors (such as stage, histologic type, biological factors such as HER2/ER/PR status, patient preference, clinical guidelines, and appropriate assessment of therapeutic risks and benefits), the patient may separately receive surgery before or after antineoplastic therapy. The patient may potentially also receive radiation therapy after antineoplastic therapy.

Prior to initiating antineoplastic therapy, some patients will undergo a port or catheter placement procedure. Antineoplastic therapy can be administered by a number of routes, including intravenously (via port, other central, or peripheral lines) or orally. Antineoplastic therapy may be administered in either an office, outpatient, or inpatient setting. In addition to the antineoplastic therapy regimen, the patient may receive supportive care to monitor and manage both the symptoms of breast cancer and the potential side effects of treatment (e.g., use of cardiac monitoring services). Depending on cancer stage, the patient may also undergo regular surveillance imaging and testing to monitor for toxicity and/or complications related to the antineoplastic therapy regimen. Potential complications of antineoplastic therapy treatment include anemia, neutropenia, infection, sepsis, dehydration, congestive heart failure, end-organ damage (e.g. renal failure, hepatotoxicity, neurotoxicity, etc.) and susceptibility to infections. If the patient is not responsive to the current treatment regimen, recommendations for a different therapy regimen may be made. Following completion of chemotherapy, depending on the patients' treatment plan and indications, the patient may receive radiation therapy.

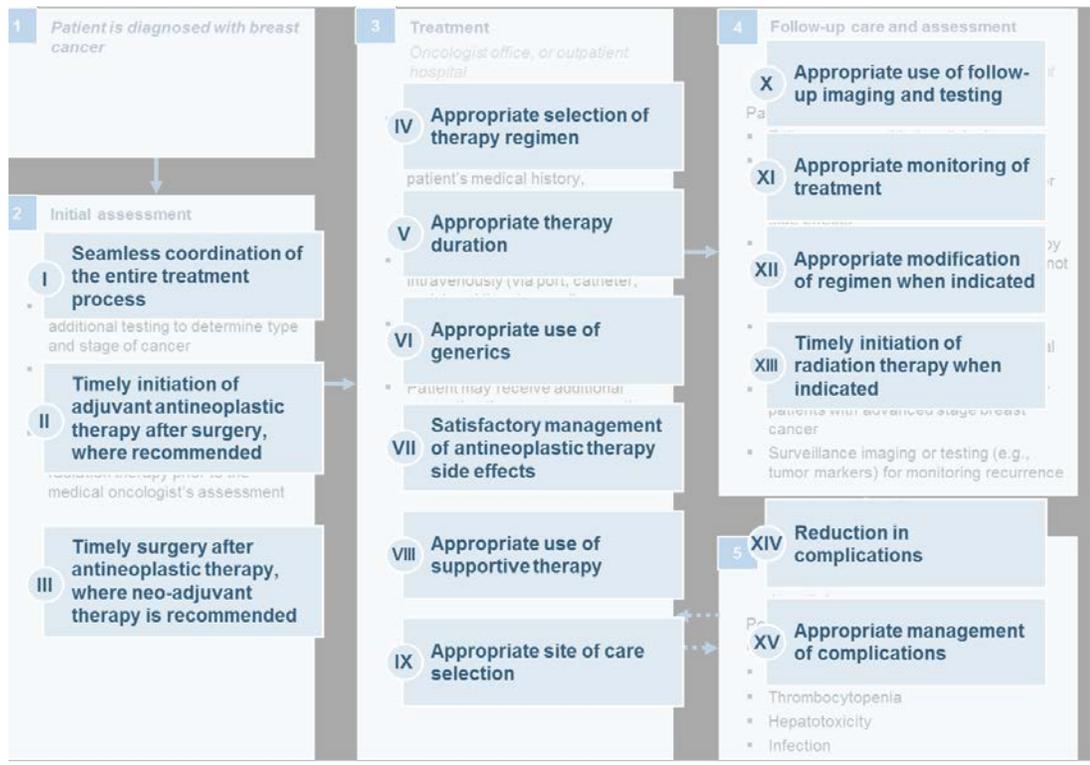
## EXHIBIT 1 – PATIENT JOURNEY FOR BREAST CANCER MEDICAL ONCOLOGY EPISODES



### 2.2 Sources of value

In treating patients receiving antineoplastic therapy, providers have several opportunities to improve both the quality and cost of care, and to reduce clinical variation (see Exhibit 2). An important source of value is the selection of antineoplastic therapy regimen for the appropriate duration (e.g., selection of the initial antineoplastic therapy drugs and the appropriate use of generic vs. branded drugs). Additionally, the provider can ensure the quality of care through appropriate follow-up care, including appropriate monitoring of the response to treatment. Through efficient management of the antineoplastic therapy treatment plan, providers have the opportunity to both reduce the likelihood of complications and manage them properly when they arise. Furthermore, well-coordinated antineoplastic therapy transitions from and to other therapies (i.e. mastectomy and radiation therapy), result in improved outcomes for the patients.

## EXHIBIT 2 – SOURCES OF VALUE FOR BREAST CANCER MEDICAL ONCOLOGY EPISODE

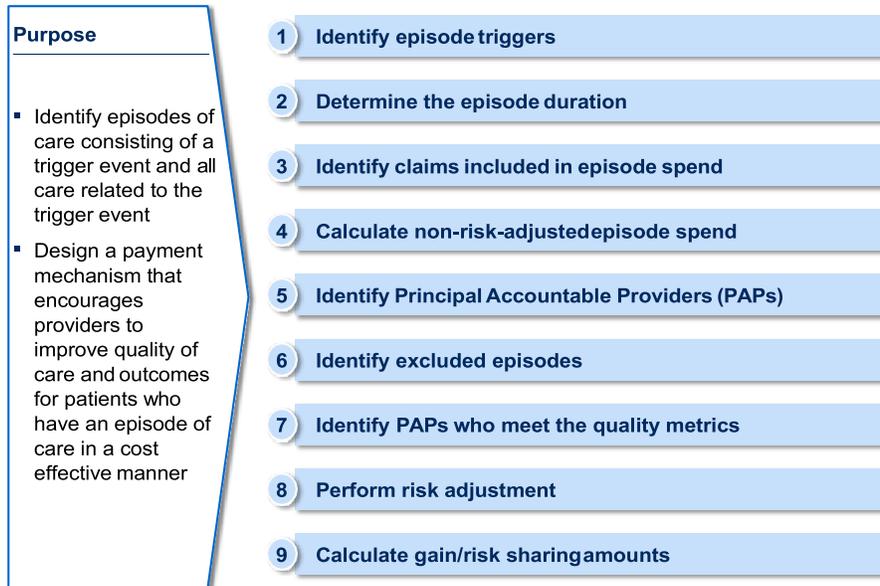


### 2.3 Design dimensions

Designing and building a breast cancer medical oncology episode comprises nine dimensions, as depicted in Exhibit 3. Each dimension is associated with a set of data manipulations that convert the data inputs to the desired data outputs. Section 3 provides additional details on the episode data flow.

## EXHIBIT 3 – EPISODE DESIGN DIMENSIONS

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### 2.3.1 Episode trigger

A potential trigger for a breast cancer medical oncology episode is identified in two ways:

- **Antineoplastic therapy (injection administration procedure) trigger:** A professional claim with a procedure code for administration of an antineoplastic therapy infusion where:
  - A primary diagnosis of breast cancer appears on the same claim, OR
  - A primary diagnosis of an encounter for antineoplastic therapy appears on the same claim AND an inpatient, outpatient, or professional claim with a primary diagnosis of breast cancer appears on a different claim within six months before or after the triggering claim
- **Antineoplastic therapy (oral medication) trigger:** A pharmacy claim with a medication code for administration of oral antineoplastic therapy AND an inpatient, outpatient, or professional claim with a primary diagnosis of breast cancer within six months before or after the triggering claim.

The configuration file lists the trigger procedure codes, medication codes and confirming diagnosis codes under “Trigger Procedures,” “Trigger Medications,” “Trigger Diagnosis – Breast Cancer,” and “Trigger Diagnosis – Antineoplastic” respectively. The potential trigger extends for the entire duration of the hospitalization. Claim types referenced throughout the DBR are defined in the glossary.

### 2.3.2 Episode duration

The duration of a breast cancer medical oncology episode comprises the trigger window. Overall, the duration of the episode is referred to as the episode window.

- **Pre-trigger window:** This episode has no pre-trigger window.
- **Trigger window:** The trigger window begins on the first day of a potential trigger that constitutes an episode and extends for an additional 179 days. If a hospitalization begins on or before the 180<sup>th</sup> day (i.e., is ongoing on the 181<sup>st</sup> day of the trigger window), then the trigger window is extended until discharge from the hospitalization. Extending the episode in this way may only occur once per episode window and does not lead to further extensions. For a definition of hospitalization, see the glossary.
- **Post-trigger window:** This episode has no post-trigger window.
- **Clean period:** The breast medical oncology episode does not have a clean period.

Based on the definitions of the clean period and the pre-trigger, trigger, and post-trigger windows, potential triggers are divided into trigger procedures and repeat procedures:

- **Trigger procedures:** Potential triggers that do not occur during another episode constitute the trigger window of a new episode.
- **Repeat procedures:** Potential triggers that occur within the clean period of an episode do not constitute the trigger window of a new episode.

### 2.3.3 Claims included in episode spend

Episode spend is calculated on the basis of claims directly related to or stemming from the breast cancer medical oncology episode. Claims that are included in the calculation of episode spend are referred to as included claims.

Claims that are not included in the calculation of episode spend are referred to as excluded claims. The criteria to identify included claims depend on the time window during which a claim occurs.

- **Pre-trigger window:** This episode has no pre-trigger window.
- **Trigger window:** Included claims during the trigger window fall into the following groups:
  - Included procedures: Outpatient and professional claim detail lines with an included procedure code (e.g., administration of breast cancer related chemotherapy).
  - Included hospitalizations: Hospitalizations are included in the calculation of episode spend if they are related to the episode. Hospitalizations that are related to the episode are identified using an included diagnosis code in the primary diagnosis field of an inpatient claim. All inpatient claims that are part of an included hospitalization are included claims. Hospitalizations without any included diagnosis codes in the primary diagnosis field are considered unrelated hospitalizations and are not included in the calculation of episode spend.
  - Included medications: Pharmacy claims with an included medication code.
  - Excluded procedures: Outpatient, inpatient, or professional claim detail lines with an excluded procedure code (such as mastectomy, lymph dissection, radiation therapy, or breast reconstruction) are excluded claim detail lines or claims from the trigger window, regardless of other inclusion logic.
- **Post-trigger window:** This episode has no post-trigger window.

The codes used to identify included hospitalizations as well as other included diagnoses, complication diagnoses, included procedures, included E&M procedures, included medications, excluded transportation, and excluded vaccinations are listed in the configuration file under “Included Diagnoses,” “Included Related Diagnoses,” “Included Procedures,” “Included E&M,” “Included Medications,” “Excluded Procedures,” “Excluded Transportation Procedures,” and “Excluded Vaccination Procedures,” respectively. The descriptions “All Claim Types,” “Outpatient Professional,” and “Inpatient” in

the list names indicate which claim types are searched for the corresponding diagnosis codes.

### 2.3.4 Episode spend

The episode spend is the amount that reflects the totality of spend for included claims. Since the totality of spend for included claims is not risk-adjusted, it is referred to as non-risk-adjusted episode spend. Based on the available data, Ohio Medicaid calculates the non-risk-adjusted episode spend as the sum of the allowed amount for included claims from Medicaid Fee For Service (FFS) and the sum of the paid amount for included claims from Medicaid Managed Care Plans (MCPs). Given variation in data and payment practices, payers should use their judgment in determining which fields to utilize so as to best reflect the entire spend of an episode.

To remove variation in inpatient spend that is intentionally not addressed by the episode-based payment model, spend for included, DRG-paid inpatient claims is calculated by summing the APR-DRG base payment and the APR-DRG outlier payment for each included, DRG-paid inpatient claim. Medical education and capital expenditure payments are not included in non-risk-adjusted episode spend.

The non-risk-adjusted episode spend is calculated overall and by claim type, by window during the episode, and by claim type and window during the episode.

For the purpose of risk-adjustment only, a separate measure of episode spend, referred to as normalized-non-risk-adjusted episode spend, is used. Normalized-non-risk-adjusted episode spend is calculated using normalized APR-DRG base rates for DRG-paid inpatient claims to remove variation in unit prices before performing risk adjustment. DRG-exempt inpatient, outpatient, professional, and pharmacy spend is calculated the same way for normalized-non-risk-adjusted episode spend as for non-risk-adjusted episode spend.

To calculate the DRG-paid inpatient spend component of normalized-non-risk-adjusted episode spend the APR-DRG base payment for each included DRG-paid inpatient claim is normalized using the following method: The normalized base rate is calculated as the average hospital base rate across all DRG-paid inpatient claims weighted by volume of DRG-paid inpatient claims. The DRG base payment on each DRG-paid inpatient claim is then multiplied by the ratio of the normalized base rate to the actual base rate of each hospital. Outlier payments, if present, are added unchanged. The medical education payment and

the capital expenditure payment are not included in normalized-non-risk-adjusted episode spend.

### 2.3.5 Principal Accountable Provider

The Principal Accountable Provider (PAP) is the provider deemed to be in the best position to influence the quality and cost of care for a patient receiving antineoplastic therapy. The breast cancer medical oncology episode uses the following plurality logic to identify the PAP:

- **Antineoplastic therapy (injection administration procedure):** When the episode has at least one claim with a procedure code for administration of antineoplastic therapy infusion, the PAP is the provider that has the plurality of therapy infusion-related visits during the episode window.
- **Antineoplastic therapy (oral-only regimen):** If the patient is on a completely oral antineoplastic regimen, the PAP is the provider with the plurality of related visits during the episode window.

The PAP is identified using the billing provider ID on the professional claim which triggered the episode.

### 2.3.6 Excluded episodes

Episode exclusions ensure that the remaining episodes are comparable to each other and allow fair comparisons between patient panels. After all exclusions that identify invalid episodes have been applied, a set of valid episodes remains. The valid episodes form the basis to assess the performance of PAPs.

