Quality Payment
PROGRAM

Diabetes Measure

Merit-based Incentive Payment System (MIPS): Measure Information Form (MIF)

2025 Performance Period

Table of Contents

1.0 Introduction

This document details the methodology for the Diabetes measure and should be reviewed along with the Diabetes Measure Codes List file, which contains the medical codes used in constructing the measure.

1.1 Measure Name

Diabetes episode-based cost measure

1.2 Measure Description

Episode-based cost measures represent the cost to Medicare for the items and services provided to a patient during an episode of care ("episode"). In all supplemental documentation, the term "cost" generally means the standardized[1] Medicare allowed amount,[2] and claims data from Medicare Parts A, B, and D[3] are used to construct this episode-based cost measure.

The Diabetes episode-based cost measure evaluates a clinician's or clinician group's risk-adjusted and specialty-adjusted cost to Medicare for patients who receive medical care to manage and treat type 1 or type 2 diabetes. This chronic condition measure includes the costs of services that are clinically related to the attributed clinician's role in managing care during a Diabetes episode.

1.3 Measure Rationale

The high prevalence and cost of diabetes mellitus and its associated complications to the United States health care system warrants the exploration of potential cost measures which aim to achieve more cost-effective care for this chronic condition. In the United States, there are approximately 13.5 million people ages 65 and older living with diabetes, and treatment of diabetes in the United States costs over $348 billion annually.[4] In 2012, 59% of healthcare costs

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[1] Claim payments are standardized to account for differences in Medicare payments for the same service(s) across Medicare providers. Payment standardized costs remove the effect of differences in Medicare payment among health care providers that are the result of differences in regional health care provider expenses measured by hospital wage indexes and geographic price cost indexes or other payment adjustments such as those for teaching hospitals. For more information, please refer to the "CMS Part A and Part B Price (Payment) Standardization - Basics" and "CMS Part A and Part B Price (Payment) Standardization - Detailed Methods" documents posted on the CMS Price (Payment) Standardization Overview page (https://www.resdac.org/articles/cms-price-payment-standardization-overview).
Claim payments from Part D are payment standardized to allow resource use comparisons for providers who prescribe the same drug, even if the drug products are covered under varying Part D plans, produced by different manufacturers, or dispensed by separate pharmacies. For more information, please refer to the "CMS Part D Price (Payment) Standardization" document posted on the CMS Price (Payment) Standardization Overview page. (https://www.resdac.org/articles/cms-price-payment-standardization-overview).

[2] Cost is defined by allowed amounts on Medicare claims data, which include both Medicare trust fund payments and any applicable beneficiary deductible and coinsurance amounts.

[3] Part D branded drug costs are also adjusted to account for post-point of sale drug rebates; more information can be found in the Methodology for Incorporation of Rebates in Part D Standardized Amounts on the CMS.gov QPP Cost Measures Information Page's About Cost Measures page (https://www.cms.gov/medicare/quality-payment-program/cost-measures/about).

[4] International Diabetes Federation, "IDF Diabetes Atlas - 8th Edition," https://www.diabetesatlas.org/upload/resources/previous/files/8/IDF_DA_8e-EN-final.pdf.

related to diabetes were associated with patients over the age of 65.[5] In 2017, approximately 57% ($9,600 out of $16,750) of annual medical expenditures incurred for patients diagnosed with diabetes were related to their diabetes diagnosis.[6] Additionally, on average, patients with diabetes had medical expenditures 2.3 times higher than those for patients without a diabetes diagnosis.[7]

Significant cost drivers in the care of diabetes are the occurrence of acute complications such as acute hyperglycemic crises (diabetic ketoacidosis and hyperglycemic hyperosmolar nonketotic syndrome) and longer-term complications of diabetes such as retinopathy, neuropathy, diabetic foot ulcers, cardiovascular events, and amputations.[8] For example, over $2.4 billion in costs from hospital treatment were attributed to acute hyperglycemic crises, and over $1.84 billion for acute hypoglycemia and related injuries.[9,10] Overall, patients with multiple diabetes complications had a higher risk of readmissions for severe dysglycemia (hyperglycemia or hypoglycemia) as well as causes that are unrelated to diabetes. It was also estimated that the prevalence of diabetic retinopathy among diabetic patients 65 years and older was 29.5%.[11] Similarly, in 2007, 8.1% of Medicare beneficiaries with diabetes enrolled in Medicare Parts A and B had diabetic foot ulcers, incurring spending that was significantly higher than that for beneficiaries without chronic wounds ($31,363 vs. $11,692, respectively).[12] Given the prevalence of diabetes in the Medicare population, and the high costs associated with the management of the disease and its complications, the Diabetes cost measure represents an opportunity for improvement on overall cost performance. The Diabetes episode-based cost measure was selected for development based on input from an expert clinician committee—the Chronic Condition and Disease Management Clinical Subcommittee—because of its high impact in terms of patient population, clinician coverage, and Medicare spending, and the opportunity to build a complex, yet feasible, chronic condition measure that would address a condition not captured by other cost measures. Based on the initial recommendations from the Clinical Subcommittee, the subsequent measure-specific clinician expert workgroup provided extensive, detailed input on this measure.

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[5] Mousumi Sircar, Ashmeet Bhatia, and Medha Munshi, "Review of Hypoglycemia in the Older Adult: Clinical Implications and Management," Canadian Journal of Diabetes 40, no. 1 (February 2016): 66-72, https://doi.org/10.1016/j.jcjd.2015.10.004.

[6] American Diabetes Association, “Economic Costs of Diabetes in the U.S. in 2017,” Diabetes Care 41, no. 5 (May 2018): 917–928, https://doi.org/10.2337/dci18-0007.

[7] American Diabetes Association, “The Cost of Diabetes,” https://www.diabetes.org/resources/statistics/cost-diabetes.

[8] Baxter et al., "Estimating the Impact of Better Management of Glycaemic Control in Adults with Type 1 and Type 2 Diabetes on the Number of Clinical Complications and the Associated Financial Benefit," Diabetic Medicine 33, no. 11 (January 2016): 1575-1581, https://doi.org/10.1111/dme.13062.

[9] Guillermo Umpierrez and Mary Korytkowski, "Diabetic Emergencies — Ketoacidosis, Hyperglycaemic Hyperosmolar State and Hypoglycaemia," Nature Reviews Endocrinology 12 (February 2016): 222-232, https://doi.org/10.1038/nrendo.2016.15.

[10] Zhao et al., "Economic Burden of Hypoglycemia: Utilization of Emergency Department and Outpatient Services in the United States (2005–2009)," Journal of Medical Economics 19, no. 9 (April 2016): 852-857, https://doi.org/10.1080/13696998.2016.1178126.

[11] Zhang et al., “Prevalence of Diabetic Retinopathy in the United States, 2005-2008,” JAMA 304, no. 6 (August 2010): 649–656, https://doi.org/10.1001/jama.2010.1111.

[12] Michael Sargen, Ole Hoffstad, and David Margolis, “Geographic Variation in Medicare Spending and Mortality for Diabetic Patients with Foot Ulcers and Amputations.” Journal of Diabetes and its Complications 27, no. 2 (March-April 2013):128-133, https://doi.org/10.1016/j.jdiacomp.2012.09.003.

1.4 Measure Numerator

The measure numerator is the weighted average ratio of the winsorized[13] scaled standardized observed cost to the scaled expected[14] cost for all Diabetes episodes attributed to a clinician, where each ratio is weighted by each episode's number of days assigned to a clinician. This sum is then multiplied by the national average winsorized scaled observed episode cost to generate a dollar figure.

1.5 Measure Denominator

The measure denominator is the total number of days from Diabetes episodes assigned to the clinician across all patients.

1.6 Data Sources

The Diabetes measure uses the following data sources:

- Medicare Part A, B, and D claims data from the Common Working File (CWF)
- Enrollment Database (EDB)
- Long Term Care Minimum Data Set (LTC MDS)[15]

1.7 Care Settings

The Diabetes measure focuses on the care provided by clinicians practicing in non-inpatient hospital settings for patients with diabetes. The most frequent settings in which a Diabetes episode is triggered include: office, skilled nursing facility (SNF), and outpatient hospital.

1.8 Cohort

The cohort for this cost measure consists of patients who are Medicare beneficiaries enrolled in Medicare fee-for-service who receive medical care to manage and treat type 1 or type 2 diabetes.

The cohort for this cost measure is also further refined by the definition of the episode group and measure-specific exclusions (refer to Section 4).

[13] For information on how costs are winsorized, please refer to Section 4.7.
[14] Expected costs refer to costs predicted by the risk adjustment model. For more information on expected costs and risk adjustment, please refer to Section 4.7.
[15] For information on how LTC MDS data are used in risk adjustment, please refer to Section 4.7.

