

**Alliance of Dedicated Cancer Centers (ADCC)  
End-of-Life (EOL) Utilization Measure Specifications**

**Current as of February 17, 2021**

This document and associated data dictionary provide summary specifications for the claims-based measure (CMB) specifications for four EOL utilization measures:

- Proportion of patients who died from cancer receiving chemotherapy in the last 14 days of life (NQF #0210)
- Proportion of patients who died from cancer admitted to the ICU in the last 30 days of life (NQF #0213)
- Proportion of patients who died from cancer not admitted to hospice (NQF #0215)
- Proportion of patients who died from cancer admitted to hospice for less than 3 days (NQF #0216)

The American Society of Clinical Oncology (ASCO) is the steward of these measures and has achieved National Quality Forum (NQF) endorsement. Based on the ASCO NQF specifications, the ADCC created claims-only cohort identification and hospital attribution methodologies.

**EOL CBM Specification Summary: Medicare Claims Data**

**Data Used:** These are a claims-based measures, using all unique Medicare patients for the time-period specified as identified in the Medicare Fee for Service (FFS) Standard Analytic Files (SAF).

These specifications are intended to be used to measure performance at the hospital/facility level.

Determination of the performance rates for these measures is a six-step process:

1. The overall population/cohort for the performance period is identified from the Medicare FFS SAF.
2. Patients are attributed to hospitals.
3. The patients attributed to each hospital/facility form the denominator for NQF #0210, #0213 and #0215. A further calculation (see below) is required to determined to denominator for NQF #0216.
4. The numerator for each measure is then calculated.
5. The performance rate is then determined for each measure by dividing the numerator by the denominator.
6. The results for each hospital are then stratified into one of three groups: Acute Hematology, Non-Acute Hematology, or Solid Tumor.

**1: Population (Cohort):** The measure population includes all patients who died with a cancer diagnosis in the data collection period. The population is determined by the following (in order):

- Patients who died in the data collection period
- Patients aged 65 or greater as of the date of death
- Patients continuously enrolled in Medicare Pats A&B during the last 12 months before death
  - Patients enrolled in an HMO in the 12 months before death are excluded
- Patients with at least 2 cancer-related IP, OP or Hospice visits during the 6 months before death. A cancer-related visit is defined as any one day with a claim/s with the cancer diagnosis listed within the top 3 diagnoses.

- For outpatients, a claims day is any one day with a claim(s). Multiple visits on same day count as one day
- For inpatients, each admission with cancer diagnoses within the top 3 diagnoses counts as one claims day

**2: Attribution:** Patients are attributed to the hospital/facility where the majority (> 50%) of all claims (inpatient (IP)+ outpatient (OP) occur.

- Patients without any outpatient visits or inpatient stays in the last 6 months before death are removed
- Patients who have no individual hospital/facility with more than one claim in last 6 months before death are removed
- If a patient does not have a total majority of all claims (IP + OP) >0.5 at a single hospital A:
  - Attribute to hospital with highest # of outpatient claims; if # OP claims tied,
  - Attribute to hospital with highest # of inpatient claims; if #IP claims tied,
  - Attribute to hospital with last IP claim before death

**3: Denominator:** The number of patients attributed to each hospital for the performance period constitutes the hospital's denominator for measures NQF #0210, #0213, and #0215. For the measure, "Proportion of patients who died from cancer admitted to hospice for less than 3 days", (NQF #0216) the denominator is the number of patients attributed to the hospital who were also admitted to hospice during the six months prior to death.