#### ■ **Business exclusions:**

- **Dual eligibility:** An episode is excluded if a patient has dual coverage by Medicaid and Medicare at any time during the episode window. The configuration file lists the codes used to identify dual eligible beneficiaries under “Business Exclusions - Duals.”
- **FQHC/RHC:** An episode is excluded if the PAP is classified as a federally qualified health center or rural health clinic. The configuration file lists the codes used to identify FQHCs and RHCs under “Business Exclusions – FQHC And RHC.”
- **Incomplete episodes:** An episode is excluded if the non-risk-adjusted episode spend (not the risk-adjusted episode spend) is less than the

incomplete episode threshold. Spend less than the incomplete episode threshold may be an indication that claims are miscoded or incomplete. The incomplete episode threshold was set at the cost of the minimum services required to treat an episode. The incomplete episode threshold is listed as a parameter in the configuration file under “Excluded Episodes.”

- Inconsistent enrollment: An episode is excluded if there are gaps in full Medicaid coverage (FFS or with an MCP) of the patient during the episode window. The configuration file lists the codes used to identify beneficiaries with inconsistent enrollment under “Business Exclusions – Inconsistent Enrollment.”
- Long hospitalization: An episode is excluded if a hospitalization longer than (>) 30 days occurs during the episode window.
- Long-term care: An episode is excluded if long-term care occurs during the episode window.
- Missing APR-DRG: An episode is excluded if a DRG-paid inpatient claim during the episode is missing the APR-DRG and severity of illness.
- Multiple payers: An episode is excluded if a patient changes enrollment between FFS and an MCP or between two MCPs during the episode window. The rules to attribute an episode to a payer are described in the glossary under “Payer attribution.”
- PAP out of state: An episode is excluded if the PAP’s practice address is outside Ohio.
- No PAP: An episode is excluded if the billing provider number is not available.
- Third-party liability: An episode is excluded if third-party liability charges are present on any claim or claim detail line during the episode window or if the patient has relevant third-party coverage at any time during the episode window.

■ **Clinical exclusions:**

- Age: An episode is excluded if the patient is younger than thirteen (<13) or older than sixty-four (>64) years of age on the day of the triggering event.
- Males: All males are excluded from a breast cancer medical oncology episode.

- Comorbidity: An episode is excluded if the patient has one or more of the following comorbidities during a specified time window. The configuration file lists the comorbidity codes and time windows under “Comorbidities <Comorbidity Name> - <Procedures or Diagnoses>.” Comorbidity codes are searched for on inpatient, outpatient, and professional claims.

The comorbidity exclusions for **breast cancer medical oncology episode** are:

- Cardiac arrest during the episode window or during the 365 days before the episode window
- Coma or brain damage during the episode window or during the 365 days before the episode window
- Cystic fibrosis during the episode window or during the 365 days before the episode window
- End stage renal disease (ESRD) during the episode window or during the 365 days before the episode window
- HIV infection during the episode window or during the 365 days before the episode window
- Multiple sclerosis during the episode window or during the 365 days before the episode window
- Organ transplant during the episode window or during the 365 days before the episode window
- Paralysis during the episode window or during the 365 days before the episode window
- Tuberculosis during the episode window or during the 365 days before the episode window
- Aortic and peripheral artery embolism or thrombosis during the 365 days before the episode window
- Meningitis or Encephalitis during the episode window or during the 365 days before the episode window
- Other CNS infection and poliomyelitis during the episode window or during the 365 days before the episode window

- Parkinson’s disease during the episode window or during the 365 days before the episode window
  - Pregnancy during the episode window or during the 365 days before the episode window
  - Respiratory distress syndrome during the 365 days before the episode window
  - Sickle cell anemia during the episode window or during the 365 days before the episode window
  - Spinal cord injury during the episode window or during the 365 days before the episode window
- Death: An episode is excluded if the patient has a discharge status of “expired” on any inpatient or outpatient claim during the episode window or has a date of death before the end of the episode window.
  - Left against medical advice: An episode is excluded if a patient has a discharge status of “left against medical advice or discontinued care” on any inpatient or outpatient claim during the episode window.

■ **Outliers:**

- High outlier: An episode is excluded if the risk-adjusted episode spend (not the non-risk-adjusted episode spend) is greater than the high outlier threshold. The high outlier threshold was set based on analyses of episode spend distributions for episodes that ended between January 2014 and December 2014, inclusive. It was set at three standard deviations above the average risk-adjusted episode spend for otherwise valid episodes. The high outlier threshold is listed as a parameter in the configuration file under “High Outlier.”

### 2.3.7 Quality metrics

A PAP must pass all quality metrics tied to gain sharing to be eligible for gain sharing. PAPs also receive information on additional quality metrics that allow them to assess their performance, but do not affect their eligibility to participate in gain sharing. Quality metrics are calculated for each individual PAP across valid episodes attributed to the PAP. The quality metrics are based on information contained in the claims filed for each patient. Additional

information on how the quality metrics could be tied to gain sharing is provided in section 2.3.9 (“Gain and risk sharing”).

The breast cancer medical oncology episode has one quality metric that is tied to gain sharing and four informational (i.e. not tied to gain sharing) quality metrics.

- **Quality metric tied to gain sharing for breast cancer medical oncology episode:**
  - Quality metric 1: Percent of valid episodes with hospitalizations due to adverse events related to breast cancer medical oncology during the episode window. The codes used to identify adverse events are listed in the configuration file under “Quality Metric 01 Adverse Events.”
- **Quality metrics not tied to gain sharing for breast cancer medical oncology episode:**
  - Quality metric 2: Percent of valid episodes on aromatase therapy for breast cancer who had a central dual energy X-ray absorptiometry (DXA) or are on pharmacologic therapy during the 6 months before the triggering procedure and during the episode window. The codes used to identify aromatase therapy, DXA scan or pharmacologic therapy are listed in the configuration file under “Quality Metric 02 Aromatase Therapy - Procedures,” “Quality Metric 02 Aromatase Therapy - Medications,” “Quality Metric 02 DXA Scan,” “Quality Metric 02 Pharmacological Therapy - Procedures,” or “Quality Metric 02 Pharmacological Therapy – Medications” respectively.
  - Quality metric 3: Percent of episodes with antineoplastic therapy within 30 days before death. The codes used to identify an antineoplastic therapy, antineoplastic medication, and patient death are listed in the configuration file under “Trigger Procedures,” “Trigger Medications,” “Quality Metric 03 Patient - Death” respectively.
  - Quality metric 4: Percent of valid episodes with timely transition to antineoplastic therapy. This includes episodes with evidence of a breast biopsy or mastectomy up to 60 days before the triggering procedure. The codes used to identify breast biopsy and mastectomy are listed in the configuration file under “Quality Metric 04 Breast Biopsy,” “Quality Metric 04 Breast Cancer Surgery” respectively.

- Quality metric 5: Percent of total episodes (valid and invalid episodes) with complete patient-level clinical factor reporting to the Cancer Registry within the episode window. Please note that registry data is currently unavailable for the calculation of this metric. When registry data becomes available, a value for this metric will be displayed in the episode provider reports.

### 2.3.8 Risk adjustment

Principal Accountable Providers (PAPs) participating in episode-based payment models are compared based on their performance on quality metrics and based on the average spend for episodes treated by each PAP. The credibility and effectiveness of an episode-based payment model therefore rests on the comparability and fairness of the episode spend measure used in the comparisons. Risk adjustment is one of several mechanisms that episode-based payment models may use to achieve comparability in episode spend across PAPs.

Risk adjustment specifically captures the impact on episode spend of documented clinical risk factors that typically require additional care during an episode and are outside the control of the PAP. The goal of risk adjustment is to account for different levels of medical risk across patient panels and, by doing so, reduce incentives for tactical selection of patients (i.e., avoiding riskier and more costly patients) when payments are tied to episode spend performance.

Risk factors and risk coefficients are identified in an iterative process informed by medical best practice, expert opinion, and statistical testing. The risk coefficients are used to calculate a risk score for each episode given the risk factors that are present for the episode. The risk score represents the ratio of the expected episode spend when no risk factors are present to the expected episode spend given the set of risk factors present for the episode. Multiplying the observed episode spend by the risk score results in the risk-adjusted episode spend. Risk-adjusted episode spend represents how much spend would have been incurred during the episode had there been no risk factors present, all other things being equal. By minimizing the effect of clinically documented medical risk that is outside the control of the PAP on episode spend, risk-adjustment contributes to the fairness of the episode spend comparisons that underlie episode-based payment models.

For additional details on the risk adjustment process, please refer to the document “Supporting documentation on episode risk adjustment.”

This process was conducted as part of episode design by the Ohio Department of Medicaid. Risk factors and coefficients derived from this process are included in the accompanying configuration file. At this time it is not expected that individual payers run their own risk adjustment process for the Ohio Medicaid population.

The breast cancer medical oncology risk factors are:

- Presence of targeted therapy drugs for HER-2 positive breast cancer patients during the episode window
- Secondary malignancy (except axillary lymph nodes, breast) during the episode window or during the 365 days before the episode trigger
- Family history of breast cancer during the episode window or during the 365 days before the episode trigger

The codes used to identify each risk factor are listed in the configuration file under “Risk Factor <risk factor number and name>.” The risk coefficients associated with each risk factor are listed as parameters in the configuration file under “Risk Adjustment.”

### 2.3.9 Gain and risk sharing

The State of Ohio and the MCPs will send provider reports to PAPs to inform them about their performance in the episode-based payment model. A detailed description of the provider reports is beyond the scope of the Detailed Business Requirements. Please refer to the “Episode of Care Payment Report Sample” provided separately as a general guide for the layout and metrics of the provider reports.

At some point after thresholds are set, provider reports will include gain/risk sharing information. Gain/risk sharing is determined based on the comparison of the average risk-adjusted episode spend for valid episodes of each PAP to three pre-determined thresholds. The thresholds and relevant calculations are detailed below. Note that, throughout this section, the average risk-adjusted episode spend for valid episodes will be referred to as the ‘average risk-adjusted spend’:

- **Acceptable threshold:** PAPs with an average risk-adjusted spend above the acceptable threshold and that also have a minimum of five valid episodes during the performance period owe a risk-sharing payment.

- **Commendable threshold:** PAPs with an average risk-adjusted spend between the commendable threshold and above the gain sharing limit threshold that also have a minimum of five valid episodes and pass the quality metrics tied to gain sharing during the performance period receive a gain sharing payment.
- **Gain sharing limit threshold:** PAPs with average risk-adjusted spend below the gain sharing limit threshold that also have a minimum of five valid episodes and pass the quality measures tied to gain sharing receive a gain sharing payment that is proportional to the difference between the commendable threshold and the gain sharing limit as a percentage of average risk-adjusted episode spend.

PAPs with average risk-adjusted episode spend between the acceptable and commendable thresholds may neither owe a risk sharing payment nor receive a gain sharing payment.

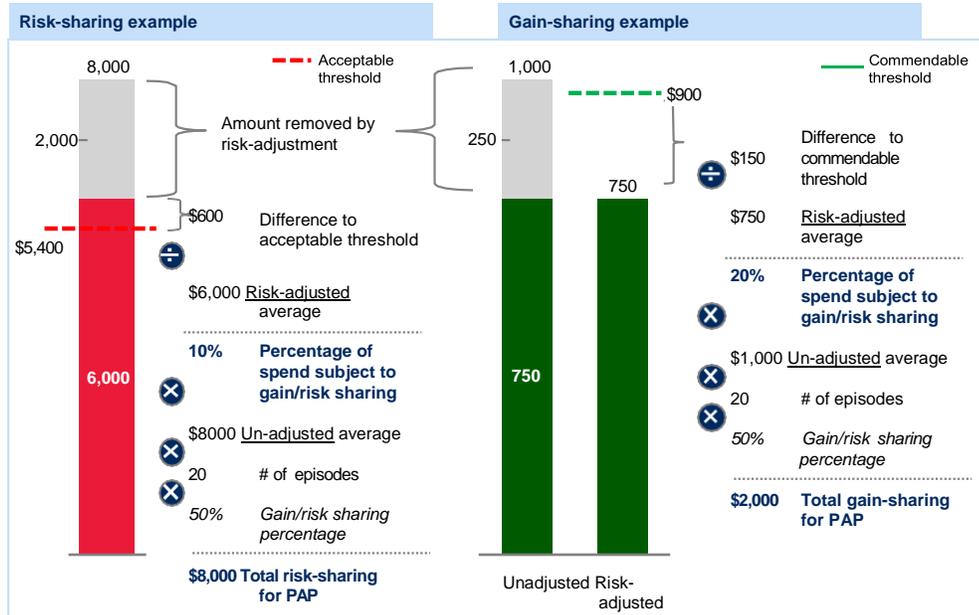
The gain or risk sharing payment of each PAP is calculated based on episodes that ended during a performance period of a certain length (e.g., 12 months). The calculation of the gain or risk sharing payment is as follows (Exhibit 4):

- **Risk sharing:** The calculation of the risk-sharing amount involves multiplying the percentage of spend subject to risk-sharing by the total non risk-adjusted episode spend for all valid episodes of the PAP and the risk-sharing proportion (e.g., 50%). The percentage of spend subject to risk-sharing is the difference between the PAP's risk-adjusted spend and the acceptable threshold as a percentage of the PAP's risk-adjusted spend.
- **Gain sharing:** The calculation of the gain-sharing amount involves multiplying the percentage of spend subject to gain sharing by both a PAP's total non risk-adjusted episode spend for valid episodes and the gain-sharing proportion (e.g., 50%). The calculation of the percentage of spend subject to gain sharing depends on whether the PAP's average risk-adjusted spend is above or below the gain-sharing limit:
  - If a PAP's average risk-adjusted spend is above the gain sharing limit, the percentage of spend subject to gain-sharing is the difference between the PAP's average risk-adjusted spend and the commendable threshold as a percentage of the PAP's average risk-adjusted spend.
  - If the PAP's average risk-adjusted spend is below the gain sharing limit, the percentage of spend subject to gain sharing is the difference between

the gain sharing limit and the commendable threshold as a percentage of the PAP's average risk-adjusted spend.

EXHIBIT 2 – CALCULATION OF RISK- AND GAIN-SHARING PAYMENTS

ILLUSTRATIVE EXAMPLE



3. EPISODE DATA FLOW

The analytics underlying an episode-based payment model are performed by an episode algorithm. The algorithm takes an input dataset, transforms the data in accordance with the intent of the episode design, and produces a set of output tables (Exhibit 5). The output tables are used to create provider reports.