2.0 Methodology Steps

There are 2 overarching processes in calculating chronic condition episode-based cost measure scores: episode construction (Steps 1-5) and measure calculation (Steps 6-8). This section provides a brief summary of these processes for the Diabetes measure. Section 4 describes the processes in detail and further defines the related concepts.

1. **Identify patients receiving care**: A trigger event identifies the start or continuation of a clinician group's management of a patient's chronic condition. A trigger event is identified by the occurrence of 2 Part B Physician/Supplier (Carrier) claims billed by the same clinician group practice within 180 days of one another. The pair of services must include a trigger claim and a confirming claim. The trigger claim is any code from a set of CPT/HCPCS codes for clinically relevant outpatient services when accompanied by an ICD-10 diagnosis code indicating diabetes. The confirming claim can be either another trigger code, or a confirming code from an additional set of CPT/HCPCS codes when accompanied by an ICD-10 diagnosis code indicating diabetes. Once a trigger event is identified, this opens a one-year attribution window from the point of the trigger claim, in which the patient's chronic condition care will be monitored by a clinician group.
2. **Identify the total length of care between a patient and a clinician group**: Once an attribution window is opened, it continues for 1 year unless there is a service that demonstrates a continuing care relationship, also known as a reaffirming claim. This service is billed during an open attribution window (from Step 1) by the same clinician group that billed the trigger event, and reaffirms and extends a clinician group's responsibility for managing a patient's chronic condition. A reaffirming claim is another instance of any confirming code.[16] After a reaffirming claim is identified, the attribution window is extended by 1 year from the point of each reaffirming claim billed during an open attribution window. The total attribution window begins with the trigger claim and concludes 1 year after the final reaffirming claim. Therefore, the total attribution window can span multiple years and vary in length for different patients. This requires that the total attribution window is measured incrementally and periodically across multiple measurement periods.
3. **Define an episode**: Episodes are segments of the total attribution window that are counted in a particular measurement period, allowing clinicians to have their costs for Diabetes episodes assessed for that year. Episodes are assigned to a clinician group (identified by Tax Identification Number [TIN]) or individual clinicians (identified by combination of TIN and National Provider Identifier [TIN-NPI]), and can vary in length. Episodes are assessed in the measurement period in which they conclude and only attribute days not previously measured in preceding measurement periods, so there is no double counting of episode costs. After episodes are constructed, they are placed into more granular, mutually exclusive and exhaustive sub-groups based on clinical criteria to enable meaningful clinical comparisons.
4. **Attribute the episode to the clinician group and clinician(s)**: The episode is attributed to the clinician group that bills the trigger and confirming claims for the total attribution window. To attribute the episode to an individual clinician, any clinician within the attributed clinician group who plays a substantial role in the care for the patient (i.e., billing at least 30% of

[16] While a trigger event requires two claims, a single reaffirming claim is needed to extend a clinician group's responsibility for managing a patient's chronic condition. This is because workgroups who have developed chronic condition measures to-date have favored a less strict reaffirming algorithm, indicating that once a clinician-patient relationship was established, a single reaffirming claim would be sufficient to extend the attribution window.

trigger or confirming codes on Part B Physician/Supplier claim lines during the episode) is attributed the episode. There are also additional checks to ensure that clinicians are not attributed to an episode before they have their first encounter with the patient and that we capture appropriate specialties through prescription billing patterns.

5. **Assign costs to the episode and calculate the episode scaled observed cost**: Services that are clinically related to the care and management of a patient's chronic condition that occur during the episode are included in the measure. The standardized cost of the assigned services is summed and averaged across the number of days in an episode. This average daily cost is then multiplied by 365 to determine each episode's scaled (i.e., annualized) standardized observed cost.
6. **Exclude episodes**: Exclusions remove unique groups of patients or episodes from cost measure calculation in cases where it may be impractical or unfair to compare the costs of caring for these patients to the costs of caring for the cohort at large.
7. **Calculate the scaled expected cost for risk adjustment:** Risk adjustment predicts the expected costs by adjusting for factors outside of the clinician's or clinician group's reasonable influence (e.g., patient age, comorbidities, dual Medicare and Medicaid eligibility status, clinician specialty, and other factors). The episode group's scaled standardized observed costs are winsorized at the 98th percentile for each model to handle extreme observations. A regression is then run using the risk adjustment variables as covariates to estimate the expected cost of each episode. Further statistical techniques are applied to reduce the effects of extreme outliers on measure scores.
8. **Calculate the measure score:** For each episode, the ratio of winsorized scaled standardized observed cost to scaled expected cost (both of which are from Step 7) is calculated. The measure is calculated as a weighted average of these ratios across all of a clinician's or clinician group's attributed episodes, where the weighting is each episode's number of assigned days. The weighted average episode cost ratio is then multiplied by the national average winsorized scaled observed episode cost to generate a dollar figure for the cost measure score.

3.0 Measure Specifications Quick Reference

This page provides a quick, at-a-glance reference for the Diabetes measure specifications. More details on each component can be found in Section 4, and the full list of codes and logic used to define each component can be found within the Diabetes Measure Codes List file.

Episode Window: During what time period are costs measured?

An episode is a segment of time during which clinicians or clinician groups are assessed for the care that they provide to a patient with diabetes.

- The episode window length for the Diabetes measure is between 1 year (365 days) and 2 years minus 1 day (729 days), and can vary in length across patients.

Triggers: How does the measure identify the patient cohort and start of care?

- Patients receiving medical care for treatment of their diabetes are included in the measure.
- The start or continuation of a clinician group's management of a patient's diabetes is identified by the appearance of a pair of services within 180 days of one another: a **trigger code** followed by a **confirming code**. For the Diabetes measure:
  - A **trigger code** is any code from a set of CPT/HCPCS for E/M services (other diagnostic procedures [interview, evaluation, consultation], ancillary services) when accompanied by an ICD-10 diagnosis code indicating diabetes.
  - A **confirming code** is either any code from the same trigger set of CPT/HCPCS codes for outpatient services when accompanied by an ICD-10 diagnosis code indicating diabetes, or a code from an additional set of CPT/HCPCS codes (for ancillary services, laboratory, diagnostic endocrine procedures, microscopic examination, other diagnostic procedures, or other non-OR therapeutic procedures on skin) when accompanied by an ICD-10 diagnosis code indicating diabetes.

Sub-Groups: Is the measure stratified into smaller patient cohorts?

1. Type 1 Diabetes
2. Type 2 Diabetes

Service Assignment: Which clinically related costs are included in the measure?

Assigned services generally fall within the following clinical themes:

- Diabetes care management
- Metabolic dysfunction; neuropathy and peripheral vascular disease; nephropathy and renal disease; retinopathy/diabetic eye disease; heart disease; cerebrovascular disease; ulcers and cellulitis; other infection
- Diabetes medications; other medications; diabetes treatment supplies; other durable medical equipment
- Other inpatient hospitalization; other emergency department visits; other outpatient services; home health care; post-acute care

Risk Adjustors: Which risk factors are accounted for in the risk adjustment model?

- Standard risk adjustors, including comorbidities captured by 86 Hierarchical Condition Category (HCC) codes that map with thousands of ICD-10-CM diagnosis codes, count of HCCs, interaction variables accounting for a range of comorbidities, patient age category, patient disability status, patient end-stage renal disease (ESRD) status, patient dual eligibility status, number and types of clinician specialties from which the patient has received care, and recent use of institutional long-term care.
- Risk adjustors for factors specific to the condition, including patients with continuous glucose monitoring or insulin pump, coronary artery bypass graft, prior peripheral vascular interventions, or amputation. For the full list of standard and measure-specific risk adjustment variables, please reference the "RA" and "RA_Details" tabs of the Measure Codes List file.

- A separate linear regression is run for each sub-group and Part D enrollment status combination to ensure fair comparison. The episode group's scaled (i.e., annualized) observed costs are winsorized at the 98th percentile prior to the regression for each model to handle extreme observations.

Exclusions: Which populations are excluded from the measure?

- Measure-specific exclusions including patients receiving hospice care. For the full list of measure-specific exclusions, please reference the "Exclusions" and "Exclusions_Details" tabs of the Measure Codes List file.
- Standard exclusions to ensure data completeness:
  - The patient has a primary payer other than Medicare for any time overlapping the episode window or 120-day lookback period prior to the episode window.
  - The patient was not enrolled in Medicare Parts A and B for the entirety of the lookback period plus episode window, or was enrolled in Part C for any part of the lookback plus episode window.
  - The patient was not found in the Medicare Enrollment Database (EDB).
  - The patient's death date occurred before the episode end date.
  - The patient has an episode window shorter than one year.
  - The patient has extremely low treatment costs.
  - The patient resided outside the United States or its territories during the episode window.

4.0 Detailed Measure Methodology

This section contains the technical details for the 2 overarching processes in calculating the Diabetes cost measure in more detail: Sections 4.1 through 4.5 describe episode construction, and Sections 4.6 through 4.8 describe measure calculation.