**4: Numerator:**

- NQF #0210: Patients who died from cancer receiving chemotherapy in the last 14 days of life
  - Chemotherapy is defined by the presence of a HCPCS code for the administration of chemotherapy
  - Within the last 14 days of life is defined as (Date of Death) – (Date of Last Chemotherapy Administration) <= 14 days
  - Notes:
    - In these specifications chemotherapy administered in the inpatient setting and oral chemotherapy are **not** included, however, alternative interpretations of the measure could include these utilizations.
    - Complete chemotherapy utilization data requires a 100% SAF carrier file. Use of a less complete file (e.g., 5%) will underreport chemotherapy utilization.
- NQF #0213: Patients who died from cancer admitted to the ICU in the last 30 days of life
  - The patient counts toward the numerator if the patient has an inpatient claim including revenue codes 200-219 (ICU) for a hospitalization with an admission date within 30 days of death
  - If the admission date is beyond the 30 days of death but discharge date is within 30 days, and the inpatient claim for that hospitalization includes revenue codes 200-219 (ICU), then determine whether the ICU room change occurs within the 30 days window. If so, the patient counts toward the numerator.
- NQF #0215: Patients who died from cancer not admitted to hospice
  - The patient counts toward the numerator if **no** claims in the Medicare FFS Hospice file during the last 6 months of life.

- NQF #0216: Patients who died from cancer admitted to hospice for less than 3 days
  - The patient counts toward the numerator if the patient was admitted to hospice for less than 3 days as defined as (Date of Death – Hospice Enrollment Date)  $\leq$  3 days

**5: Calculation of Performance Rate:** for each measure, the applicable numerator should be divided by the applicable denominator and reported as a percentage. Note that lower performance score indicates better quality.

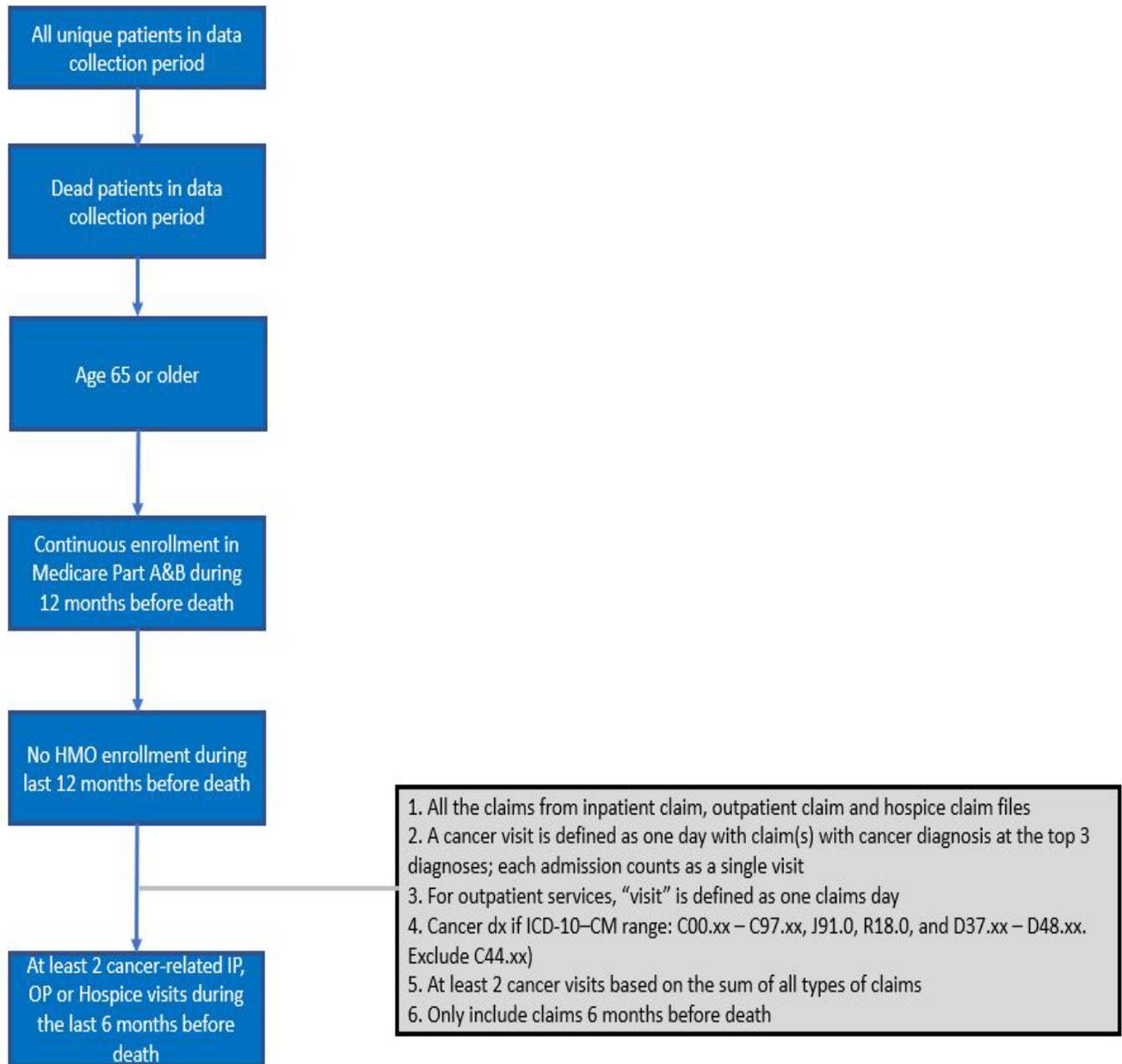
**6: Stratification:** The ADCC has tested and is proposing the following stratification categories:

- Acute Hematology – Lymphoblastic (diffuse) lymphoma, Burkitt lymphoma, anaplastic large cell lymphoma, acute lymphoblastic leukemia, acute myeloblastic leukemia, acute monoblastic/monocytic leukemia, acute erythroid leukemia, acute megakaryoblastic leukemia, and acute leukemia of unspecified cell type
- Non-Acute Hematology - chronic leukemia, Hodgkin’s lymphoma, non-Hodgkin’s lymphoma, multiple myeloma, and other hematological malignancies that are not included as ‘acute hematology’
- Solid Tumor – All other cancers included in the cancer diagnoses codes used in determining the cohort for these measures

#### **Analytic Steps:**

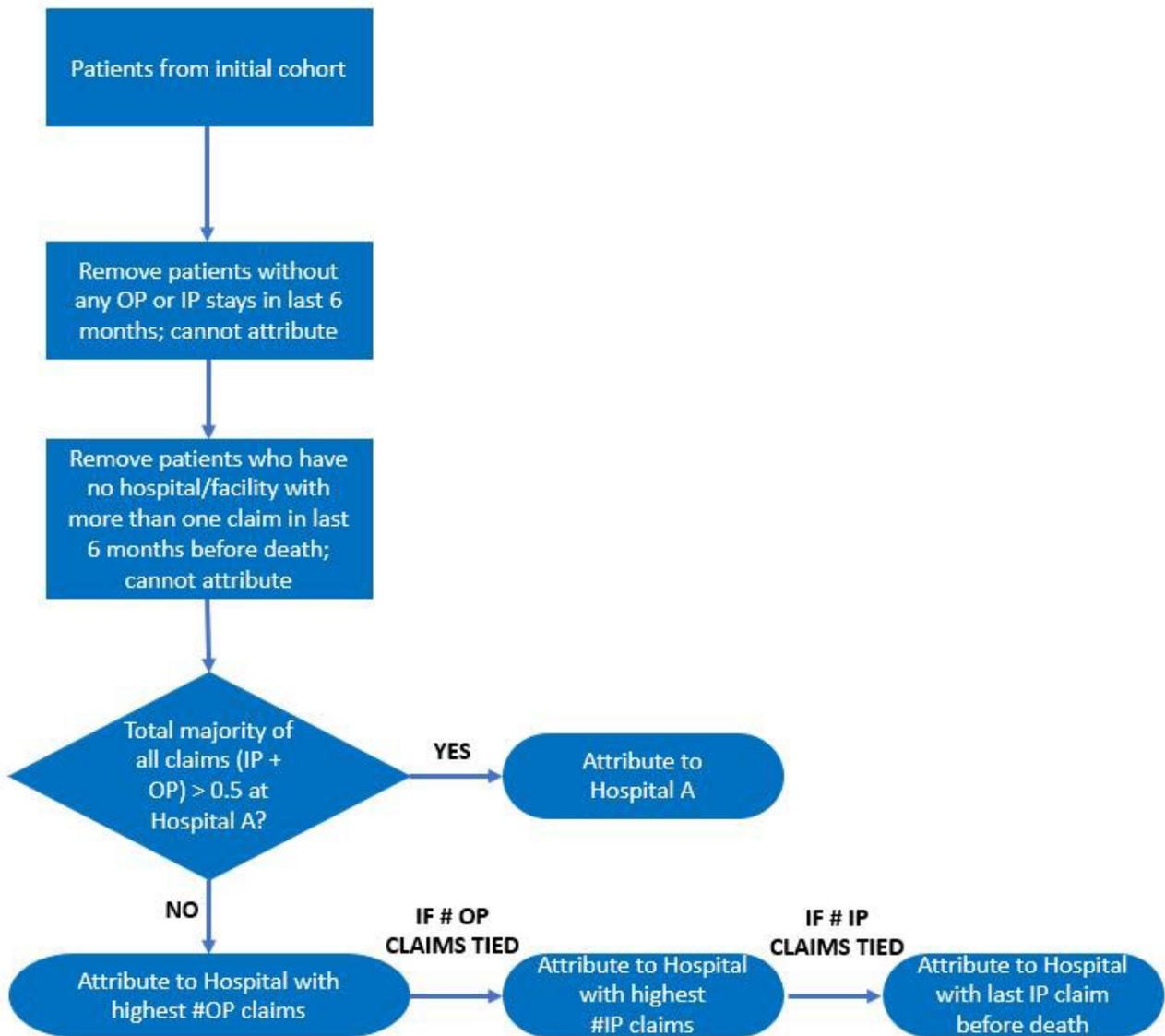
- 1: Population/Cohort:** Identify eligible patients (patient population/cohort) within the specified timeframe. Below is a flowchart outlining inclusion/exclusion steps, using a 12-month timeframe.
- a. Cancer diagnosis is defined as ICD-10-CM range:
    - C00.xx – C97.xx (exclude – C44.xx; skin malignancies other than malignant melanoma and Merkel cell carcinoma are excluded)
    - J91.0 (Malignant pleural effusion)
    - R18.0 (Malignant ascites)
    - D37.xx – D48.xx (Neoplasms of uncertain behavior, polycythemia vera and myelodysplastic syndromes)
  - b. At least two visits (inpatient hospital, outpatient hospital, and/or hospice visits) must have occurred within the last 6 months of life with the cancer diagnosis code among the top 3 diagnosis codes on the claim
    - For outpatient services, ‘visit’ is defined as one claims day – that is, if more than one claim is generated for a patient in a single calendar day, that counts as one visit

### Population (Cohort) Flowchart



**2: Attribution:** Patients who meet attribution criteria will be attributed to a single hospital. The attribution flowchart is below. Those who do meet these criteria are attributed to a single hospital using the following sequence: total majority of all claims; most OP claims; most IP claims; last IP claim before death.

**Attribution Flowchart**



**3 and 4: Measure calculation:** For all the attributed patients, calculate the denominator and numerator for each measure:

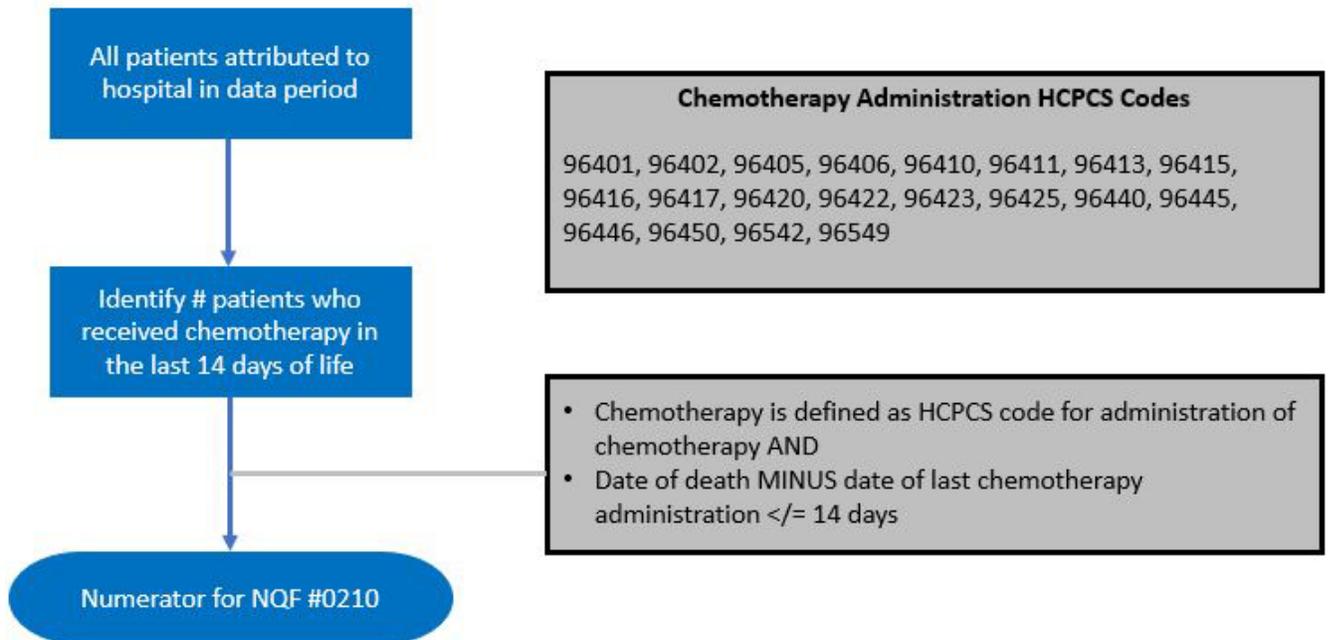
- The denominator for the chemo measure (NQF #0210), ICU measure (NQF #0213) and the not admitted to hospice measure (NQF #0215) is the number of patients attributed to the hospital/facility in the performance period.
- The denominator for the patients admitted to hospice for less than 3 days is the numerator calculated for patients who were admitted to hospice (NQF #0216).