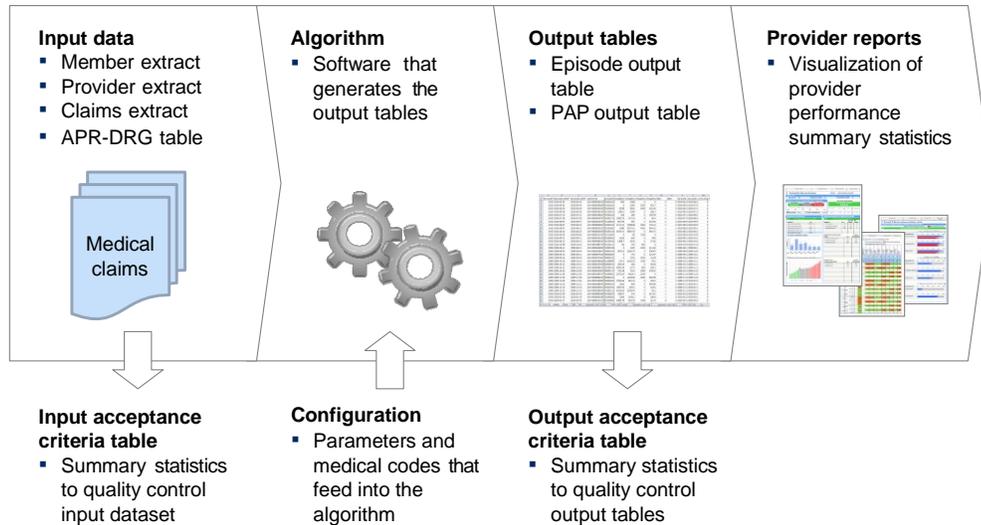
Several of the episode design dimensions require input parameters such as age ranges and medical codes such as diagnosis, procedure, and medication codes to specify the intent of the episode. The parameters and medical codes are provided in the episode configuration.

It is recommended that the episode data flow include two elements for quality assurance: (1) An input acceptance criteria table to assess the content and quality of the input dataset. (2) An output acceptance criteria table to assess the content

and quality of the output tables. It is the responsibility of each payer to determine the details of appropriate quality assurance measures.

## EXHIBIT 5 – EPISODE DATA FLOW

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### 3.1 Input data

To build an episode, the following input data are needed:

- **Member Extract:** List of patients and their health insurance enrollment information.
- **Provider Extract:** List of participating providers and their addresses.
- **Claims Extract:** Institutional claims (UB-04 claim form), professional claims (CMS1500 claim form), and pharmacy claims (NCPDP claim form) at the patient level.
- **APR-DRG Base Rate Table:** Table containing the APR-DRG base rate for each DRG-paid provider.

The table below lists the required input fields using the source field abbreviations and source table names provided in the Ohio Vendor Extracts

Companion Guides. The algorithm logic (section 4) describes the use of each input field. In the algorithm logic, input fields are referred to by the “Source field name in DBR” and written in italics.

**Table – Input fields**

| Source field name in DBR   | Source field abbreviation<br>OH Medicaid | Source table names OH<br>Medicaid           |
|----------------------------|--|---|
| <b>Member Extract</b>      |  |   |
| Member ID                  | ID_MEDICAID                              | DSS.T_RE_BASE_DN                            |
| Eligibility Start Date     | DTE_EFFECTIVE                            | DSS.T_RE_AID_ELIG_DN                        |
| Eligibility End Date       | DTE_END                                  | DSS.T_RE_AID_ELIG_DN                        |
| Aid Category               | CDE_AID_CATEGORY                         | DSS.T_RE_AID_ELIG_DN                        |
| MCP Start Date             | DTE_EFFECTIVE                            | DSS.T_RE_PMP_ASSIGN                         |
| MCP End Date               | DTE_END                                  | DSS.T_RE_PMP_ASSIGN                         |
| Date Of Birth              | DTE_BIRTH                                | DSS.T_RE_BASE_DN                            |
| Date Of Death              | DTE_DEATH                                | DSS.T_RE_BASE_DN                            |
| TPL Effective Date         | DTE_TPL_EFFECTIVE                        | DSS.T_COVERAGE_XREF                         |
| TPL End Date               | DTE_TPL_END                              | DSS.T_COVERAGE_XREF                         |
| Coverage Type              | CDE_COVERAGE                             | DSS.T_COVERAGE_XREF                         |
| <b>Provider Extract</b>    |  |   |
| Provider ID                | ID_PROVIDER_MCAID                        | DSS.T_PR_SVC_LOC_DN                         |
| Provider Name              | NAME                                     | DSS.T_PR_APPLN                              |
| Practice Address Line 1    | ADR_MAIL_STRT1                           | DSS.T_PR_ADR_DN                             |
| Practice Address Line 2    | ADR_MAIL_STRT2                           | DSS.T_PR_ADR_DN                             |
| Practice City              | ADR_MAIL_CITY                            | DSS.T_PR_ADR_DN                             |
| Practice State             | ADR_MAIL_STATE                           | DSS.T_PR_ADR_DN                             |
| Practice Zip Code          | ADR_MAIL_ZIP                             | DSS.T_PR_ADR_DN                             |
| <b>Claims Extract</b>      |  |   |
| Internal Control Number    | NUM_ICN                                  | DSS.T_CA_ICN                                |
| FFS Or MCP Indicator       | IND_CLAIM                                | DSS.T_CA_ICN                                |
| MCP ID                     | ID_PROVIDER_MCAID                        | T_CA_PROV_KEY<br>T_CA_ICN.MCO_PROV_KEY      |
| Header Or Detail Indicator | IND_HDR_DTL                              | DSS.T_CA_IND_KEY                            |
| Claim Type                 | CDE_CLM_TYPE                             | DSS.T_CA_CLAIM_KEY                          |
| Header Paid Status         | CDE_HDR_STATUS                           | DSS.T_CA_CLAIM_KEY                          |
| Detail Paid Status         | CDE_DTL_STATUS                           | DSS.T_CA_CLAIM_KEY                          |
| Member ID                  | ID_MEDICAID                              | DSS.T_CA_ICN                                |
| Billing Provider ID        | ID_PROVIDER_MCAID                        | T_CA_PROV_KEY<br>T_CA_ICN.BILL_PROV_KEY     |
| Billing Provider Type      | CDE_PROV_TYPE_PRIM                       | DSS.T_CA_PROV_KEY<br>T_CA_ICN.BILL_PROV_KEY |

| Source field name in DBR        | Source field abbreviation<br>OH Medicaid | Source table names OH<br>Medicaid        |
|---------------------------------|--|--|
| Attending Provider ID           | ID_PROVIDER_MCAID                        | T_CA_PROV_KEY<br>T_CA_ICN.REFER_PROV_KEY |
| Rendering Provider ID           | ID_PROVIDER_MCAID                        | T_CA_PROV_KEY<br>T_CA_ICN.PERF_PROV_KEY  |
| Header From Date Of Service     | DTE_FIRST_SVC_H                          | DSS.T_CA_ICN                             |
| Header To Date Of Service       | DTE_LAST_SVC_H                           | DSS.T_CA_ICN                             |
| Detail From Date Of Service     | DTE_FIRST_SVC_D                          | DSS.T_CA_ICN                             |
| Detail To Date Of Service       | DTE_LAST_SVC_D                           | DSS.T_CA_ICN                             |
| Admission Date                  | DTE_ADMISSION                            | DSS.T_CA_ICN                             |
| Discharge Date                  | DTE_DISCHARGE                            | DSS.T_CA_ICN                             |
| Patient Status Indicator        | CDE_PATIENT_STATUS                       | DSS.T_CA_UB92                            |
| Header Diagnosis Code Primary   | CDE_DIAG<br>and CDE_DIAG_SEQ = 01        | DSS.T_CA_DIAG                            |
| Header Diagnosis Code 2-28      | CDE_DIAG<br>and CDE_DIAG_SEQ = 02-28     | DSS.T_CA_DIAG                            |
| Surgical Procedure Code Primary | CDE_PROC_ICD9<br>and NUM_SEQ = 01        | DSS.T_CA_ICD9_PROC                       |
| Surgical Procedure Code 2-24    | CDE_PROC_ICD9<br>and NUM_SEQ = 02-24     | DSS.T_CA_ICD9_PROC                       |
| Detail Procedure Code           | CDE_PROC_PRIM                            | DSS.T_CA_ICN<br>DSS.T_CA_HDR_DTL         |
| Modifier 1-4                    | CDE_MODIFIER_X                           | DSS.T_CA_ICN<br>DSS.T_CA_HDR_DTL         |
| Place Of Service                | CDE_POS                                  | DSS.T_CA_CLAIM_KEY                       |
| Revenue Code                    | CDE_REVENUE                              | DSS.T_CA_ICN<br>DSS.T_CA_HDR_DTL         |
| National Drug Code              | CDE_NDC                                  | DSS.T_CA_DRUG                            |
| HIC3 Code                       | CDE_THERA_CLS_SPEC                       | DSS.T_CA_DRUG                            |
| Header FFS Allowed Amount       | AMT_ALWD_H                               | DSS.T_CA_ICN                             |
| Detail FFS Allowed Amount       | AMT_ALWD_D                               | DSS.T_CA_ICN                             |
| Header MCP Paid Amount          | AMT_PAID_MCO_H                           | DSS.T_CA_ICN                             |
| Detail MCP Paid Amount          | AMT_PAID_MCO_D                           | DSS.T_CA_ICN                             |
| Header TPL Amount               | AMT_TPL_APPLD_H                          | DSS.T_CA_ICN                             |
| Detail TPL Amount               | AMT_TPL_APPLD_D                          | DSS.T_CA_ICN                             |

| Source field name in DBR       | Source field abbreviation OH Medicaid | Source table names OH Medicaid   |
|--------------------------------|---------------------------------------|----------------------------------|
| APR-DRG                        | CDE_DRG                               | DSS.T_CA_ICN                     |
| Severity of Illness            | CDE_SOI                               | DSS.T_CA_DRG                     |
| DRG Base Payment               | AMT_BASE_DRG                          | DSS.T_CA_UB92                    |
| DRG Outlier Payment A          | AMT_DAY_OUTLIER                       | DSS.T_CA_UB92                    |
| DRG Outlier Payment B          | AMT_COST_OUTLIER                      | DSS.T_CA_UB92                    |
| <b>APR-DRG Base Rate Table</b> |                                       |                                  |
| Provider ID                    | Medicaid Provider ID                  | APR DRG Base Rates to Plans.xlsx |
| Base Rate                      | Base Rate                             | APR DRG Base Rates to Plans.xlsx |

The date range for the input data has to include the 12 months duration of the reporting period as well as the 18 months preceding the reporting period. The time period preceding the reporting period is set at 18 months as it is comprised of the duration of the episode window as well as 12 months prior to the episode trigger. This time period is needed to allow for identification of risk factors and comorbidities as well as to provide sufficient input data to identify the episode start date for the first episodes that end during the reporting period.

The input data includes claims from the payer responsible for the episode as well as historical claims from other Medicaid payers prior to the episode trigger. Payers are provided with this claims data upon member enrollment. The inclusion of this data is particularly important in generating appropriate risk factors and exclusions.

Historical data should be treated exactly the same as claims that were submitted directly to the payer with one exception: Payers should only report on episodes for which they paid the triggering claim in order to avoid double-counting of episodes across plans.

The input data has to contain only unique and paid claims. It is the responsibility of each payer to apply appropriate methods to ensure that all claims in the input data are valid, de-duplicated, and paid. For Ohio Medicaid, the methods provided by the State are used to remove duplicate and void claims. The input fields *Header Paid Status* and *Detail Paid Status* are used to determine whether a claim or claim detail line was paid.

If the value of an input field from the Claims Extract that is required to build an episode is missing or invalid, then the corresponding claim is ignored when

building the episode. For example, a claim that would be a potential trigger, but is missing the *Header From Date Of Service*, cannot be a potential trigger.

### 3.2 Episode algorithm

The intent of the episode algorithm is detailed in the algorithm logic (section 4) of the DBR.

### 3.3 Episode configuration

The parameters and medical codes needed to define an episode are listed in the configuration file which is provided as an attachment to the DBR. There is one configuration file for the breast cancer medical oncology episode. The files include:

- **Parameters sheet:** Values for parameters used in the episode, for example the outlier thresholds and risk coefficients.
- **Code sheet:** Medical codes used in the episode, for example trigger diagnosis or procedure codes and codes to identify included claims. Diagnosis and procedure codes may be provided as complete or incomplete codes. If an incomplete code is provided, the incomplete code itself as well as all complete codes that stem from it need to be taken into account when using the code.

The algorithm logic (section 4) explains the intended use of the parameters and medical codes by the episode algorithm. References to medical codes in the configuration file are made using the name for the relevant design dimension subcategory in the code sheet of the configuration file. References to parameters in the configuration file are made using the name for the relevant design dimension in the parameters sheet of the configuration file.

### 3.4 Output tables

Using the input data tables and the configuration file, an episode algorithm creates two output tables: the episode output table and the PAP output table. The algorithm logic (section 4) describes the definition of each output field. In the algorithm logic, output fields are referred to by the output field names provided in the tables below and are written in italics.

### 3.4.1 Episode output table

The episode output table contains the set of episodes identified by the algorithm and the characteristics of each episode. The table below lists the required output fields.