4.1 Identify Patients Receiving Care

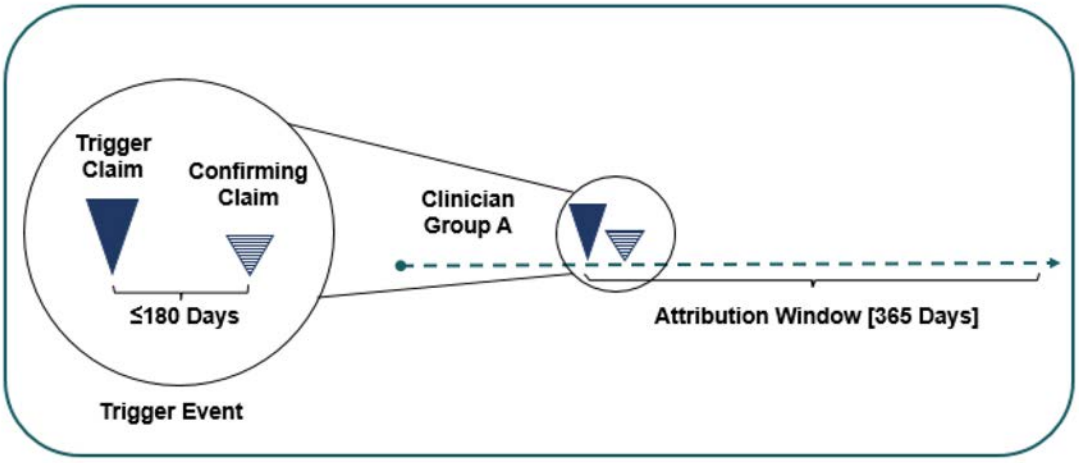
A **trigger event** is used to indicate the start of a clinician group's management of a patient's diabetes and is identified by the occurrence of 2 Part B Physician/Supplier (Carrier) claims billed by the same clinician group practice. To identify a trigger event, the following 2 claims must be billed within the trigger window (within 180 days of one another): a **trigger claim**, followed by a **confirming claim**.

- A **trigger claim** is a Part B Physician/Supplier claim that contains a trigger code. For the Diabetes measure, a trigger code is:
    - Any code from a set of CPT/HCPCS codes for clinically relevant outpatient services when accompanied by an ICD-10 diagnosis code indicating diabetes. These outpatient services can be summarized as:
        - Other diagnostic procedures (interview, evaluation, consultation)
        - Ancillary services
- A **confirming claim** is a second Part B Physician/Supplier claim billed by the same clinician group practice as the trigger claim, which contains a confirming code. For the Diabetes measure, a confirming code is:
    - Any code from the same trigger set of CPT/HCPCS codes for clinically relevant outpatient services when accompanied by an ICD-10 diagnosis code indicating diabetes, as listed above in trigger codes, or
    - Any code from an additional set of CPT/HCPCS codes, when accompanied by an ICD-10 diagnosis code indicating diabetes. These additional services can be summarized as:
        - Ancillary Services
        - Diagnostic endocrine procedures
        - Laboratory – Chemistry and Hematology
        - Microscopic examination (bacterial smear, culture, toxicology)
        - Other diagnostic procedures (interview, evaluation, consultation)
        - Other non-OR therapeutic procedures on skin and breast

For the full list of trigger and confirming codes, as well as the requisite diagnosis codes, please refer to the "Trigger_Confirming" and "Trigger_DGN" tabs of the Diabetes Measure Codes List file.

Once the trigger event is identified, the trigger event opens an **attribution window,** which is a year-long time period that begins on the date of the trigger claim. The attribution window defines a time period during which the patient's diabetes care will be monitored by a clinician group.

Figure 1. Trigger Event and Attribution Window



4.2 Identify the Total Length of Care Between a Patient and a Clinician Group

When the beginning of the clinician-patient relationship is identified, there might be evidence of a continuation of this relationship, as identified by reaffirming claims. A **reaffirming claim** is a service billed during an open attribution window by the same clinician group that billed the trigger event, and it reaffirms and extends a clinician group's responsibility for managing a patient's asthma or COPD. A reaffirming claim has the same definition as a confirming claim as defined in Section 4.1, meaning that a reaffirming claim is either:

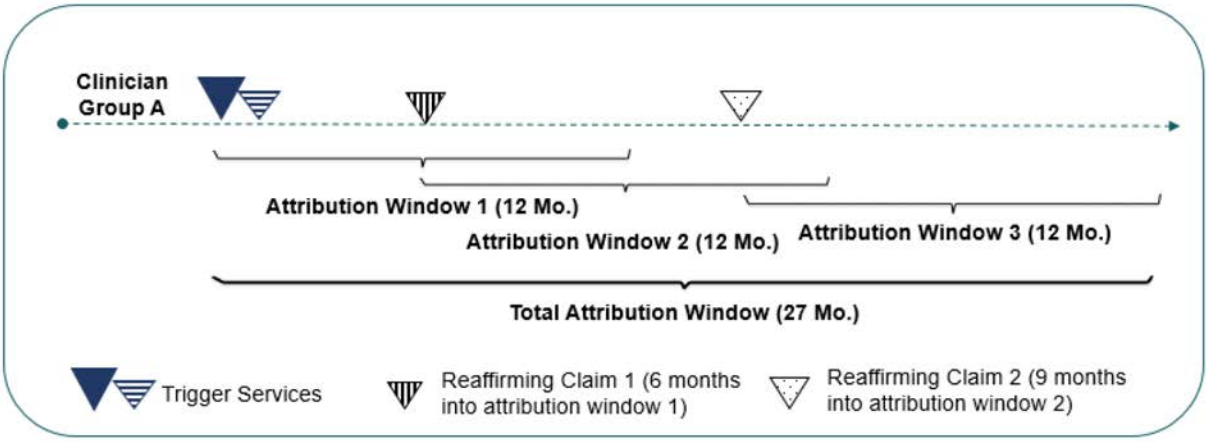
- Any code from the set of trigger CPT/HCPCS codes for outpatient services when accompanied by an ICD-10 diagnosis code indicating diabetes. These outpatient services can be summarized as:
    - Other diagnostic procedures (interview, evaluation, consultation)
    - Ancillary services
- Any code from the additional set of confirming CPT/HCPCS codes, when accompanied by an ICD-10 diagnosis code indicating diabetes. These additional services include:
    - Ancillary Services
    - Diagnostic endocrine procedures
    - Laboratory – Chemistry and Hematology
    - Microscopic examination (bacterial smear, culture, toxicology)
    - Other diagnostic procedures (interview, evaluation, consultation)
    - Other non-OR therapeutic procedures on skin and breast

Each time a reaffirming claim is identified during an open attribution window, the attribution window will be extended by 1 year from the point of the reaffirming claim. The resulting overall time period of responsibility is defined as the **total attribution window**, which begins with the trigger claim and concludes 1 year after the final reaffirming claim. Therefore, the total attribution window can span multiple years and vary in length for different patients. Appendix A contains an illustration of the relationship between a trigger event, reaffirming claims, and a total attribution window.

Figure 2 below contains an example illustration of the relationship between a trigger event, reaffirming claims, and a total attribution window. In this hypothetical example, reaffirming claim 1 occurs 6 months into attribution window 1 and extends that attribution window by 1 year (until the end of attribution window 2), and then reaffirming claim 2 occurs 9 months into attribution

window 2, extending that attribution window by another year (until the end of attribution window 3). Once all reaffirming claims are identified, the total period of time of the clinician-patient relationship is defined as the period covered by all attribution windows, beginning with the trigger claim and concluding 1 year after the final reaffirming claim. For this example, the total attribution window is 27 months long.

Figure 2. Example of Reaffirming Claims and Total Attribution Window



4.3 Define an Episode

Once the total attribution window has been constructed, it is divided into segments of time, also known as episodes. Episodes allow the measure to be calculated for a given measurement period, which is a static year-long period (i.e., calendar year) in which a clinician or clinician group will be measured.

An **episode** is defined, at a minimum, as a one-year segment of the total attribution window. Episodes are assessed in the measurement period in which they end and only include days not previously measured in preceding measurement periods. Clinicians or clinician groups are measured on a patient at the end of the calendar year if there are at least 365 days' worth of claims data that has not previously been assessed or when the total attribution window ends, ensuring that costs are only assessed once. The episode window lengths may vary depending on the length of the total attribution window and the number of days that have not been assessed in preceding measurement periods.

After the episode windows are constructed, the number of assigned days for each episode is determined and used as a weighting factor in the measure score calculation step. This weighting is done to ensure fair comparison across episodes, where cost is effectively scaled respective to the episode length to allow like comparisons between episodes of similar length. Appendix A contains a simplified example of episode construction, as well as a more detailed illustration of episode construction and assignment of days.