**Table – Episode Output Table**

| Output field name                     | Output field abbreviation |
|---------------------------------------|---------------------------|
| <b>Episode identification</b>         |                           |
| Trigger Claim ID                      | TriggerClaimID            |
| Member ID                             | MemberID                  |
| Member Age                            | MemberAge                 |
| Episode Start Date                    | EpisodeStartDate          |
| Episode End Date                      | EpisodeEndDate            |
| Trigger Window Start Date             | TriggerWindowStartDate    |
| Trigger Window End Date               | TriggerWindowEndDate      |
| PAP ID                                | PAPID                     |
| PAP Name                              | PAPName                   |
| Rendering Provider ID                 | RenderingID               |
| Rendering Provider Name               | RenderingName             |
| <b>Excluded episodes</b>              |                           |
| Any Exclusion                         | EEAny                     |
| Exclusion Age                         | EEAge                     |
| Exclusion Death                       | EEDeath                   |
| Exclusion Dual Eligibility            | EEDual                    |
| Exclusion Emergent Care               | EEEmergent                |
| Exclusion High Outlier                | EEHighOutlier             |
| Exclusion Incomplete Episode          | EEIncomplete              |
| Exclusion Inconsistent Enrollment     | EEEnrollment              |
| Exclusion Left Against Medical Advice | EEAMA                     |
| Exclusion Long Hospitalization        | EELongAdmission           |
| Exclusion Long-term Care              | EELTC                     |
| Exclusion Missing DRG                 | EENoDRG                   |
| Exclusion Multiple Payers             | EEMultiPayer              |
| Exclusion No PAP                      | EENoPAP                   |
| Exclusion PAP Out Of State            | EEOutOfState              |
| Exclusion Third-party Liability       | EETPL                     |
| Exclusion <Comorbidity Name>          | EE<ComorbidityName>       |

| Output field name                          | Output field abbreviation   |
|--|-----------------------------|
| Number of comorbidities depends on episode |                             |
| <b>Count Of Included Claims</b>            |                             |
| Count Of Included Claims                   | EpiClaimsIncluded           |
| By Trigger Window                          | EpiClaimsIncludedTrig       |
| By Inpatient                               | EpiClaimsIncludedIP         |
| By Outpatient                              | EpiClaimsIncludedOP         |
| By Professional                            | EpiClaimsIncludedProf       |
| By Pharmacy                                | EpiClaimsIncludedPharma     |
| By Trigger Window And Inpatient            | EpiClaimsIncludedTrigIP     |
| By Trigger Window And Outpatient           | EpiClaimsIncludedTrigOP     |
| By Trigger Window And Professional         | EpiClaimsIncludedTrigProf   |
| By Trigger Window And Pharmacy             | EpiClaimsIncludedTrigPharma |
| <b>Episode spend</b>                       |                             |
| Non-risk-adjusted Episode Spend            | EpiSpendNonadjPerformance   |
| Same breakouts as for claim counts         |                             |
| Normalized-non-risk-adjusted Episode Spend | EpiSpendNonAdjNorm          |
| Risk-adjusted Episode Spend                | EpiSpendAdjPerformance      |
| <b>Risk adjustment</b>                     |                             |
| Episode Risk Score                         | EpiRiskScore                |
| Risk Factor 001                            | RF001                       |
| Risk Factor 002                            | RF002                       |
| Risk Factor 003                            | RF003                       |
| Number of RFs depends on episode           |                             |
| <b>Quality metrics</b>                     |                             |
| Quality Metric 01 Indicator                | EpiQM01                     |
| Quality Metric 02 Indicator                | EpiQM02                     |
| Quality Metric 03 Indicator                | EpiQM03                     |
| Number of QMs depends on episode           |                             |

### 3.4.2 PAP output table

The PAP output table contains information about each PAP and their episodes. The table below lists the required output fields.

**Table – PAP Output Table**

| Output field name         | Output field abbreviation |
|---------------------------|---------------------------|
| <b>PAP identification</b> |                           |
| PAP ID                    | PAPID                     |
| PAP Name                  | PAPName                   |
| PAP Address Line 1        | PAPAddress1               |

| Output field name                   | Output field abbreviation              |
|-------------------------------------|--|
| PAP Address Line 2                  | PAPAddress2                            |
| PAP City                            | PAPCity                                |
| PAP State                           | PAPState                               |
| PAP Zip Code                        | PAPZip                                 |
| <b>Episode counts</b>               |  |
| Count Of Total Episodes Per PAP     | PAPEpisodesTotal                       |
| Count Of Valid Episodes Per PAP     | PAPEpisodesValid                       |
| With Inpatient                      | PAPEpiWithIP                           |
| With Outpatient                     | PAPEpiWithOP                           |
| With Professional                   | PAPEpiWithProf                         |
| With Pharmacy                       | PAPEpiWithPharma                       |
| <b>PAP performance</b>              |  |
| Gain Sharing Quality Metric Pass    | PAPQMPassOverall                       |
| Gain/Risk Sharing Amount            | PAPGainRiskShare                       |
| PAP Sharing Level                   | PAPSharingLevel                        |
| Minimum Episode Volume Pass         | MinEpiPass                             |
| <b>PAP spend</b>                    |  |
| Average Non-risk-adjusted PAP Spend | PAPSpendNonadjPerformanceAvg           |
| Inpatient A/B                       | PAPSpendNonadjPerformanceAvgIP A/B     |
| Outpatient A/B                      | PAPSpendNonadjPerformanceAvgOP A/B     |
| Professional A/B                    | PAPSpendNonadjPerformanceAvgProf A/B   |
| Pharmacy A/B                        | PAPSpendNonadjPerformanceAvgPharma A/B |
| Total Non-risk-adjusted PAP Spend   | PAPSpendNonadjPerformanceTotal         |
| PAP Risk Adjustment Ratio           | PAPRiskAdjRatioPerformance             |
| Average Risk-adjusted PAP Spend     | PAPSpendAdjPerformanceAvg              |
| Total Risk-adjusted PAP Spend       | PAPSpendAdjPerformanceTotal            |
| <b>Quality metrics performance</b>  |  |
| PAP Quality Metric 01 Performance   | PAPQM01                                |
| PAP Quality Metric 02 Performance   | PAPQM02                                |
| PAP Quality Metric 03 Performance   | PAPQM03                                |
| Number of QMs depends on episode    |  |

### 3.5 Provider reports

During the initial implementation phase, each PAP receives a report to inform them about their performance in the episode-based payment model. The information shown in the provider report is based on the episode and PAP output

tables. The reports show episodes with an episode end date during the reporting period. A detailed description of the provider report is beyond the scope of the Detailed Business Requirements. Please refer to the “Episode of Care Payment Report Sample” provided separately as a general guide for the layout and metrics of the provider report.

## 4. ALGORITHM LOGIC

The algorithm logic forms the basis to code an episode algorithm. It explains the intent of the episode design at a level of granularity that will allow an IT implementation team to create an algorithm that matches the episode design.

### 4.1 Identify episode triggers

The first design dimension of building a breast cancer medical oncology episode is to identify potential triggers.

**Episode output fields created:** *Trigger Claim ID, Member ID*

Potential triggers are identified over the entire date range of the input data. For the breast cancer medical oncology episode, a potential trigger is defined as a professional claim with a relevant breast cancer medical oncology administration procedure code or a pharmacy claim with a relevant oral breast-cancer related administration of oral medication. Claim types (inpatient, outpatient, professional, and pharmacy) are identified based on the input field *Claim Type*. For the definition of each claim type see the glossary.

A potential professional trigger claim must meet both a procedure requirement and a diagnostic requirement. For the procedure requirement, the potential professional trigger must meet both of the following conditions:

- The claim has a procedure code for an antineoplastic therapy administration in the input field *Detail Procedure Code* on one or more of its claim detail lines. The configuration file lists the procedure codes under “Trigger Procedures.” AND
- The claim has at least one claim detail line with an episode-specific procedure code that does not contain a modifier for assistant surgeon, nurse,

or discontinued procedure in one of the input fields *All Modifiers*. The configuration file lists the modifiers under “*Assistant Surgeon*”, “*Nurse*”, and “*Discontinued*.”

For the diagnosis requirement, the potential professional trigger must meet one of the following conditions:

- The professional claim has, in the primary diagnosis field, a diagnosis code for an episode-specific trigger diagnosis code in the input field *Header Diagnosis Code*. The configuration file lists the episode-specific trigger diagnosis codes under “Trigger Diagnosis – Breast Cancer,” OR
- The professional claim has, in the primary diagnosis field, a diagnosis code for an episode-specific diagnosis code for antineoplastic therapy in the input field *Header Diagnosis Code*. The configuration file lists the episode-specific trigger diagnosis codes for antineoplastic therapy under “Trigger Diagnosis – Antineoplastic”. In addition, for this claim to be considered a potential trigger, a separate inpatient, outpatient, or professional claim must also exist containing a diagnosis code for breast cancer in the input field *Header Diagnosis Code* in the primary field, as listed in the configuration file under “Trigger Diagnosis – Breast Cancer”. The separate claim containing the diagnosis code for breast cancer must also have either a *Detail From Date Of Service* or *Header From Date of Service* falling between 180 days before or 179 days after the *Detail From Date Of Service* on the professional claim with the episode-specific trigger diagnosis code for antineoplastic therapy, inclusive. If such a separate claim cannot be found, the professional claim with the antineoplastic therapy diagnosis is not considered a potential trigger.

A potential pharmacy trigger must meet both a medication requirement and a diagnosis requirement. For the medication and diagnosis requirement, the potential pharmacy trigger must meet the following conditions:

- The pharmacy claim has a HIC3 medication code for an episode-specific medication. The configuration file lists the episode-specific medication codes under “Trigger Medications” AND
- A separate claim inpatient, outpatient, or professional claim exists containing a diagnosis code for breast cancer in the input field *Header Diagnosis Code* in the primary field, as listed in the configuration file under “Trigger Diagnosis – Breast Cancer”. This claim must also have a *Header From Date Of Service* (for inpatient claims) or a *Detail From Date Of Service* (for

outpatient and professional claims) falling between 180 days before or 179 days after the Header From Date Of Service on the pharmacy claim with the episode-specific medication, inclusive.

The output field *Trigger Claim ID* is set to the input field *Internal Control Number* of the professional claim that identifies a potential trigger. The output field *Member ID* is set to the input field *Member ID* of the professional claim that identifies a potential trigger.

Once all potential triggers have been identified, the preliminary start and end dates for each potential trigger can be extended if they overlap with another hospitalization. In order for an extension to occur, the hospitalization must meet one of the following conditions:

- The preliminary potential trigger start and end dates both occur between the hospitalization start and end dates
- The preliminary potential trigger start date occurs between the hospitalization start date and 1 day before the hospitalization end date
- The hospitalization start date occurs between the preliminary potential trigger start date and 1 day before the preliminary potential trigger end date, and the hospitalization end date occurs after the preliminary potential trigger end date.

This extension is possible even if the trigger claim (and associated facility claim, if applicable to the episode) does not have a *Claim Type* of inpatient, as long as the trigger logic does not explicitly prohibit episodes to trigger during an inpatient stay. An overlapping hospitalization cannot result in the shortening of the preliminary potential trigger duration.

For the definition of hospitalizations see the glossary. The extension logic only applies to the first overlapping hospitalization. Additional extension is not allowed if the extended potential trigger window overlaps with another hospitalization.

## **4.2 Determine the episode duration**

The second design dimension of building a breast cancer medical oncology episode is to define the duration of the episode and to assign claims and claim detail lines to each episode.

**Episode output fields created:** *Trigger Window Start Date, Trigger Window End Date, Episode Start Date, Episode End Date*

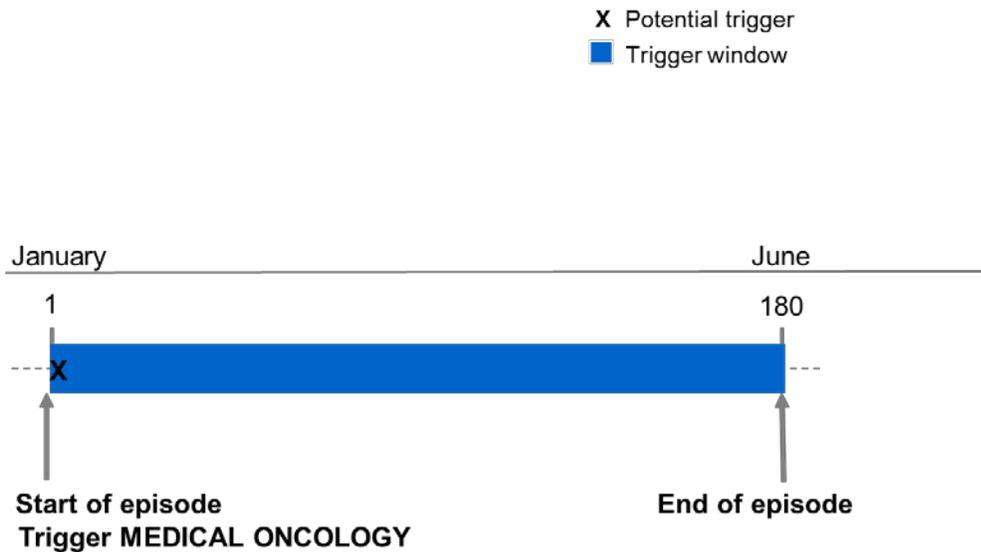
One time windows is relevant in determining the episode duration (see Exhibit 6).

EXHIBIT 6 – EPISODE DURATION

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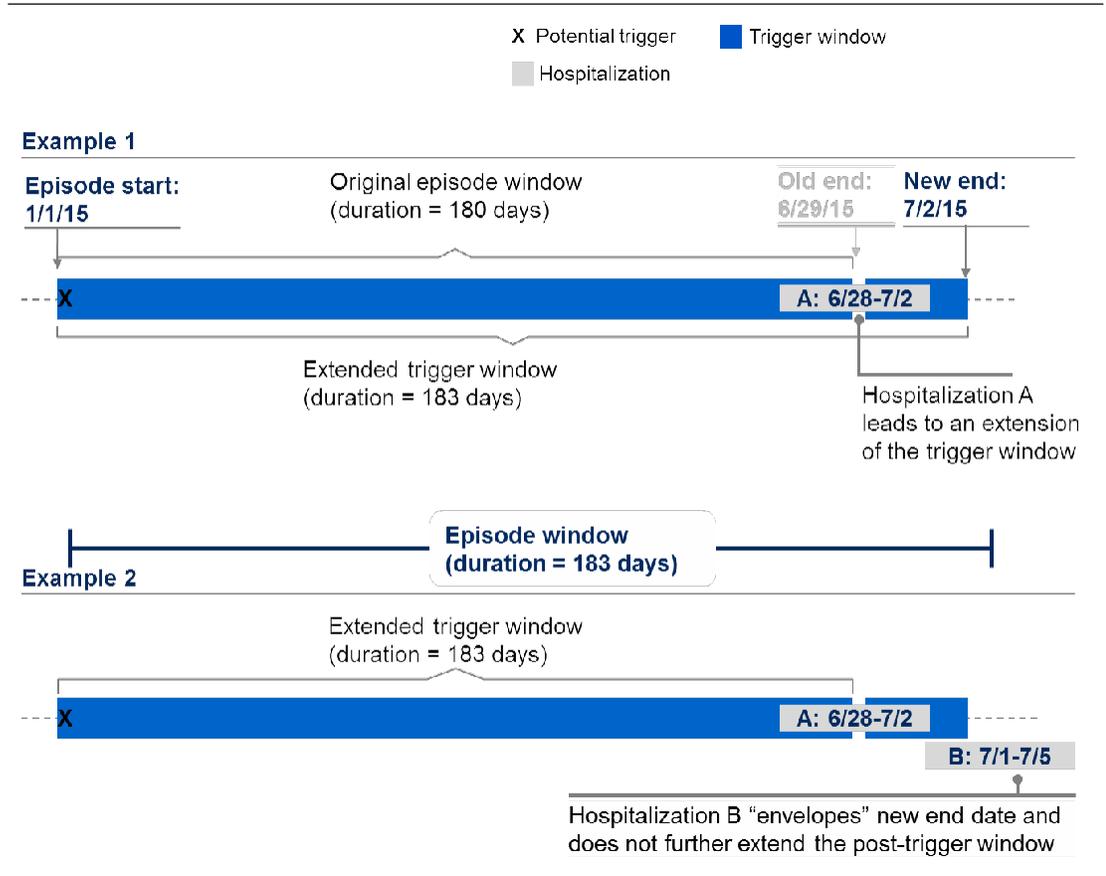
- **Pre-trigger window:** This episode has no pre-trigger window.
- **Trigger window:** The output fields *Trigger Window Start Date* and *Trigger Window End Date* are set using the potential trigger start and end dates which are defined in section 4.1. The output field *Trigger Window Start Date* is also the output field *Episode Start Date*. The output field *Trigger Window End Date* is set at 179 days after the *Trigger Window Start Date*, for a total episode duration of 180 days. An exception occurs if there is a hospitalization ongoing on the 180<sup>th</sup> day of the trigger window.

If a hospitalization is ongoing on the 180<sup>th</sup> day of the trigger window, the *Trigger Window End Date* is set to the *Header End Date* of the hospitalization. A hospitalization is ongoing on the 180<sup>th</sup> day of the trigger window if the hospitalization has a *Header Start Date* during the 180 days of the trigger window and a *Header End Date* beyond the 180 days of the trigger window. If more than one hospitalization is ongoing on the 180<sup>th</sup> day

of the trigger window, the latest *Header End Date* present on one of the hospitalizations sets the Trigger Window End Date.

- **Clean period:** The breast cancer medical oncology episode does not have a clean period.

## EXHIBIT 7 – EPISODE EXTENSIONS



The extension of the trigger window due to a hospitalization may not lead to further extensions, i.e., if the trigger window is set based on the Header To Date Of Service of a hospitalization and a different hospitalization starts during the extension of the trigger window and ends beyond it, the episode is not extended a second time(Exhibit 7). See Glossary for the definition of hospitalization.

The duration of the trigger window is the episode window. All time windows are inclusive of their first and last date. For a definition of how the duration of time windows is calculated, see the glossary.

The logic that determines the duration of the episode window assigns potential triggers to one of two groups:

- **Trigger Procedures:** Potential triggers that do not occur during another episode constitute the trigger window of a new episode.
- **Repeat Procedures:** Potential triggers that occur during the episode window of an episode do not constitute the trigger window for a new episode.

To define episode windows for each patient a chronological approach is taken. The first trigger breast cancer medical oncology of a given patient is identified as the earliest (i.e., furthest in the past) potential trigger in the input data. Once the first trigger breast cancer medical oncology for a patient has been identified, the trigger window is set. Any potential triggers that fall into the trigger window are classified as repeat procedures. The next potential trigger that starts outside of the trigger window constitutes the second trigger breast cancer medical oncology for a given patient. The process of setting episode windows continues for each patient until the last episode window that ends during the input data date range is defined. Note that the input data begins 18 months prior to the reporting window, so potential triggers may be repeat breast cancer medical oncology, and thus not trigger a breast cancer medical oncology episode, due to a breast cancer oncology episode that occurred prior to the reporting period. There should be no overlap between the episode windows of any of the resulting episodes.

The following special cases may occur when determining the episode duration:

- If two or more potential triggers of the same patient overlap, i.e., the start date of one potential trigger falls between the start date and the end date (inclusive) of one or more other potential triggers of the same patient, then only one of the overlapping potential triggers is chosen as a trigger breast cancer medical oncology or repeat breast cancer medical oncology. The other overlapping potential triggers do not count as trigger breast cancer medical oncology or repeat breast cancer medical oncology, but are treated like any other claims. The following hierarchy is applied to identify the one potential trigger out of two or more overlapping potential triggers that is assigned as a trigger breast cancer medical oncology or repeat breast cancer medical oncology:
  - The potential trigger with the earliest *Detail From Date Of Service* for the professional claim detail line with the breast cancer medical oncology procedure has the highest priority.

- If there is a tie, the potential trigger based on an inpatient claim has highest priority.
- If there is a tie, the potential trigger with the latest end date is selected.
- If there is still a tie, the potential trigger with the lowest *Trigger Claim ID* is selected.
- If the start date of a potential trigger occurs during the clean period of an episode but its end date is outside of the clean period of the episode, the potential trigger is neither a repeat breast cancer medical oncology nor a trigger breast cancer medical oncology, and the claim detail lines in the potential trigger are treated like any other claims.

To determine which claims and claim detail lines occur during an episode and before an episode the following assignment rules are used. In addition, specific rules apply to assign claims and claim detail lines to windows during the episode (the pre-trigger window, the trigger window, the post-trigger window, and hospitalizations).

■ **Assignment to the episode window:**

- Hospitalizations, all inpatient claims within them, and all claim detail lines of the inpatient claims are assigned to the episode window if both the *Header From Date Of Service* and the *Discharge Date* of the hospitalization occur during the episode window.
- Pharmacy claims and all their claim detail lines are assigned to the episode window if both the *Header From Date Of Service* and the *Header To Date Of Service* occur during the episode window.
- Outpatient and professional claims are assigned to the episode window if at least one of their claim detail lines is assigned to the episode window. Outpatient and professional claim detail lines are assigned to the episode window if both the *Detail From Date Of Service* and the *Detail To Date Of Service* occur during the episode window.

■ **Assignment to a window before the episode:**

- Hospitalizations, all inpatient claims within them, and all claim detail lines of the inpatient claims are assigned to a window before the episode (e.g., 365 days to 1 day before the *Episode Start Date*, 90 days to 1 day before the *Episode Start Date*) if the *Header From Date Of Service* of the

hospitalization occurs during the specified time window before the *Episode Start Date*.

- Pharmacy claims and all their claim detail lines are assigned to a window before the episode if the *Header From Date Of Service* occurs during the specified time window before the *Episode Start Date*.
- Outpatient, and professional claims are assigned to a window before the episode if all their claim detail lines are assigned to the window before the episode. Outpatient and professional claim detail lines are assigned to a window before the episode if the *Detail From Date Of Service* occurs during the specified time window before the *Episode Start Date*.

■ **Assignment to the trigger window:**

- Hospitalizations, all inpatient claims within them, and all claim detail lines of the inpatient claims are assigned to the trigger window if both the *Header From Date Of Service* and the *Discharge Date* of the hospitalization occur during the trigger window.
- Pharmacy claims and all their claim detail lines are assigned to the trigger window if both the *Header From Date Of Service* and the *Header To Date Of Service* occur during the trigger window.
- Outpatient and professional claims are assigned to the trigger window if all their claim detail lines are assigned to the trigger window. Outpatient and professional claim detail lines are assigned to the trigger window if both the *Detail From Date Of Service* and the *Detail To Date Of Service* occur during the trigger window.

### 4.3 Identify claims included in episode spend

The third design dimension of building a breast cancer medical oncology episode is to identify which claims and claim detail lines are included in the calculation of episode spend. For short, such claims or claim detail lines are referred to as included claims or included claim detail lines. Claims or claim detail lines that are excluded from the calculation of episode spend are referred to as excluded claims or excluded claim detail lines.

**Episode output fields created:** *Count Of Included Claims*

Different rules for the inclusion of claims and claim detail lines apply to claims and claim detail lines assigned to the trigger window. The assignment of claims and claim detail lines to windows during the episode is detailed in section 4.2.

- **Trigger window:** For claims and claim detail lines assigned to the trigger window, a hierarchy is applied to identify included claims and included claim detail lines:
  - First, included hospitalizations are identified. If an inpatient claim assigned to the episode window includes a relevant diagnosis code in the input field *Header Diagnosis Code Primary*, or a relevant surgical procedure code in the input field *Surgical Procedure Code Primary* or *Surgical Procedure Code 2-24*, then all claim detail lines of all inpatient claims in the entire hospitalization are included claim detail lines. The configuration file lists the diagnosis codes under “Included Diagnoses,” and surgical procedure codes under “Included Procedures”.
  - Outpatient, professional, and pharmacy claims that are assigned to the episode window are checked for included procedures and included medications.
    - Included procedures: If an outpatient or professional claim detail line that is assigned to the episode window contains an included imaging, testing, pathology, or other related procedure in the input field *Detail Procedure Code*, then the claim detail line is an included claim detail line. The configuration file lists included procedure codes under “Included Procedures.” For outpatient claims, all other claim detail lines on the same claim with the same *Detail From Date Of Service* and *Detail To Date Of Service* as the included claim detail line are also included claim detail lines.
    - Included diagnoses: If an outpatient or professional claim that is assigned to the episode window includes a complication diagnosis code in the input field *Header Diagnosis Code Primary*, then all claim detail lines in that outpatient or professional claim are included claim detail lines. The configuration file lists the complication diagnosis codes under “Included Diagnoses.”
    - Included evaluation and management (E&M) care: If an outpatient or professional claim detail line that is assigned to the episode window contains an included E&M procedure in the input field *Detail Procedure Code* and a confirming diagnosis code in the input field

*Header Diagnosis Code Primary*, then the claim detail line is an included claim detail line. The configuration file lists included E&M codes and relevant diagnosis codes under “Included E&M” and “Included Related Diagnoses,” respectively. For outpatient claims, all other claim detail lines on the same claim with the same *Detail From Date Of Service* and *Detail To Date Of Service* as the included claim detail line are also included claim detail lines.

- Included medications: If a pharmacy claim that is assigned to the episode window contains an included medication code found in the input field *National Drug Code*, then the claim is an included claim. The configuration file lists included medications under “Included Medications” using Hierarchical Ingredient Code Level 3 (HIC3) identifiers provided by First Databank.

Outpatient and professional claim detail lines that are assigned to the episode window are checked for excluded procedures. These exclusions supersede any other reason a claim detail line might be included.

- Excluded procedures: If an inpatient, outpatient or professional claim detail line that is assigned to the episode window contains an excluded surgical or medical procedure code in the input field *Detail Procedure Code*, then the claim detail line is an excluded claim detail line. For outpatient claims, all other claim detail lines on the same claim with the same *Detail From Date Of Service* and *Detail To Date Of Service* as the excluded claim detail line are also excluded claim detail lines. The configuration file lists the codes under “Excluded Procedures.” This exclusion of claim detail lines takes precedence over any other inclusion logic.
- Excluded transportation: If an outpatient or professional claim detail line that is assigned to the episode window contains an excluded transportation procedure code in the input field *Detail Procedure Code*, then the claim detail line is an excluded claim detail line. The configuration file lists the codes under “Excluded Transportation Procedures.” This exclusion of claim detail lines takes precedence over any other inclusion logic.
- Excluded vaccinations: If an outpatient or professional claim detail line that is assigned to the episode window contains an excluded vaccination procedure code in the input field *Detail Procedure Code*, then the claim detail line is an excluded claim detail line. The configuration file lists

excluded vaccination procedure codes under “Excluded Vaccination Procedures.” This exclusion of claim detail lines takes precedence over any other inclusion logic.

- Not included claims: Any claim or claim detail line not explicitly included during the episode window is an excluded claim or excluded claim detail line.

The output field *Count Of Included Claims* is defined as the number of unique claims that contribute to episode spend. For the purpose of calculating counts of claims, a claim is counted as contributing to episode spend if it is an included claim or if one or more of its claim detail lines are included claim detail lines. The output field *Count Of Included Claims* is calculated overall as well as broken out by claim type, by window during the episode, and by claim type and window during the episode. Breakouts by window are calculated based on the window to which each claim is assigned.

#### 4.4 Calculate non-risk adjusted episode spend

The fourth design dimension of building a breast cancer medical oncology episode is to calculate the non-risk-adjusted spend for each episode.

**Episode output fields created:** *Non-risk-adjusted Episode Spend, Normalized-non-risk-adjusted Episode Spend*

**PAP output fields created:** *Average Non-risk-adjusted PAP Spend, Total Non-risk-adjusted PAP Spend*

The *Non-risk-adjusted Episode Spend* is defined as the sum of:

- The spend for included, header-paid inpatient claims. The spend for each included, header-paid inpatient claim is calculated as the value in the input field *DRG Base Payment* plus the values in the input fields *DRG Outlier Payment A* and *DRG Outlier Payment B*. Header-paid inpatient claims are identified based on a *Header Or Detail Indicator* of ‘H’. Other components of the DRG payment are not taken into account. Ohio Medicaid has a methodology to derive this clinical component of care for relevant encounters using the relative weights for each DRG-SOI combination and hospital rates as posted on the Ohio Medicaid website (<http://medicaid.ohio.gov/PROVIDERS/FeeScheduleandRates/ScheduleandRates.aspx#1682575-inpatient-hospital-services>).

- The spend for included, detail-paid inpatient claims. The spend for each included, detail-paid inpatient claim is calculated as the sum of the input fields *Detail Paid Amount* for claims from MCPs and the sum of the inputs fields *Detail Allowed Amount* for claims from FFS.
- The *Header Paid Amount* of included pharmacy claims from MCPs.
- The *Header Allowed Amount* of included pharmacy claims from FFS.
- The *Detail Paid Amount* for included outpatient, and professional claim detail lines from MCPs.
- The *Detail Allowed Amount* for included outpatient, and professional claim detail lines from FFS.

Claims from MCPs and FFS are distinguished based on the input field *FFS Or MCP Indicator*. A value of ‘E’ in the input field *FFS Or MCP Indicator* indicates an MCP claim; a value of ‘F’ indicates a FFS claim. The output field *Non-risk-adjusted Episode Spend* is calculated overall and broken out by claim type, by window during the episode, and by claim type and window during the episode.