1. 365-day episode window, where there are no reaffirming claims during the year-long total attribution window
    - The episode **start date** is set as the start date of the total attribution window.
    - The episode **end date** is set as 365 days after the episode start date.
    - **Assign** the total number of days that have not been previously measured in the preceding episodes. In this case, the number of assigned days equals the number of days in the episode.

2. 366- to 729-day episode window, where reaffirming claims extend the total attribution window to greater than one year
    - The episode **start date** is set as the start date of the total attribution window.
    - The episode **end date** is set as either:
        - The end of the total attribution window (which is 366 to 729 days after the episode start date), if the total attribution window ends by December 31 of the next calendar year (i.e., the measurement year);
        - December 31 of the next full calendar year (which is 366 to 729 days after the episode start date), if the total attribution window extends beyond December 31 of the next calendar year (i.e., the measurement year).
    - **Assign** the total number of days that have not been previously measured in the preceding episodes. In this case, the number of assigned days equals the number of days in the episode.
3. 365-day episode window, where reaffirming events have resulted in a total attribution window that is at least two years in length that can be split into 365-day segments across multiple measurement periods
    - The episode **start date** is set as the beginning of a new calendar year (January 1) if it is a subsequent episode with at least 365 days' worth of claims data not captured in a preceding measurement period.
    - The episode **end date** is set as 365 days after the episode start date, at the end of that calendar year (December 31).
    - **Assign** the total number of days that have not been previously measured in the preceding episodes. In this case, the number of assigned days equals the number of days in the episode.
4. 365-day episode window, where the total attribution window concludes after a segment was measured in the previous measurement period
    - The episode **start date** is set as 365 days prior to the total attribution window end date if the remaining number of assigned days in the total attribution window is less than 365 days.
    - The episode **end date** is set as the end date of the total attribution window.
    - **Assign** the total number of days that have not been previously measured in the preceding episodes. In this case, the number of assigned days is smaller than the number of days in the episode, since the episode window would partially overlap with the preceding episode window. Only days not previously measured are assigned to the episode. This is done to ensure there is no double counting of episode costs.

Once a Diabetes episode window is defined, the episode is placed into one of the episode sub-groups to enable meaningful clinical comparisons. Sub-groups represent more granular, mutually exclusive and exhaustive patient populations defined by clinical criteria. Sub-groups are useful in ensuring clinical comparability so that the corresponding cost measure fairly compares clinicians with a similar case-mix.

Appendix B contains an illustration of the Diabetes sub-grouping methodology. Codes used to define the sub-groups can be found in the "Sub_Groups" and "Sub_Groups_Details" tabs of the Diabetes Measure Codes List file. This cost measure has 2 sub-groups:

- Type 1 Diabetes
- Type 2 Diabetes

4.4 Attribute the Episode to a Clinician Group or a Clinician

Once an episode has been defined, it is attributed to one or more clinicians of a specialty that is eligible for MIPS. The episodes are attributed to clinician groups, who are identified by their unique TIN, and individual clinicians, who are identified by their TIN and NPI pair (TIN-NPI). For codes relevant to this section, please refer to the "Attribution" tab of the Diabetes Measure Codes List file.

TIN level attribution: An episode is attributed to the clinician group that billed the trigger event (trigger and confirming claims) for the total attribution window. Additionally, at least one clinician within the clinician group must have prescribed at least 2 condition-related prescriptions on different days to 2 different patients during the measurement period plus a one-year lookback period. The clinically related costs from the total number of assigned days are attributed to that clinician group.

TIN-NPI level attribution: An episode is attributed to any clinician within the attributed clinician group that billed at least 30% of the trigger or confirming codes on Part B Physician/Supplier claim lines during the episode.[17] The measure's attribution methodology also imposes additional checks to ensure that TIN-NPIs are appropriately attributed. Specifically, TIN-NPIs that meet the 30% threshold must have:

- billed at least one trigger or confirming code within 1 year prior to or on the episode start date, and
- prescribed at least 2 condition-related prescriptions on different days to 2 different patients during the measurement period plus a one-year lookback period.

Future attribution rules may benefit from the implementation of patient relationship categories[18] and codes.[19] As required by section 101(f) of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), the Centers for Medicare & Medicaid Services (CMS) will consider how to incorporate the patient relationship categories into episode-based cost measurement methodology as clinicians and billing experts gain experience with them.[20]

4.5 Assign Costs to an Episode and Calculate Episode Scaled Observed Costs

Medicare Parts A, B, and D services, and their costs, are assigned to an episode only when clinically related to the management and treatment of the patient's diabetes during the episode. Assigned services may include treatment and diagnostic services, ancillary items, services directly related to treatment, and those furnished as a consequence of care (e.g., complications, readmissions, unplanned care, and emergency department visits). Unrelated services are not

[17] For a diagram illustrating an example of attribution to a TIN and TIN-NPI, please refer to Appendix C.
[18] The MACRA Patient Relationship Categories aim to distinguish the relationship and responsibility of a clinician with a patient at the time of furnishing an item or service, thereby facilitating the attribution of patients and episodes to one or more clinicians for purposes of measure score calculations. For more information on Patient Relationship Categories, please refer to the Patient Relationship Categories and codes operational list. (https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/CMS-Patient-Relationship-Categories-and-Codes.pdf)
[19] The MACRA Patient Relationship Codes are HCPCS Level II modifier codes that clinicians report on claims to identify their patient relationship category. For the Patient Relationship Codes, please refer to Table 27 of the CY 2018 Physician Fee Schedule final rule. (https://www.federalregister.gov/d/2017-23953/p-2203)
[20] For more information on the Patient Relationship Categories and Codes, please download the Patient Relationship Categories and Codes FAQ. (https://qpp-cm-prod-content.s3.amazonaws.com/uploads/236/Patient-Relationship-Categories-and-Codes-webinar-FAQ.pdf)

assigned to the episode. For example, the cost of care for a procedure that occurs during the episode that is not clinically related to the management and treatment of the patient's diabetes (i.e., a knee arthroplasty) would not be assigned to the episode.

To ensure that only clinically related services are included, services during the episode window are assigned to the episode based on a series of service assignment rules, which are listed in the "Service_Assignment_AB" and "Service_Assignment_D" tabs of the Diabetes Measure Codes List file.

For the Diabetes episode group, services performed in the following service categories are considered for assignment to the episode:

- Outpatient (OP) Facility and Clinician Services
- Emergency Department (ED)
- Inpatient (IP) - Medical
- IP - Surgical
- Inpatient Rehabilitation Facility (IRF), Long Term Care Hospital (LTCH), SNF[21]
- Durable Medical Equipment, Prosthetics, Orthotics, and Supplies (DME)
- Home Health (HH)
- Part D drugs

In addition to service category, service assignment rules may be modified based on the service category in which the service is performed, as listed above. Service assignment rules can also be defined based on specific service information alone or service information combined with diagnosis information. Services may be assigned to the episode based on the following combinations:

- High level service code alone
- High level service code combined with first 3 digits of the ICD-10 diagnosis code
- High level service code combined with more specific service code
- High level service code combined with more specific service code and with 3-digit ICD-10 diagnosis code

The steps for assigning costs are as follows:

- **Identify** all services on claims with positive standardized payment that occur within the episode window.
- **Assign** identified services to the episode based on the types of service assignment rules described above.
- **Assign** all trigger and reaffirming Part B Physician/Supplier claims occurring during the episode window.
- **Assign** all SNF stays based on the following criteria:
    - Identify SNF stays where both (i) the SNF stay's qualifying IP stay is assigned to episode and (ii) the SNF stay occurs during the episode window.
    - For those identified SNF stays, determine the number of days that overlap with the episode window; if the overlap is greater than 30 days, cap claim amount assigned to the episode at 30 days.
- **Assign** all IRF and LTCH stays based on the following criteria:
    - Identify IRF and LTCH stays for which (i) there is a preceding IP stay discharged within 7 days prior to the stay's start date, (ii) the preceding IP stay is assigned to the episode, and (iii) the IRF and LTCH stays occur during the episode window.

[21] Services performed in the IRF, LTCH, and SNF settings are assigned to an episode based on their association with the grouped IP stay.

    - For those identified IRF and LTCH stays, determine the distribution of grouped claim cost across episodes and cap claim amount assigned to the episode at the 90th percentile of each observed cost distribution.[22]
- **Assign** all inpatient evaluation and management (E/M) claims during IP stays assigned to episode.
- **Sum** the standardized Medicare allowed amounts for all claims assigned to each episode to obtain the total standardized episode observed cost.
- **Average** the total standardized episode observed cost over the number of days in the episode to get the episode average daily standardized observed cost.
- **Multiply** the episode average daily standardized observed cost by 365 to get the episode scaled (annualized) standardized observed cost.

Service Assignment Example

- Clinician Group A has been providing continuous care management for Patient K's diabetes, and is attributed an episode with Patient K during the measurement period.
- Clinician Group A performs a blood glucose level test for Patient K during the episode window. Because the blood glucose level test is considered a clinically related service, its costs will be assigned to Clinician Group A's Diabetes episode with Patient K.