The *Normalized-non-risk-adjusted Episode Spend* is defined as the sum of:

- The normalized spend for included, header-paid inpatient claims. The normalized spend for each included, header-paid inpatient claim is calculated as the value in the input field *DRG Base Payment* multiplied by the ratio of the *Normalized Base Rate* to the *Base Rate* plus the values in the input fields *DRG Outlier Payment A* and *DRG Outlier Payment B*. The configuration file lists the *Normalized Base Rate* as a parameter under “Episode Spend.” The *Base Rate* is determined by looking up the appropriate value in the input field *Base Rate* from the APR-DRG Base Rate Table using the input field *Provider ID* to link to the *Billing Provider ID* of each included, header-paid inpatient claim. Header-paid inpatient claims are identified based on a *Header Or Detail Indicator* of ‘H’. Other components of the DRG payment are not taken into account.
- The spend for included, detail-paid inpatient claims. The spend for each included, detail-paid inpatient claim is calculated as the sum of the input fields *Detail Paid Amount* for claims from MCPs and the sum of the inputs fields *Detail Allowed Amount* for claims from FFS.
- The *Header Paid Amount* of included pharmacy claims from MCPs.

- The *Header Allowed Amount* of included pharmacy claims from FFS.
- The *Detail Paid Amount* for included outpatient and professional claim detail lines from MCPs.
- The *Detail Allowed Amount* for included outpatient and professional claim detail lines from FFS.

If a claim detail line is included for two or more reasons (e.g., due to an included diagnosis and an included procedure), its *Detail Allowed Amount* or *Detail Paid Amount* counts only once towards the *Non-risk-adjusted Episode Spend* or the *Normalized-non-risk-adjusted Episode Spend*.

For the provider reports, the fields *Average Non-risk-adjusted PAP Spend* and *Total Non-risk-adjusted PAP Spend* are added to the PAP output table. *Average Non-risk-adjusted PAP Spend* is calculated as the average of the *Non-risk-adjusted Episode Spend* across valid episodes for a given PAP. *Total Non-risk-adjusted PAP Spend* is calculated as the sum of the *Non-risk-adjusted Episode Spend* across valid episodes for a given PAP. See section 4.5 for the identification of PAPs and section 4.6 for the definition of valid episodes.

The *Average Non-risk-adjusted PAP Spend* is shown overall as well as broken out by claim type, by window during the episode, and by claim type and window during the episode. The breakouts of *Average Non-risk-adjusted PAP Spend* are calculated in two ways:

- Breakout A: The averages are calculated across all valid episodes of a PAP.
- Breakout B: The averages are calculated across valid episodes of a PAP that have spend greater zero dollars (>\$0) in the category that is broken out.

For example, a PAP has 100 valid episodes and 80 of the episodes have any inpatient spend, the remaining 20 do not have any inpatient spend. To calculate breakout A for *Average Non-risk-adjusted PAP Spend Inpatient*, the denominator is 100 valid episodes. To calculate breakout B for *Average Non-risk-adjusted PAP Spend Inpatient* the denominator is 80 valid episodes with any inpatient spend.

## 4.5 Identify Principal Accountable Providers

The fifth design dimension of building a breast cancer medical oncology episode is to assign each episode to a Principal Accountable Provider (PAP).

**Episode output fields created:** *PAP ID, PAP Name, Rendering Provider ID, Rendering Provider Name*

**PAP output fields created:** *PAP ID, PAP Name, PAP Address Line 1, PAP Address Line 2, PAP City, PAP State, PAP Zip Code*

The output field *PAP ID* is set in one of the two ways described below:

- **Antineoplastic therapy (injection administration procedure):** When the episode has at least one claim detail line with an included procedure code for antineoplastic therapy injection administration in the input field *Detail Procedure Code*, then the PAP is the clinician with the plurality of antineoplastic therapy injection administrations during the episode window. The claims that count toward the plurality of visits for each potential PAP have at least one of the claim detail lines with an antineoplastic therapy injection administration procedure code and do not contain a modifier for assistant surgeon, nurse, or discontinued procedure in one of the input fields *All Modifiers*. The configuration file lists the antineoplastic therapy injection administration procedures under “Trigger Procedures” and the modifiers under “Assistant Surgeon”, “Nurse”, and “Discontinued.”
- **Antineoplastic therapy (oral-only regiment):** If the episode does not contain any included claim detail lines with a procedure code for antineoplastic therapy injection administration in the input field *Detail Procedure Code*, then the PAP is the clinician with the plurality of related visits during the episode window. The claims that count toward the plurality of visits must have a procedure code for an evaluation and management visit, as listed in the configuration file under “Included E&M.” AND an ICD-9 or ICD-10 diagnosis code in the input field *Header Diagnosis Code Primary*, as listed in the configuration file under “Included Related Diagnoses.”
- If two or more billing providers or rendering providers are tied based on the number of visits, the following hierarchy is applied:
  - Among billing providers or rendering providers that are tied, the input fields *Billing Provider ID* or *Rendering Provider ID* with the highest amount of spend across included claims is the PAP or the rendering provider, respectively.
  - Among billing providers or rendering providers that are still tied, the input fields *Billing Provider ID* or *Rendering Provider ID* with the visit that starts closest to the output field *Episode End Date* is the PAP or the

rendering provider, respectively. The visit must be included in episode spend.

- Among billing providers or rendering providers that are still tied, the PAP or rendering provider is the provider with the lowest value in input fields *Billing Provider ID* or *Rendering Provider ID*, respectively.

The output fields *PAP Name*, *PAP Address Line 1*, *PAP Address Line 2*, *PAP City*, *PAP State*, and *PAP Zip Code* are set based on the Provider Extract input fields *Provider Name*, *Practice Address Line 1*, *Practice Address Line 2*, *Practice City*, *Practice State*, and *Practice Zip Code*, respectively. The output fields are linked to the Provider Extract by matching the output field *PAP ID* to the input field *Provider ID* of the Provider Extract.

The output field *Rendering Provider Name* is set based on the Provider Extract input field *Provider Name*. The output field is linked to the Provider Extract by matching the output field *Rendering Provider ID* to the input field *Provider ID* of the Provider Extract.

#### 4.6 Identify excluded episodes

The sixth design dimension of building a breast cancer medical oncology episode is to identify episodes that are excluded from the episode-based payment model.

**Episode output fields created:** *Any Exclusion*, *Exclusion Inconsistent Enrollment*, *Exclusion Multiple Payers*, *Exclusion Third-party Liability*, *Exclusion Dual Eligibility*, *Exclusion PAP Out Of State*, *Exclusion No PAP*, *Exclusion Long Hospitalization*, *Exclusion Long-term Care*, *Exclusion Missing DRG*, *Exclusion Incomplete Episode*, *Exclusion Age*, *Exclusion Left Against Medical Advice*, *Exclusion Death*, *Exclusion <Comorbidity Name>*, *Exclusion Multiple Other Comorbidities*, *Exclusion High Outlier*, *Exclusion FQHC*

Each *Exclusion <name of exclusion>* output field indicates whether an episode is excluded for a given reason and therefore invalid for the purpose of the episode based payment model. If an episode is excluded for more than one reason, each exclusion is indicated. The output field *Any Exclusion* indicates whether an episode contains any exclusion. Episodes may be excluded for business reasons, for clinical reasons, or because they are outliers. After all exclusions have been applied, a set of valid episodes remains.

## Business exclusions

- **Dual eligibility:** An episode is excluded if the patient had dual coverage by Medicare and Medicaid during the episode window. Dual coverage is determined using the *Eligibility Start Date* and *Eligibility End Date* from the Member Extract where the *Aid Category* indicates dual coverage. *Aid Category* codes that indicate dual coverage are listed in the configuration file under “Business Exclusions – Duals.” Note that only the first digit of the *Aid Category* code is used for this purpose.

A patient is considered to have dual coverage during the episode window if the patient’s *Eligibility Start Date* for dual coverage falls before or on ( $\leq$ ) the *Episode End Date* and the *Eligibility End Date* for dual coverage falls on or after ( $\geq$ ) the *Episode Start Date*. The input field *Member ID* is linked to the output field *Member ID* from the Member Extract to identify the enrollment information for each patient.

If a patient has an *Eligibility Start Date* without a corresponding *Eligibility End Date* for dual coverage, the dual coverage is considered to be ongoing through the last date of the input data.

If a patient had dual coverage before or after the episode window, but not during the episode window, the episode is not excluded.

- **FQHC/RHC:** An episode is excluded if the PAP is classified as a federally qualified health center or rural health clinic. The codes used to identify them are listed in the configuration file under “Business Exclusions – FQHC and RHC.”
- **Incomplete episodes:** An episode is excluded if the *Non-risk-adjusted Episode Spend* (not the *Risk-adjusted Episode Spend*) is less than ( $<$ ) the incomplete episode threshold. The incomplete episode threshold is listed as a parameter in the configuration file under “Excluded Episodes.”
- **Inconsistent enrollment:** An episode is excluded if the patient was not continuously enrolled in Ohio Medicaid during the episode window. Enrollment is verified using the input fields *Eligibility Start Date* and *Eligibility End Date* from the Member Extract where the input field *Aid Category* indicates full Medicaid enrollment. *Aid Category* codes that indicate full Medicaid enrollment are listed in the configuration file under “Business Exclusions – Inconsistent Enrollment.” Note that only the first digit of the *Aid Category* code is used for this purpose.

A patient is considered continuously enrolled if the patient's *Eligibility Start Date* for full Medicaid falls before or on ( $\leq$ ) the *Episode Start Date* and the *Eligibility End Date* for full Medicaid falls on or after ( $\geq$ ) the *Episode End Date*. The output field *Member ID* is linked to the input field *Member ID* from the Member Extract to identify the enrollment information for each patient.

A patient may have multiple entries for *Eligibility Start Date* and *Eligibility End Date* for full Medicaid and some of the dates may be overlapping. In such cases, continuous, non-overlapping records of a patient's enrollment are created before confirming whether the patient was continuously enrolled during an episode. If a patient has an *Eligibility Start Date* without a corresponding *Eligibility End Date* for full Medicaid, enrollment is considered to be ongoing through the last date of the input data.

If a patient was not continuously enrolled in Ohio Medicaid before or after the episode window, but was continuously enrolled during the episode window, the episode is not excluded.

- **Long hospitalization:** An episode is excluded if a hospitalization that is assigned to the episode window has a duration greater than the threshold for long hospitalizations. The hospitalization may or may not be included in the episode spend. The long hospitalization threshold is listed as a parameter in the configuration file under "Excluded Episodes."
- **Long-term care:** An episode is excluded if the patient has one or more long-term care claim detail lines which overlap the episode window. A long-term care claim detail line which overlaps the episode window is defined as one with both a *Detail From Date Of Service* on or prior to ( $\leq$ ) the *Episode End Date* and a *Detail To Date Of Service* on or after ( $\geq$ ) the *Episode Start Date*. The long-term care claim detail line may or may not be included in the episode spend.
- **Missing DRG:** An episode is excluded if a header-paid inpatient claim assigned to the episode window has an invalid or missing value in the input fields *APR-DRG* or *Severity Of Illness*. Header-paid inpatient claims are identified based on a *Header Or Detail Indicator* of 'H'.
- **Multiple payers:** An episode is excluded if a patient changes enrollment between MCPs during the trigger window or during the post-trigger window(s) (if applicable). Episodes are identified as having multiple payers

if there is an inpatient, outpatient, professional, or pharmacy claim that meets all the following conditions:

- The claim is assigned to the trigger window or the post-trigger window of the episode (if applicable)
- The input field *FFS or MCP Indicator* of the claim is not “FFS”
- The input field *MCP ID* on the claim is not null and does not belong to the same payer that the episode is attributed to. Since a payer may be associated with multiple MCP IDs, the input field *MCP ID* must be cross-walked to a payer name. An updated crosswalk including current and historical MCP IDs must be used for each reporting period

If a patient changes enrollment between MCPs during the pre-trigger window (if any) or before the episode, it is the responsibility of the payer to whom the episode is attributed to utilize the claims history of the patient with the prior payer to build the episode. Attribution of an episode to a payer is defined in the glossary under “Payer attribution”.

- **No PAP:** An episode is excluded if the PAP cannot be identified. A PAP cannot be identified if the *Billing Provider ID* is not available.
- **PAP out of state:** An episode is excluded if the PAP has a practice address outside of Ohio. The state of the practice address is determined using the output field *PAP State*. The code used to identify the state of Ohio is listed in the configuration file under “Business Exclusions – PAP Out Of State.”
- **Third-party liability:** An episode is excluded if either:
  - An inpatient, outpatient, or professional claim that is assigned to the episode window is associated with a third-party liability amount. A claim is considered to be associated with a third-party liability amount if either the input field *Header TPL Amount* or any of the input fields *Detail TPL Amount* have a value greater than (>) zero. The claim with a positive TPL amount may or may not be included in the calculation of episode spend.

As an exception, a third party liability amount in the input field *Header TPL Amount* or the input field *Detail TPL Amount* of a professional FFS claim from an FQHC or RHC does not lead to exclusion of the episode if the episode is attributed to an MCP. Professional claims from FQHC or RHC are identified based on one or more detail lines that are assigned to the episode window and also have a *Place Of Service* of FQHC or RHC. The relevant values for *Place Of Service* are listed in the configuration

file under “Business Exclusions – TPL Exempt Places of Service”. Claims from FFS are identified based on the input field *FFS Or MCP Indicator* having a value of ‘F’. Attribution of an episode to a payer is defined in the glossary under “Payer attribution”.

- A patient was enrolled with a relevant source of third party liability during the episode window. Enrollment is verified using the *TPL Effective Date* and *TPL End Date* from the Member Extract where the *Coverage Type* indicates relevant TPL coverage. *Coverage Type* codes that indicate relevant TPL are listed in the configuration file under “Business Exclusions – TPL Relevant Coverage”.

A patient is considered enrolled with a relevant source of TPL if the patient’s *TPL Effective Date* falls before or on ( $\leq$ ) the *Episode End Date* and the *TPL End Date* falls on or after ( $\geq$ ) the *Episode Start Date*. The output field *Member ID* is linked to the input field *Member ID* from the Member Extract to identify the enrollment information for each patient.

If a patient has a *TPL Effective Date* without a corresponding *TPL End Date* the enrollment with a relevant source of TPL is considered to be ongoing through the last date of the input data.

If a patient was enrolled with a relevant TPL source before or after the episode window, but was not enrolled during the episode window, the episode is not excluded.