4.6 Exclude Episodes

Before measure calculation, episode exclusions are applied to remove certain episodes from measure score calculation. Certain exclusions are applied across all chronic condition episode groups, and other exclusions are specific to this measure, based on consideration of the clinical characteristics of a homogenous patient cohort. The measure-specific exclusions are listed in the "Exclusions" and "Exclusions_Details" tabs in the Diabetes Measure Codes List file.

Episodes are excluded from the Diabetes measure if they meet any of the following cross-episode group conditions:

- The patient has a primary payer other than Medicare for any time overlapping the episode window or 120-day lookback period prior to the episode window.
- The patient was not enrolled in Medicare Parts A and B for the entirety of the 120-day lookback period plus episode window, or was enrolled in Part C for any part of the 120-day lookback period plus episode window.
- The patient is not found in the Medicare EDB.
- The patient has an episode window shorter than 1 year.
- The patient's death date occurred before the episode end date.
- The patient has extremely low treatment costs.
- The patient resided outside the United States or its territories during the episode window.

[22] Capping costs aims to limit the effects of extreme observed cost values on episode observed costs. Capping involves limiting the amount of claim costs that a provider can be assigned during an episode. For Diabetes episodes with related LTCH and/or IRF costs, the value of the 90th percentile is assigned to all LTCH and IRF observed costs above the 90th percentile.

4.7 Estimate Scaled Expected Costs for Risk Adjustment

Risk adjustment is used to estimate episode expected costs in recognition of the different levels of care patients may require due to comorbidities, disability, age, specialty care, and other risk factors. The risk adjustment model includes variables from the CMS Hierarchical Condition Category Version 24 (CMS-HCC V24) 2021 Risk Adjustment Model,[23] as well as other standard risk adjustors (e.g., patient age) and variables for clinical factors that may be outside the attributed clinician's reasonable influence. A full list of risk adjustment variables can be found in the "RA" and "RA_Details" tabs of the Diabetes Measure Codes List file.

Steps for defining risk adjustment variables and estimating the risk adjustment model are as follows:

- **Define** HCC, number and types of clinician specialties from which the patient has received care,[24] and episode group-specific risk adjustors using service and diagnosis information found on the patient's Medicare claims history in the 120-day default lookback period prior to the episode start date (or the timing specified in the "RA_Details" tab of the Measure Codes List file) for certain billing codes that indicate the presence of a procedure, condition, or characteristic. For clinician specialty information, include information obtained on the episode start date.
    - **Create** the following categories to identify HCC frequency as a marker of patient comorbidity: 0, 1, 2-3, 4-6, and 7+ HCCs.
- **Define** other risk adjustors that rely upon Medicare beneficiary enrollment and assessment data as follows:
    - Identify beneficiaries who are originally "Disabled without ESRD" or "Disabled with ESRD" using the original reason for joining Medicare field in the Medicare beneficiary EDB.
    - Identify beneficiaries with ESRD if their enrollment indicates ESRD coverage, ESRD dialysis, or kidney transplant in the Medicare beneficiary EDB in the 120-day lookback period.
    - Identify beneficiaries who have spent at least 90 days in a long-term care institution (LTCI) without having been discharged to the community for 14 days, using LTC MDS assessment data. Then, identify the beneficiaries whose Diabetes episode start date overlaps with their stay in an LTCI.
    - Identify beneficiaries who have partial or full dual Medicare and Medicaid eligibility status as of the episode start date; adjust for dual eligibility status when risk-adjusted costs are on average higher for dually enrolled beneficiaries (i.e., drop risk adjustor when coefficient is less than 0).
- **Drop** risk adjustors that are defined for less than 15 episodes nationally for each sub-group and Part D enrollment status combination to avoid using very small samples.
- **Categorize** beneficiaries into age ranges using their date of birth information in the Medicare beneficiary EDB. If an age range has a cell count less than 15, collapse this in the next adjacent age range category towards the reference category (65-69).

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[23] CMS uses an HCC risk adjustment model to calculate risk scores. The HCC model ranks diagnoses into categories that represent conditions with similar cost patterns. Higher categories represent higher predicted healthcare costs, resulting in higher risk scores. The 86 HCC codes included in the CMS-HCC V24 model are mapped to thousands of ICD-10-CM diagnosis codes.

[24] Specialty groups include Allergy/Immunology, Anesthesiology, Behavioral Medicine, Cardiology, Chest Surgery, Chiropractor, Critical Care, Dentistry, Dermatology, Diagnostic Imaging, Emergency Medicine, Endocrinology, Facility, Gastroenterology, General Medicine/Family Practice, General Surgery and Surgical Oncology, Hospice and Palliative Care, Infectious Disease, Interventional Radiology, Nephrology, Neurology, Neurosurgery, NP/PA/Nurse Specialists.

The following steps are performed separately for each sub-group and Part D enrollment status combination:

- **Winsorize**[25] the episode scaled observed cost as follows:
  - **Assign** the value of the 98th percentile to all episode scaled observed costs above the 98th percentile.
- **Run** an ordinary least squares (OLS) regression model to estimate the relationship between all the risk adjustment variables and the dependent variable, the episode winsorized scaled observed cost calculated from the previous step, to obtain the episode scaled expected cost.
- **Winsorize** the episode scaled expected cost as follows:
  - **Assign** the value of the 0.5th percentile to all episode scaled expected costs below the 0.5th percentile.
  - **Renormalize**[26] values by multiplying each episode's winsorized scaled expected cost by the average scaled expected cost, and dividing the resultant value by the average winsorized scaled expected cost.
- **Exclude** episodes with outliers as follows:
  - **Calculate** each episode's residual as the difference between the re-normalized, winsorized scaled expected cost computed above and the winsorized scaled observed cost.
  - **Exclude** episodes with residuals below the 1st percentile or above the 99th percentile of the residual distribution.
  - **Renormalize** the resultant scaled expected cost values by multiplying each episode's winsorized scaled expected costs by the average winsorized scaled observed cost (after excluding outliers), and dividing by the average winsorized scaled expected cost (after excluding outliers).

4.8 Calculate Measure Score

Measure scores are calculated for a clinician or clinician group practice as follows:

- **Calculate** the ratio of winsorized scaled standardized observed cost to scaled expected episode cost for each episode attributed to the clinician or clinician group.
- **Calculate** the measure as a weighted average of these ratios across all of a clinician's or a clinician group's attributed episodes, where the weighting is the number of assigned days for a clinician or a clinician group during the episode.
- **Multiply** the weighted average episode cost ratio by the national average winsorized scaled observed episode cost to generate a dollar figure for the cost measure score.

The clinician-level (or clinician group practice-level) risk-adjusted and specialty-adjusted cost for any attributed clinician (or clinician group practice) "j" can be represented mathematically as:

[25] Winsorization aims to limit the effects of extreme values on expected costs. Winsorization is a statistical transformation that limits extreme values in data to reduce the effect of possible outliers. Winsorization of the lower end of the distribution (i.e., bottom coding) involves setting extremely low predicted values below a predetermined limit to be equal to that predetermined limit, and similarly for the higher end of the distribution involves setting extremely high predicted values above a predetermined limit to be equal to that predetermined limit.

[26] Renormalization is performed after adjustments are made to the episode's expected cost, such as winsorization or residual outlier exclusion. This process multiplies the adjusted values by a scalar ratio to ensure that the resulting average is equal to the average of the original value.

$$Measure\ Score_j = \left[\frac{1}{n_j}\sum_{i\epsilon\{I_j\}}\left(\frac{Y_{ij}}{\hat{Y}_{ij}} \times n_{ij}\right)\right] * \left(\frac{1}{N}\sum_{i\epsilon\{I\}} Y_i\right)$$

where:

Y_{ij}	is the winsorized **scaled** observed payment for episode *i* and attributed clinician (or clinician group practice) *j*
$\hat{Y}_{ij}$	is the **scaled** expected payment for episode *i* and attributed clinician (or clinician group practice) *j*
n_{ij}	is the number of assigned days for episode *i* and attributed clinician group practice *j*
n_j	is the total number of days assigned to attributed clinician (or clinician group practice) *j* across all episodes (summation of n_{ij})
N	is the total number of episodes attributed to clinicians (or clinician group practices) nationally
Y_i	is the winsorized **scaled** observed payment for episode *i*
$i\epsilon\{I_j\}$	is all episodes attributed to clinician (or clinician group practice) *j*
$i\epsilon\{I\}$	is all episodes attributed to clinicians (or clinician group practices) nationally

A diagram demonstrating a visual depiction of an example measure calculation can be found in Appendix D.

A lower measure score indicates that the observed episode costs are lower than or similar to expected costs for the care for the particular patients and episodes included in the calculation.

A higher measure score indicates that the observed episode costs are higher than expected for the care provided for the particular patients and episodes included in the calculation.

Appendix A. Example Illustrations of Scenarios for Episode Construction and Assignment of Days

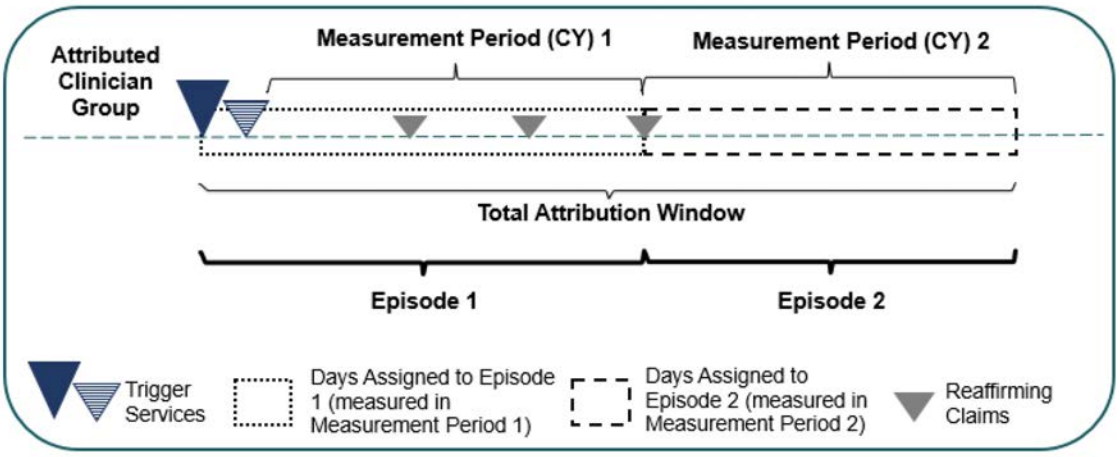
This appendix provides additional details on how an episode is constructed and attributed to a particular measurement period, and how days are assigned to an episode.

A.1. Simple Example of Defining an Episode

In Figure A-1 below:

- Episode 1 is a portion of the total attribution window that starts on the day of the trigger claim and concludes at the end of the subsequent measurement period (December 31). Since episode 1 ends in measurement period 1, the associated costs will be measured in measurement period 1.
- Episode 2 is a one-year long portion of the total attribution window that starts at the beginning of measurement period 2 (January 1) and ends at the end of the measurement period (December 31). Since episode 2 ends in measurement period 2, the associated costs will be measured in measurement period 2.

Figure A-1. Episode Windows



A.2. Episode Construction Examples

The figures below provide examples of how episodes are constructed and attributed to a particular measurement period. Overall, an episode's window is defined based on:

- whether the patient-clinician relationship during the measurement period was continuous, and
- the amount of claims data that has not been assessed in preceding measurement periods.

These examples also show how days are assigned to episodes. In each of these examples, we focus on episodes assessed in measurement period 2, which are used in Appendix D to demonstrate how the measure score is calculated in a given measurement period. Assigned days are used as a weighting factor at the measure score calculation step, where the observed to expected ratio of each episode is weighted by the number of assigned days to that episode and then averaged over all episodes attributed to the clinician or clinician group. Therefore, to

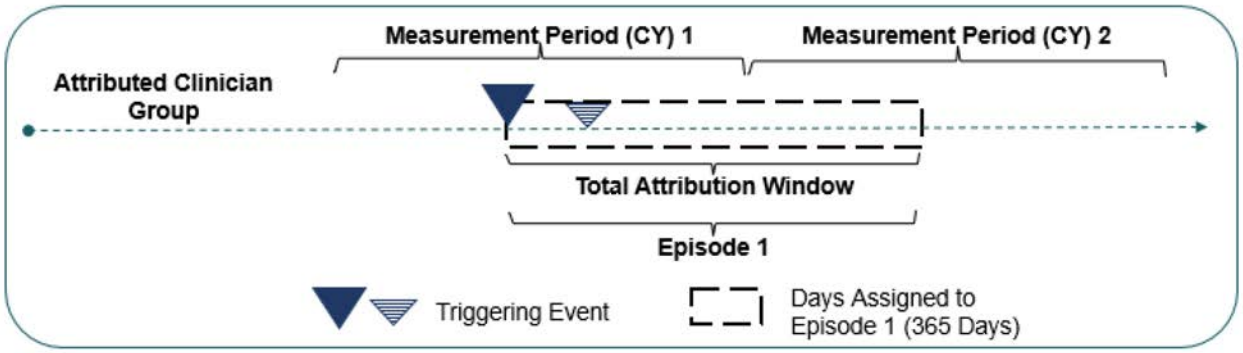
ensure fair comparison, longer episodes are given more weight during measure calculation than shorter episodes.

Episode Window 1. 365 Days; No Reaffirming Claims During the Total Attribution Window

Figure A-2 illustrates a Diabetes episode that is 365 days long. This episode begins during the first measurement period with a pair of triggering services that opens a one-year long attribution window that extends into the second measurement period. While a reaffirming service would have extended the relationship between the patient and the attributed clinician, the absence of a reaffirming claim ends this clinician-patient relationship after 365 days. Therefore, in this example, the length of the total attribution window and the episode are the same.

- **Measurement Period 1:** Costs will not be assessed during measurement period 1 because there was not a year's worth of claims data to assess during this measurement period.
- **Measurement Period 2:** Costs will be assessed during measurement period 2 because the episode ended in measurement period 2 and contained a year's worth of claims data that have not been previously assessed.
    - Since none of the days were previously assessed, all 365 days would be assigned to episode 1 and would be used as a weighting factor at the measure score calculation step.

Figure A-2. Episode Window (365 Days; No Reaffirming Claims)



Episode Window 2. 366 to 729 days; Reaffirming Claims During the Total Attribution Window

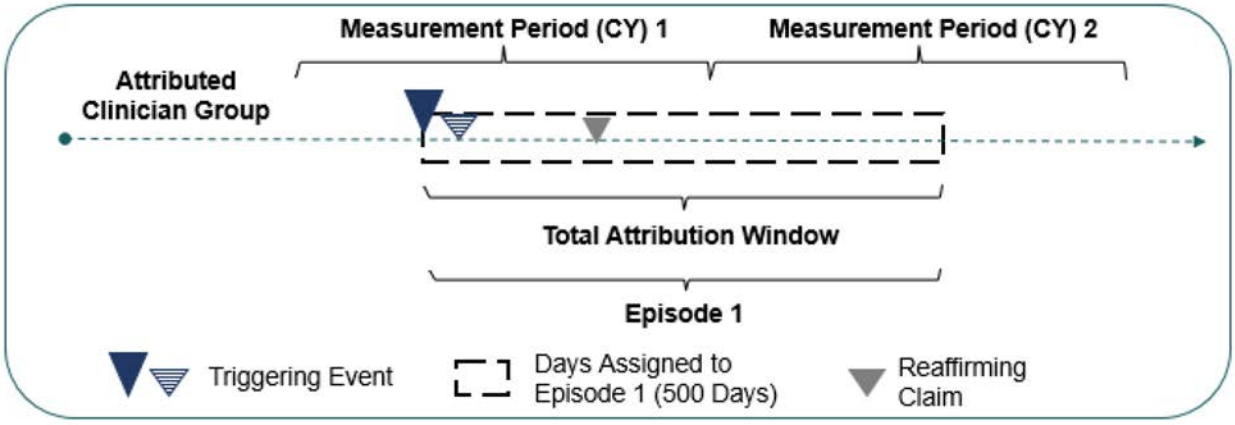
Figure A-3 illustrates a Diabetes episode that is longer than 365 days.[27] This episode begins during measurement period 1, contains 1 reaffirming claim 135 days into the attribution window that extends the initial attribution window by another 365 days, and ends 500 days after the trigger claim during measurement period 2.

- **Measurement Period 1:** Costs will not be assessed during measurement period 1 because of the absence of a year's worth of claims data to assess during this measurement period.

[27] Episodes can be up to 729 days long. At 730 days, the patient's episode would be split into 2 distinct 365-day long episodes because there would be a year's worth of claims data available in each episode.

- **Measurement Period 2:** Costs will be assessed during measurement period 2 because the episode ended in measurement period 2 and contained a year's worth of claims data that have not been previously assessed.
    - Since none of the days were previously assessed, all 500 days would be assigned to episode 1 and would be used as a weighting factor at the measure score calculation step.