### Clinical exclusions

- **Age:** An episode is excluded if the output field *Member Age* does not fall into the valid age range or if it is invalid. See the glossary for the definition of *Member Age*. The valid age range for the breast cancer medical oncology episodes are listed as parameters in the configuration file under “Excluded Episodes.”
- **Comorbidity:** An episode is excluded if the patient has a comorbidity code during a specified time window. Each comorbidity exclusion listed in the configuration file sets a separate output field named *Exclusion <Name Of Comorbidity>*. For example, the HIV comorbidity exclusion sets the output field *Exclusion HIV* for all those episodes with evidence of HIV during the specified time period. The following approaches are used to identify comorbidities:

- Comorbidity diagnosis codes are searched for in the input fields *Header Diagnosis Code Primary* or *Header Diagnosis Code 2-28* of inpatient, outpatient, and professional claims that are assigned to the specified time windows. The configuration file lists the codes and time windows under “Comorbidities <name of comorbidity> - Diagnoses.”
- Comorbidity CPT and HCPCS procedure codes are searched for in the input field *Detail Procedure Code* of outpatient and professional claim detail lines that are assigned to the specified time windows. The configuration file lists the codes and time windows used under “Comorbidities <name of comorbidity> - Procedures.”
- Comorbidity ICD-9 and ICD-10 procedure codes are searched for in the input fields *Surgical Procedure Code Primary* and *Surgical Procedure Code 2-24* of inpatient claims that are assigned to the specified time windows. The configuration file lists the codes and time windows used under “Comorbidities <name of comorbidity> - Procedures.”

The claims and claim detail lines that are searched for comorbidities do not have to be included claims or included claim detail lines. If a patient lacked continuous eligibility during the year before the episode or during the episode window, comorbidities are checked in the data available.

- **Death:** An episode is excluded if either:
  - The patient has a *Patient Status Indicator* of “Expired” on any inpatient or outpatient claim assigned to the episode window. The claim may be an included claim or not. The values of the *Patient Status Indicator* used to identify whether the patient expired are listed in the configuration file under “Clinical Exclusions – Death.”
  - The input field *Date Of Death* in the Member Extract contains a date before or equal to the *Episode End Date*. The output field *Member ID* is linked to the input field *Member ID* from the Member Extract to identify the *Date Of Death* for each patient.
- **Episodes without antineoplastic therapy:** An episode is excluded if the episode does not contain any antineoplastic therapy drug claims. The episode must meet both of the following conditions:
  - The episode does not contain any outpatient or professional claims assigned to the episode window with a procedure code for antineoplastic

therapy in the input field *Detail Procedure Code*, as listed in the configuration file under “Antineoplastic Therapy Drugs – Procedures.”

- The episode does not contain any pharmacy claims assigned to the episode window with a HIC3 code for antineoplastic therapy, as listed in the configuration file under “Antineoplastic Therapy Drugs – Medications.”
- **Gender:** An episode is excluded if the member’s gender is male.
- **Left against medical advice:** An episode is excluded if the patient has a Patient Status Indicator of “Left Against Medical Advice or Discontinued Care” on any inpatient or outpatient claim assigned to the episode window. The claim may be an included claim or not. The value of the Patient Status Indicator used to identify whether the patient left against medical advice is listed in the configuration file under “Clinical Exclusions – Left Against Medical Advice.”

## Outliers

- **High outlier:** An episode is excluded if the *Risk-adjusted Episode Spend* (not the *Non-risk-adjusted Episode Spend*) is above (>) the high outlier threshold. The high outlier thresholds for the breast cancer medical oncology episode are listed as parameters in the configuration file under “Excluded Episodes.” See section 4.8 for the definition of *Risk-adjusted Episode Spend*.

## 4.7 Identify Principal Accountable Providers who pass the quality metrics

The seventh design dimension of building a breast cancer medical oncology episode is the calculation of the quality metrics and the identification of PAPs who meet the quality metrics performance requirement.

**Episode output fields created:** *Quality Metric 01 Indicator, Quality Metric 02 Indicator, Quality Metric 02 Denominator, Quality Metric 03 Indicator, Quality Metric 03 Denominator, Quality Metric 04 Indicator, and Quality Metric 05 Indicator*

**PAP output fields created:** *PAP Quality Metric 01 Performance, PAP Quality Metric 02 Performance, PAP Quality Metric 03 Performance, PAP Quality Metric 04 Performance, PAP Quality Metric 05 Performance*

The breast cancer medical oncology episode has one quality metric tied to gain sharing. Additionally, the breast cancer medical oncology episode has four informational quality metrics. Informational quality metrics are not tied to gain sharing.

**Quality metric tied to gain sharing for breast cancer medical oncology episode:**

■ **Quality metric 1: Hospitalizations due to adverse events**

- The output field *Quality Metric 01 Indicator* marks episodes with a relevant admission assigned to the episode window, which is identified by an inpatient claim for an admission. Only admissions with relevant diagnosis codes are included, and there must be, in the primary diagnosis field, an episode-specific relevant ICD-9 or ICD-10 diagnosis code for adverse events in the input field *Header Diagnosis Code Primary*, as listed in the configuration file under “Quality Metric 01 Adverse Events.”
- The output field *PAP Quality Metric 01 Performance* is expressed as a percentage for each PAP based on the following ratio:
  - Numerator: Number of valid episodes of the PAP with relevant admission, as indicated by the *Quality Metric 01 Indicator*
  - Denominator: Number of valid episodes of the PAP

**Quality metrics not tied to gain sharing for breast cancer medical oncology episode (i.e., included for information only):**

■ **Quality metric 2: Monitoring of therapy induced bone loss**

- The output field *Quality Metric 02 Indicator* marks episodes that contain either:
  - A professional claim detail line assigned to the episode window with a procedure code for aromatase therapy in the input field *Detail Procedure Code*, as listed in the configuration file under “Quality Metric 02 Aromatase Therapy - Procedures,” OR
  - A pharmacy claim assigned to the episode window with a HIC3 code for aromatase therapy, as listed in the configuration file under “Quality Metric 02 Aromatase Therapy – Medications.”
- In addition, the episode must also meet one of the following conditions:

- A professional or outpatient claim detail line with a procedure code for a DXA scan in the input field *Detail Procedure Code*, as listed in the configuration file under “Quality Metric 02 DXA Scan” AND A *Detail From Date of Service* on the claim with the DXA scan that is assigned to the episode window or within 180 days prior to the *Header From Date of Service* of the trigger claim, OR
  - A professional or outpatient claim detail line with a procedure code for pharmacological therapy in the input field *Detail Procedure Code*, as listed in the configuration file under “Quality Metric 02 Pharmacological Therapy - Procedures” AND A *Detail From Date of Service* on the claim with the pharmacological therapy that is assigned to the episode window or within 180 days prior to the *Header From Date of Service* of the trigger claim, OR
  - A pharmacy claim with a HIC3 code for pharmacological therapy, as listed in the configuration file under “Quality Metric 02 Pharmacological Therapy – Medications” that is assigned to the episode window or within 180 days prior to the *Header From Date of Service* of the trigger claim.
- The *Quality Metric 02 Denominator* marks episodes that contain either:
  - A professional or outpatient claim detail line assigned to the episode window with a procedure code for aromatase therapy in the input field *Detail Procedure Code*, as listed in the configuration file under “Quality Metric 02 Aromatase Therapy - Procedures,” OR
  - A pharmacy claim assigned to the episode window with a HIC3 code for aromatase therapy, as listed in the configuration file under “Quality Metric 02 Aromatase Therapy – Medications.”
- The output field *PAP Quality Metric 02 Performance* is expressed as a percentage for each PAP based on the following ratio:
  - Numerator: Number of valid episodes of the PAP with at least one included claim for monitoring or treatment of therapy induced bone loss, as indicated by the *Quality Metric 02 Indicator*
  - Denominator: Number of valid episodes of the PAP with aromatase therapy, as indicated by the *Quality Metric 02 Denominator*
- **Quality metric 3: Antineoplastic therapy before death**

- The *Quality Metric 03 Indicator* marks episodes that have an occurrence of patient mortality within the episode window and contain an administration of antineoplastic therapy in the period 30 days before the patient mortality. Patient mortality is identified by an episode being excluded if the patient has a Patient Discharge Status of “Expired” on any inpatient or outpatient claim assigned to the episode window. The claim may be an included claim or not. The values of the Patient Discharge Status codes used to identify whether the patient expired are listed in the configuration file under “Quality Metric 03 Patient – Death.” Presence of antineoplastic therapy administration prior to patient mortality is identified as one of the following:
  - The presence of a professional or outpatient claim detail line assigned to the episode window with a procedure code for antineoplastic therapy administration in the input field *Detail Procedure Code*, as listed in the configuration file under “Trigger Procedures” (as seen in design dimension 01) AND A *Detail From Date Of Service* on the claim with antineoplastic therapy administration that is within 30 days prior to either the *Header From Date of Service* of the claim with the expired discharge status, OR
  - The presence of a pharmacy claim assigned to the episode window with a HIC3 code for antineoplastic therapy, as listed in the configuration under “Trigger Medications” that is within 30 days prior to either the *Header From Date of Service* of the claim with the expired discharge status.
- The *Quality Metric 03 Denominator* marks episodes that have an occurrence of patient mortality within the episode window. Patient mortality is identified by an episode being excluded if the patient has a *Patient Discharge Status* of “Expired” on any inpatient or outpatient claim assigned to the episode window. The claim may be an included claim or not. The values of the *Patient Discharge Status* codes used to identify whether the patient expired are listed in the configuration file under “Patient – Death.”
- The *PAP Quality Metric 03 Performance* is expressed as a percentage for each PAP based on the following ratio:

- Numerator: Number of valid episodes of the PAP with antineoplastic therapy in the 30 days before death, as indicated by the *Quality Metric 03 Indicator*
- Denominator: Number of episodes flagged with the ‘Death’ for the PAP, as indicated by the *Quality Metric 03 Denominator*

■ **Quality metric 4: Timely transition to breast cancer medical oncology**

The *Quality Metric 04 Indicator* marks episodes with evidence of a breast biopsy or breast cancer surgery up to 60 days before the triggering procedure. For inpatient claims, the procedure codes for biopsy, or breast cancer surgery are searched in the input field *Header Surgical Procedure Code Primary* and *Surgical Procedure Code 2-24* in any field. For outpatient and professional claims, the breast biopsy or breast cancer surgery codes are searched in the input field *Detail Procedure Code*. The configuration file lists the breast biopsy and the breast cancer surgery codes under “Quality Metric 04 Breast Biopsy” and “Quality Metric 04 Breast Cancer Surgery” respectively. A claim is in the 60 days before the triggering procedure if the difference between the input fields *Header To Date Of Service* (for inpatient claims) or *Detail To Date Of Service* (for professional or outpatient claims) and the *Detail To Date Of Service* of the trigger claim is 60 days or less.

- The *PAP Quality Metric 04 Performance* is expressed as a percentage for each PAP based on the following ratio:
  - Numerator: Number of valid episodes of the PAP with breast biopsy or breast cancer surgery up to 60 days before the triggering procedure, as indicated by the *Quality Metric 04 Indicator*
  - Denominator: Number of valid episodes of the PAP

■ **Quality metric 5: Timely clinical registry reporting**

- The *Quality Metric 05 Indicator* marks episodes where the patient is confirmed to have complete clinical factor reporting in the Ohio Cancer Registry within six months of the *Episode Start Date*. Clinical factor reporting completion is a non-claims-based metric.
- Please note that registry data is currently unavailable for the calculation of this metric. When registry data becomes available, a value for this metric will be displayed in the episode provider reports.

## 4.8 Perform risk adjustment

The eighth design dimension of building a breast cancer medical oncology episode is to risk adjust the non-risk-adjusted episode spend for risk factors that may contribute to higher episode spend given the characteristics of a patient.

**Episode output fields created:** *Risk Factor <risk factor number>, Episode Risk Score, Risk-adjusted Episode Spend*

**PAP output fields created:** *Average Risk-adjusted PAP Spend, Total Risk-adjusted PAP Spend*

Risk adjustment first requires identification of the risk factors that affect each episode. Then the *Non-risk-adjusted Episode Spend* is multiplied by the risk score that applies to the episode given its risk factors. The derivation of the risk factors and their coefficients is not part of the algorithm to produce an episode and is therefore not described in the DBR.

**Flag episodes that are affected by risk factors:** The following types of risk factors apply:

- Age-based risk factors: The output fields *Risk Factor <risk factor number>* for age-based risk factors indicate whether the *Member Age* of the patient falls into the age range specified for the risk factor. The relevant age ranges are listed as parameters in the configuration file under “Risk Adjustment” and are inclusive of the minimum ( $\geq$ ) and maximum ( $\leq$ ) values. For the definition of *Member Age* see the glossary.
- Diagnosis-based risk factors: The output fields *Risk Factor <risk factor number>* for diagnosis-based risk factors indicate whether an inpatient, outpatient, or professional claim that is assigned to the specified time window contains a risk factor diagnosis code in any of the input fields *Header Diagnosis Code Primary* or *Header Diagnosis Code 2-28*. The risk factor diagnosis codes and the time windows are listed in the configuration file under “Risk Factors <risk factor number and name>.”
- CCS category-based risk factors: The output fields *Risk Factor <risk factor number>* for CCS category-based risk factors indicate whether an inpatient, outpatient, or professional claim that is assigned to the specified time window contains a risk factor diagnosis code associated with the CCS code(s) in any of the input fields *Header Diagnosis Code Primary* or *Header*

*Diagnosis Code 2-28.* CCS codes are converted into ICD-9 and ICD-10 diagnosis codes using the definition of the single/multi-level CCS categories (as indicated in the configuration file) for ICD-9 and ICD-10 diagnosis codes available from AHRQ (ICD-9 at <https://www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp>, ICD-10 at <https://www.hcup-us.ahrq.gov/toolssoftware/ccs10/ccs10.jsp>). The configuration file lists the codes and time windows used under “Risk Factor < risk factor number and name> - CCS.”