Figure A-3. Episode Window (366 to 729 Days; Reaffirming Claims)



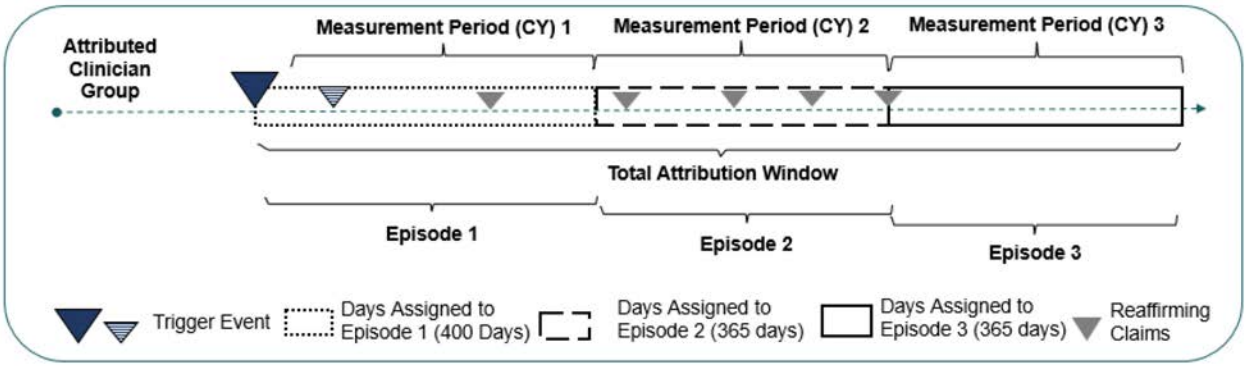
Episode Window 3. 365 days; Multi-Year Total Attribution Window

Figure A-4 illustrates a long total attribution window that is at least two years in length with a Diabetes episode that is 365 days long, where sufficient claims data was assessed in the preceding measurement period.

The total attribution window begins with a pair of trigger services billed 35 days before measurement period 1, and ends approximately 38 months later, when the clinician-patient relationship ends during measurement period 3.

- **Measurement Period 1:** Episode 1 started on the day of the trigger claim and ended at the end of measurement period 1 (on December 31).
    - Costs will be assessed during measurement period 1 because episode 1 ended in measurement period 1 and contained at least a year's worth of claims data that have not been previously assessed. Since none of the days were previously assessed, all 400 days would be assigned to episode 1.
- **Measurement Period 2:** Episode 2 started on January 1 of measurement period 2 and ended on December 31 of measurement period 2.
    - Costs will be assessed during measurement period 2 because the episode ended in measurement period 2 and contained a year's worth of claims data that have not been previously assessed. Since none of the days were previously assessed, all 365 days would be assigned to episode 2.
- **Measurement Period 3:** Episode 3 started on January 1 of measurement period 3 and ended on December 31 of measurement period 3.
    - Costs will be assessed during measurement period 3 because the episode ended in measurement period 3 and contained a year's worth of claims data that have not been previously assessed. Since none of the days were previously assessed, all 365 days would be assigned to episode 3.

Figure A-4. Episode Window (365 days; Multi-Year Total Attribution Window)



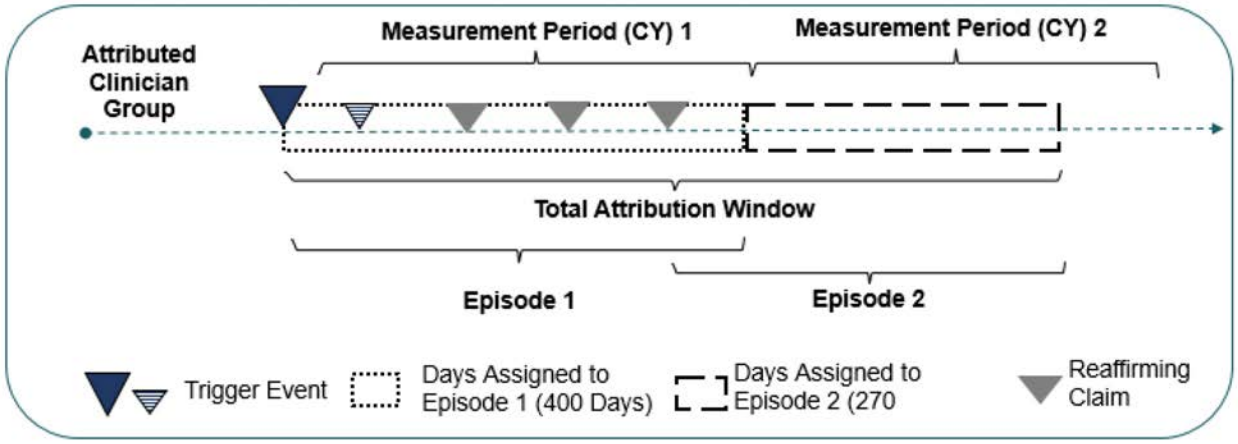
Episode Window 4. 365 Days; Overlapping Episodes

Figure A-5 depicts how the remaining days of long total attribution windows are assessed when there are less than 365 days of claims data that has not been previously assessed.

In this example, the total attribution window begins with a pair of trigger services billed approximately 35 days before measurement period 1 and ends 670 days (approximately 22 months) later, when the clinician-patient relationship ends during measurement period 2.

- **Measurement Period 1:** For episode 1, costs will be assessed during measurement period 1 because episode 1 ended in measurement period 1 and contained at least a year's worth of claims data that have not been previously assessed. Since none of the days were previously assessed, all 400 days would be assigned to episode 1.
- **Measurement Period 2:** For episode 2, there is not a year's worth of claims data between the end of episode 1 and the end of the total attribution window. Therefore, the start date of episode 2 is set as 365 days prior to the end of the total attribution window, and falls during episode 1.
    - Since the costs during the days where episodes 1 and 2 overlap have already been assessed during measurement period 1, only the days occurring **after** the episode 1 end date will be assigned to episode 2 (270 days). These 270 days will be used as a weighting factor at the measure score calculation step.

Figure A-5. Episode Window (365 Days; Overlapping Episodes)



Appendix B. Sub-Grouping Methodology

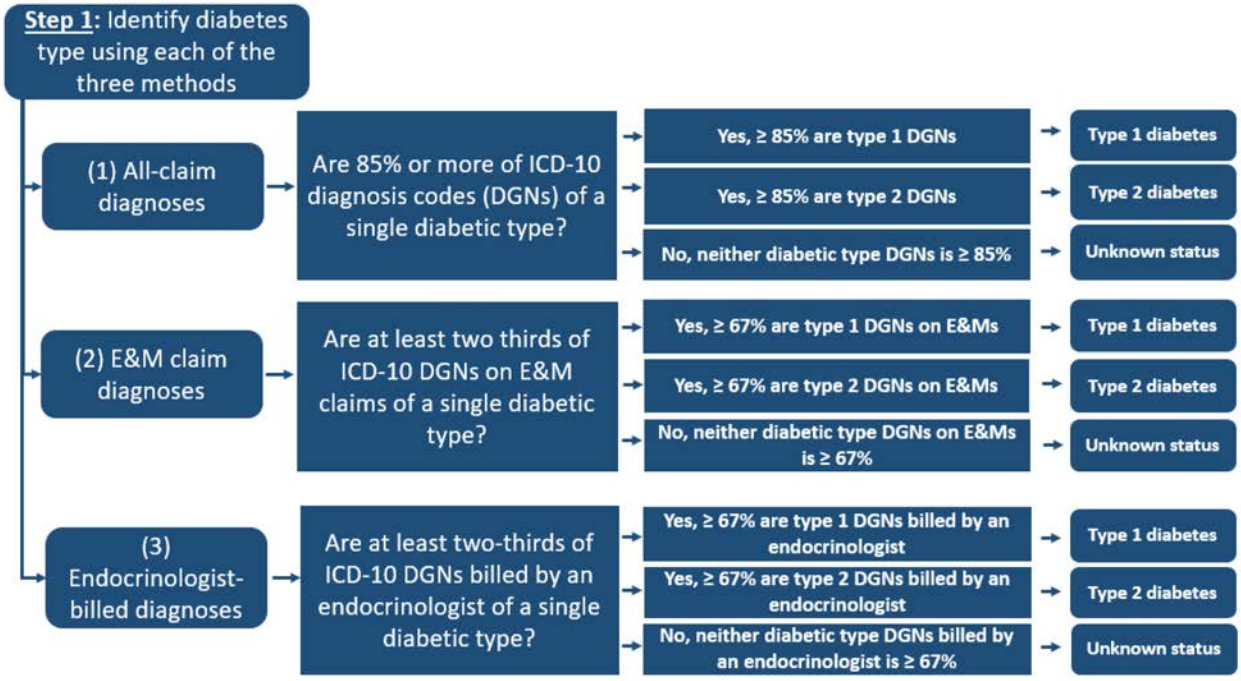
This appendix describes the sub-group specifications to categorize patients into 2 sub-groups: Type 1 Diabetes and Type 2 Diabetes.

Sub-grouping is a technique that stratifies the patient cohort into exhaustive and mutually exclusive groups. This is done to improve the measure's ability to fairly compare patients, as the risk adjustment model is run separately for each sub-group; that is, it predicts expected cost among patients with a specific clinical condition. In general, sub-grouping is based on characteristics that have distinct effects on costs across all risk adjustors.

The Diabetes measure includes a robust claims-based methodology to identify patients with type 1 and type 2 diabetes diagnoses. The methodology combines results from 3 independent methods, informed by literature, testing, and expert clinician input, that focus on different claims-based markers of type 1 or type 2 diabetes found during the time period between the earliest episode start date and the latest episode end date for a particular measurement period. Combining these 3 methods (all-claim diagnoses, E/M claim diagnoses, and endocrinologist-billed diagnoses) provides greater confidence in the overall determination and reduces the chance of misclassification from using individual methods alone. Figures B-1 and B-2 illustrate the 2 steps for the sub-grouping methodology for the Diabetes measure: first, we apply a series of independent criteria, then we review the results across these criteria to assess the degree of agreement across them.

Step 1 identifies diabetes type using the 3 methods (all-claim diagnoses, E/M claim diagnoses, and endocrinologist-billed diagnoses), each of which classifies a patient as having type 1 diabetes, type 2 diabetes, or an unknown status.

Figure B-1. Diabetes Sub-Grouping Methodology – Step 1

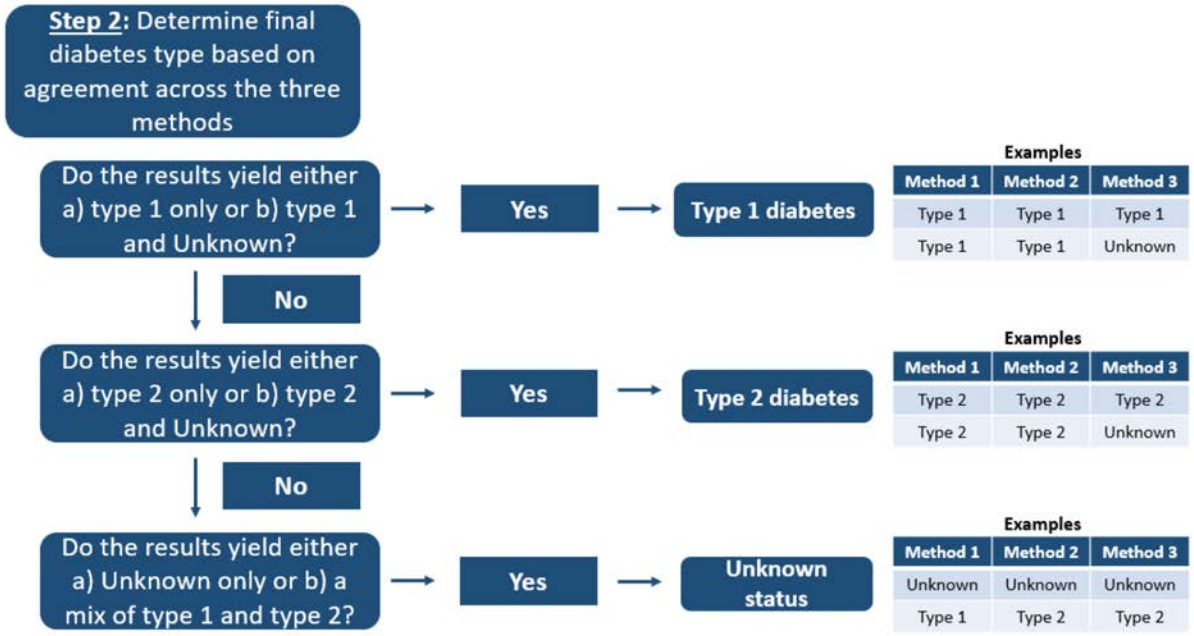


For example:

- On all Medicare claims, a patient had 90% of their diabetic type diagnoses listed as type 2 diabetes ICD-10 diagnosis codes, which identifies a type 2 diabetes disease.
- On all E/M claims, the patient had 70% of their diabetic type diagnoses listed as type 2 diabetes ICD-10 diagnosis codes, which identifies a type 2 diabetes disease.
- Finally, on all endocrinologist-billed claims, the patient had 90% of their diabetic type diagnoses listed as type 2 diabetes ICD-10 diagnosis codes, which identifies a type 2 diabetes disease.

Step 2 determines a final diabetes type classification based on agreement across the 3 methods from Step 1.

Figure B-2. Diabetes Sub-Grouping Methodology – Step 2



Based on the example provided in Step 1, the 3 methods did not yield either a type 1 diabetes only or unknown result, but there was complete agreement across the 3 methods on a type 2 diabetes disease. Therefore, the patient would be placed into the Type 2 Diabetes sub-group.

Appendix C. Illustration of Attribution to Individual Clinicians (TIN-NPI)

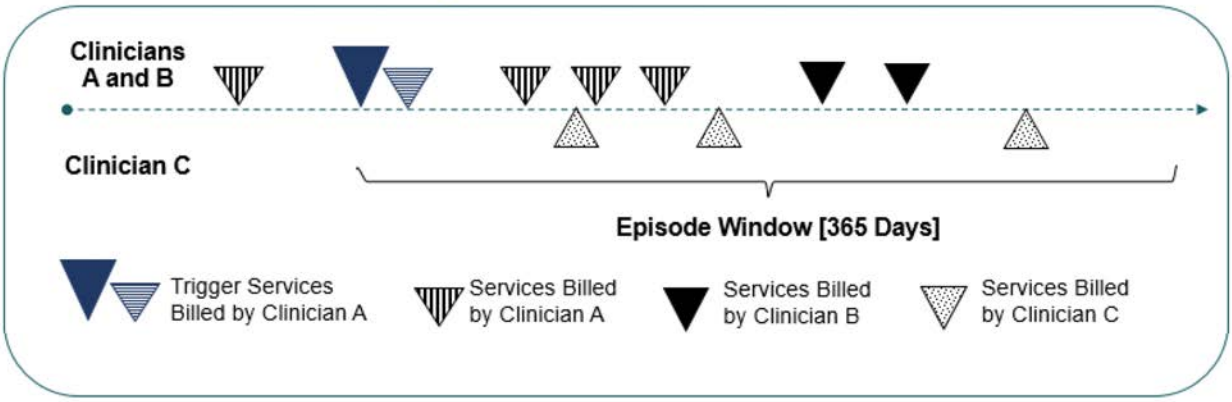
This appendix provides a detailed illustration of the attribution methodology at the TIN and TIN-NPI levels. Once a Diabetes episode has been defined, it is attributed to the:

- TIN that billed the trigger services (trigger claim and confirming claim) for the total attribution window, and to the
- TIN-NPI(s) within the attributed TIN that billed at least 30% of trigger or confirming codes on Part B Physician/Supplier claim lines during the episode.

The measure's attribution methodology also imposes additional checks to ensure that TINs and TIN-NPIs are appropriately attributed. Specifically:

- Both the TIN and TIN-NPI attribution methodologies require that at least one clinician within the TIN must have prescribed at least 2 condition-related prescriptions on different days to 2 different patients during the measurement period plus a one-year lookback period.
- TIN-NPIs that meet the 30% threshold must have billed at least one trigger or confirming code within 1 year prior to or on the episode start date.

Figure C-1. TIN-NPI Attribution



* Clinician A also prescribed at least 2 condition-related prescriptions at different time points to 2 different patients
** Only services that occurred during the episode window are used to determine whether the clinician met the 30% threshold

Figure C-1 illustrates a scenario in which 3 clinicians (A, B, and C) within an attributed clinician group (TIN 1) have billed services during a patient's episode window. Within the episode window, there are a total of 10 services billed across the 3 clinicians. Each of these services is uniquely marked depending on the clinician that billed the service.

For TIN level attribution, TIN 1 is attributed the episode because it billed the trigger services for the patient and has at least one clinician, Clinician A, that prescribed at least 2 condition-related prescriptions at different time points to 2 different patients. **For TIN-NPI level attribution,** Clinician A bills 5 qualifying services (5/10, 50%), Clinician B bills 2 services (2/10, 20%), and Clinician C bills 3 services (3/10, 30%) during the episode window. Clinicians A and C met the 30% threshold, so they are considered for attribution. Clinician B did not meet the 30% threshold, so it is not considered for attribution.

- Check 1: Clinician A billed at least one trigger or confirming code within 1 year prior to or on the episode start date, so it is considered for attribution. Clinician C did not bill any such services, so Clinician C is not considered for attribution.

- Check 2: Clinician A also prescribed at least 2 condition-related prescriptions at different time points to 2 different patients during the measurement period plus a one-year lookback period. Therefore, Clinician A is considered for attribution.

Since only Clinician A met the 30% threshold and the 2 additional checks, it is attributed this episode.

Appendix D. Measure Calculation Example

This sub-section shows how the measure score is calculated. Figure D-1 below provides an illustrated example of measure calculation, using an example measure where the clinician group has only 4 attributed episodes for demonstration purposes.

Figure D-1. Chronic Condition Episode-Based Cost Measure Calculation Steps