- CCS category, diagnosis, and age-based risk factors: The output fields *Risk Factor <risk factor number>* for CCS category, diagnosis, and age-based risk factors indicate whether both of the following are true:
  - The Member Age of the patient falls into the age range specified for the risk factor. The relevant age ranges are listed as parameters in the configuration file under “Risk Adjustment” and are inclusive of the minimum ( $\geq$ ) and maximum ( $\leq$ ) values. For the definition of Member Age see the glossary.
  - There is evidence for the risk factor diagnosis in the specified time window, as identified by either:
    - An inpatient, outpatient, or professional claim that is assigned to the specified time window and contains a risk factor diagnosis code associated with the CCS code(s) in any of the input fields *Header Diagnosis Code Primary* or *Header Diagnosis Code 2-28*. CCS codes are converted into ICD-9 and ICD-10 diagnosis codes using the definition of the multi-level CCS categories for ICD-9 and ICD-10 diagnosis codes as described above. The configuration file lists the codes and time windows used under “Risk Factor < risk factor number and name> - CCS”.
    - An inpatient, outpatient, or professional claim that is assigned to the specified time window and contains a risk factor diagnosis code in any of the input fields *Header Diagnosis Code Primary* or *Header Diagnosis Code 2-28*. The risk factor diagnosis codes and the time windows are listed in the configuration file under “Risk Factor < risk factor number and name> - Diagnoses”.
- Targeted therapy as a risk factor: The output field *Risk Factor 001 Targeted Therapy* for a procedure and medication-based risk factor is flagged when the episode meets any of the following conditions:

- An outpatient or professional claim detail line that is assigned to the episode window with a procedure code for targeted therapy for HER2-positive breast cancer patients in the input field *Detail Procedure Code* as listed in the configuration file under “Risk Factor 001 Targeted Therapy – Procedures,” OR
- A pharmacy claim with a National Drug Code (NDC) for Tykerb in the input field *National Drug Code*, as listed in the configuration file under “Risk Factor 001 Targeted Therapy – Medications.”

The claims that are searched for risk factors do not have to be included claims. If a patient was not continuously enrolled during the year before the episode window or during the episode window, risk factors are searched for in the claims available.

**Calculate the episode risk score:** Each risk factor is associated with a risk coefficient, the values for which are listed as parameters in the configuration file under “Risk Adjustment.” The sum of all the risk coefficients for factors present in a given episode plus the *Average Risk Neutral Episode Spend* is the predicted spend of the episode. The configuration file lists the *Average Risk Neutral Episode Spend* as a parameter under “Risk Adjustment.” For the CABG and VALVE episodes, the *Episode Risk Score* for an episode is the ratio of the *Average Risk Neutral Episode Spend* to the predicted spend of the episode. For example, if an episode is affected by two risk factors, *Risk Factor 001* and *Risk Factor 002*, the *Episode Risk Score* is:

$$\text{Episode Risk Score} = \frac{\text{Average Risk Neutral Episode Spend}}{\text{Average Risk Neutral Episode Spend} + \text{Risk Coefficient 001} + \text{Risk Coefficient 002}}$$

If an episode is not affected by any risk factors, the *Episode Risk Score* is equal to one (1).

**Calculate risk-adjusted episode spend:** To calculate the episode output field *Risk-adjusted Episode Spend*, the *Non-risk-adjusted Episode Spend* is multiplied by the *Episode Risk Score*.

$$\text{Risk-adjusted Episode Spend} = \text{Non-risk-adjusted Episode Spend} * \text{Episode Risk Score}$$

The PAP output field *Average Risk-adjusted PAP Spend* is calculated as the average of the *Risk-adjusted Episode Spend* across valid episodes of each PAP. The *Total Risk-adjusted PAP Spend* is calculated as the sum of the *Risk-adjusted Episode Spend* across valid episodes of each PAP.

#### 4.9 Calculate gain/risk sharing amounts

The ninth and final design dimension of building a breast cancer medical oncology episode is to calculate the gain or risk sharing amount for each PAP. The description below outlines one possible approach of linking PAP performance to payments. The State of Ohio may choose to provide further guidance at a future point in time when gain/risk sharing payments will be implemented.

**PAP output fields created:** *Count Of Total Episodes Per PAP, Count Of Valid Episodes Per PAP, Minimum Episode Volume Pass, Gain Sharing Quality Metric Pass, Gain/Risk Sharing Amount, PAP Sharing Level*

Gain and risk sharing amounts are calculated based on the episodes of each PAP that end during the reporting period. The State's proposed approach to calculating the gain or risk sharing amount paid to/by each PAP uses the following pieces of information:

- Number of episodes of each PAP: The output field *Count Of Total Episodes Per PAP* is defined as the number of total episodes each PAP treats during the reporting period. The output field *Count Of Valid Episodes Per PAP* is defined as the number of valid episodes each PAP treats during the reporting period. Episodes are counted separately by each payer. For the provider reports the field *Count Of Valid Episodes Per PAP* is also shown broken out by the number of valid episodes with spend of each claim type (*Count Of Valid Episodes Per PAP With Inpatient/With Outpatient/With Professional/With Pharmacy*). To calculate the breakouts, the number of valid episodes of each PAP are counted that have greater than zero dollars (>\$0) in *Non-risk-adjusted Episode Spend* for a given claim type.
- Minimum episode requirement: Only PAPs who pass the minimum episode requirement of five or more ( $\geq 5$ ) valid episodes receive a provider report and are eligible for gain and risk sharing. The output field *Minimum Episode Volume Pass* is set to indicate whether a PAP has five or more valid episodes during the reporting period. Whether a PAP passes the minimum episode

requirement is determined independently by each payer based on the episodes a PAP has for patients enrolled with the payer. The assignment of episodes to a payer is detailed in the glossary under payer attribution.

- Performance of each PAP on quality metrics tied to gain sharing: Only PAPs who pass the quality metrics tied to gain sharing are eligible for gain sharing. The thresholds to pass the quality metrics are set in accordance with the definition of each quality metric and are provided as input parameters for the episode algorithm. The output field *Gain Sharing Quality Metric Pass* indicates whether a PAP passes all quality metrics tied to gain sharing.
- *Commendable Threshold, Acceptable Threshold, and Gain Sharing Limit Threshold*: The thresholds are set based on the historical performance of PAPs with five or more episodes. The values for the thresholds are provided as input parameters for the episode algorithm.
- *Gain Share Proportion and Risk Share Proportion*: The split of the gains and losses in the episode-based payment model between payer and provider is at the discretion of each payer. The proportions are provided as input parameters for the episode algorithm.

**Gain sharing payment:** To receive a gain sharing payment, a PAP must meet all of the following three criteria:

- Pass the quality metrics thresholds tied to gain sharing
- Pass the minimum episode requirement,
- Have an Average Risk-adjusted PAP Spend below (<) the Commendable Threshold and have an *Average Risk-adjusted PAP Spend above or equal to (>=) the Gain sharing limit.*

If the three conditions are met, the *Gain/Risk Sharing Amount* is set based on the following formula:

$$[Gain/Risk Sharing Amount] = [Total Non-risk-adjusted PAP Spend] \times [Gain Share Proportion] \times \left( \frac{[Commendable Threshold] - [Average Risk adjusted PAP Spend]}{[Average Risk-adjusted PAP Spend]} \right)$$

**Risk sharing payment:** To owe a risk-sharing payment, a PAP must meet both of the following criteria:

- Pass the minimum episode requirement

- Have an Average Risk-adjusted PAP Spend above or equal to ( $\geq$ ) the Acceptable Threshold.

The risk-sharing payment applies irrespective of the performance of the PAP on the quality metrics. If the above two conditions are met, the *Gain/Risk Sharing Amount* is set based on the following formula:

$$[Gain/Risk\ Sharing\ Amount] = [Total\ Non-risk\ adjusted\ PAP\ Spend] \times [Risk\ Share\ Proportion] \times \left( \frac{[Acceptable\ Threshold] - [Average\ Risk-adjusted\ PAP\ Spend]}{[Average\ Risk-adjusted\ PAP\ Spend]} \right)$$

If neither the conditions for a gain sharing payment nor a risk sharing payment are met, the output field *Gain/Risk Sharing Amount* is set to zero dollars ('\$0').

To summarize the performance of each PAP in the episode-based payment model the output field *PAP Sharing Level* is set to

- “1” if Average Risk-adjusted PAP Spend < Gain Sharing Limit Threshold
- “2” if Average Risk-adjusted PAP Spend < Commendable Threshold and also  $\geq$  Gain Sharing Limit Threshold
- “3” if Average Risk-adjusted PAP Spend  $\leq$  Acceptable Threshold and also  $\geq$  Commendable Threshold
- “4” if Average Risk-adjusted PAP Spend > Acceptable Threshold

\*\*\* End of algorithm \*\*\*

## 5. GLOSSARY

- **BCONC:** breast cancer medical oncology
- **CCS:** Clinical Classifications Software (CCS) is a tool for clustering patient diagnoses and procedures into management number of clinically meaningful categories
- **Claim types:** The claim types used in the breast cancer medical oncology episode are based on the input field *Claim Type*. The required claim types are:
  - Inpatient (I)
  - Outpatient (O)
  - Pharmacy (P and Q)
  - Professional (M)
- **Clean period:** See section 2.3.1
- **CPT:** Current Procedural Terminology
- **DBR:** Detailed Business Requirements
- **Duration of time windows:** The duration of a time window (e.g., the episode window, the trigger window), the duration of a claim or claim detail line, and the length of stay for inpatient stays is calculated as the last date minus the first date plus one (1). For example:
  - A trigger window with a *Trigger Window Start Date* of January 1, 2014 and a *Trigger Window End Date* of January 1, 2014 has a duration of one (1) day.
  - A trigger window with a *Trigger Window Start Date* of January 1, 2014 and a *Trigger Window End Date* of January 3, 2014 has a duration of three (3) days.
  - A claim with a *Header From Date Of Service* of January 1, 2014 and a *Header To Date of Service* of January 2, 2014 has a duration of two (2) days.
- **ED:** Emergency department
- **E&M:** Evaluation and management
- **Episode window:** See section 4.2

- **FFS:** Fee For Service
- **HCPCS:** Healthcare Common Procedure Coding System
- **HIC3:** Hierarchical Ingredient Code at the third level based on the classification system by First Databank
- **Hospitalization:** A hospitalization is defined as all the inpatient claims a patient incurs while being continuously hospitalized in one inpatient facility. A hospitalization may include more than one inpatient claim because the inpatient facility may file interim inpatient claims. A hospitalization consisting of just one inpatient claim starts on the *Header From Date Of Service* and ends on the *Discharge Date* of the inpatient claim. A hospitalization where two or more inpatient claims are linked together starts on the *Header From Date Of Service* of the first inpatient claim and ends on the *Discharge Date* of the last inpatient claim in the hospitalization. Within the DBR, the start of a hospitalization is referred to as the *Header From Date Of Service* for that hospitalization and the end of the hospitalization is referred to as the *Discharge Date* of that hospitalization.

Inpatient claims are linked together into one hospitalization consisting of two or more inpatient claims if any of the following conditions apply:

- Interim billing or reserved/missing discharge status: An inpatient claim with a *Patient Status Indicator* that indicates interim billing (see the configuration file under “Hospitalization – Interim Billing” for the codes used), that is reserved (see the configuration file under “Hospitalization – Reserved” for the codes used), or that is missing is linked with a second inpatient claim into one hospitalization if either of the following conditions apply:
  - There is a second inpatient claim with a *Header From Date Of Service* on the same day as or the day after the *Discharge Date* of the first inpatient claim
  - There is a second inpatient claim with an *Admission Date* on the same day as the *Admit Date* of the first inpatient claim and also a *Header From Date Of Service* on the same day as or within thirty ( $\leq 30$ ) days after the *Discharge Date* of the first inpatient claim. If the *Discharge Date* of the first inpatient claim is not populated, then use the *Header To Date of Service* of the first inpatient claim.

- If the second inpatient claim (and potentially third, fourth, etc.) also has a *Patient Status Indicator* indicating interim billing, reserved, or missing, the hospitalization is extended further until an inpatient claim with a discharge status other than interim billing, reserved, missing, or transfer occurs, or until the inpatient claim that follows does not satisfy the required conditions.
  - Transfer: An inpatient claim with a *Patient Status Indicator* indicating a transfer (see the configuration file under “Hospitalization – Transfer” for the codes used) is not linked with the second inpatient claim. The second inpatient claim yields a separate hospitalization with a *Header From Date Of Service* on the same day as or the day after the *Discharge Date* of the first inpatient claim.
- **ICD-9:** International Classification of Diseases, Ninth Revision
  - **ICD-10:** International Classification of Diseases, Tenth Revision
  - **ICN:** Internal Control Number
  - **Invalid episodes:** See section 4.6
  - **Length of stay:** See glossary entry Duration of time windows.
  - **MCP:** Managed Care Plan
  - **Member Age:** The output field *Member Age* reflects the patient’s age in years at the episode trigger. *Member Age* is calculated as the difference in years between the start of the claim that is used to set the *Trigger Claim ID* and the date of birth of the patient. The start of the claim is determined using the input field *Header From Date Of Service* for inpatient claims and the earliest *Detail From Date Of Service* across all claim detail lines for outpatient and professional claims. The date of birth of the patient is identified by linking the *Member ID* of the patient in the episode output table to the *Member ID* of the patient in the Member Extract and looking up the date in the input field *Date of Birth*. *Member Age* is always rounded down to the full year. For example, if a patient is 20 years and 11-months old at the start of the episode, the *Member Age* is set to 20 years. If the *Date of Birth* is missing, greater than (>) 100 years, or less than (<) 0 years, then the output field *Member Age* is treated as invalid.
  - **NDC:** National Drug Code
  - **PAP:** Principal Accountable Provider

- **Patient:** An individual with either a CABG or VALVE episode
- **Payer attribution:** Patients may be enrolled with Ohio Medicaid Fee For Service or with a Managed Care Plan. An episode is attributed to a payer using the input field *MCP ID* with the highest number of visits included in the episode spend that have the input field *Billing Provider ID* matching the output field *PAP ID*.

If two or more payers are tied based on the number of visits, the following hierarchy is applied:

- Among payers that are tied, the input field *MCP ID* with the highest amount of spend across included claims is the payer of the episode.
  - Among payers that are still tied, the input fields *MCP ID* with the visit that starts closest to the output field *Episode End Date* is the payer attributed to the episode. The visit must be included in episode spend.
  - Among payers that are still tied, the first payer in alphabetical order in the input field *MCP ID* is the payer of the episode.
- **Post-trigger window:** See section 4.2
  - **Pre-trigger window:** See section 4.2
  - **Total episodes:** All episodes, valid plus invalid.
  - **Trigger window:** See section 4.2
  - **Valid episodes:** See section 4.6