**Table 1. Denominator/Numerator Definitions**

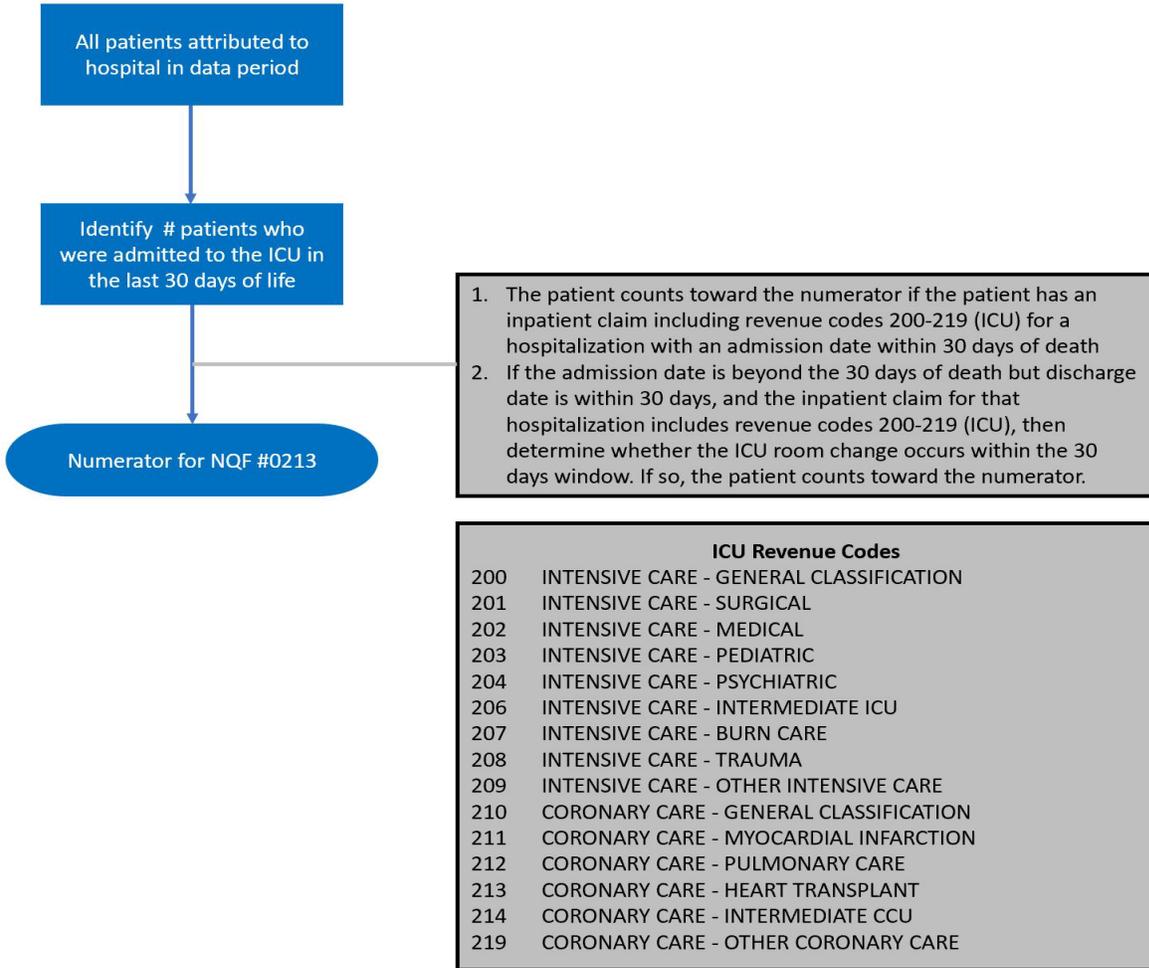
Measure	Denominator: hospital data	Numerator: hospital data
<b>Chemotherapy in the last 14 days of life</b>	Eligible patient population attributed to hospital	Patients who died from cancer and received chemotherapy in the last 14 days of life
		<p>The patient counts toward the numerator if:            Date of death MINUS date of last chemotherapy administration <math>\leq</math> 14 days</p> <p><i>Chemotherapy definition:</i>            HCPCS codes 96401, 96402, 96405, 96406, 96410, 96411, 96413, 96415, 96416, 96417, 96420, 96422, 96423, 96425, 96440, 96445, 96446, 96450, 96542, 96549</p> <p><i>This definition does not include chemotherapy administered in the inpatient setting, and does not include oral chemotherapy. Note that the final definition may change.</i></p>
<b>ICU in the last 30 days of life</b>	Eligible patient population attributed to hospital	Patients who died from cancer and were admitted to the ICU in the last 30 days of life
		<ol style="list-style-type: none"> <li>1. The patient counts toward the numerator if the patient has an inpatient claim including revenue codes 200-219 (ICU) for a hospitalization with an admission date within 30 days of death</li> <li>2. If the admission date is beyond the 30 days of death but discharge date is within 30 days, and the inpatient claim for that hospitalization includes revenue codes 200-219 (ICU), then determine whether the ICU room change occurs within the 30 days window. If so, the patient counts toward the numerator.</li> </ol>

Measure	Denominator: hospital data	Numerator: hospital data
<b>Not admitted to hospice</b>	Eligible patient population attributed to hospital	Patient not enrolled in hospice
		The patient counts toward the numerator if: No hospice claims during the last 6 months of life
<b>Admitted to hospice for less than 3 days</b>	Eligible patient population AND admitted to hospice in the last 6 months of life	Patients who die from cancer and spent fewer than three days in hospice
	Hospice claims during the last 6 months of life	The patient counts toward the numerator if: (Date of Death – Hospice Enrollment Date) <= 3 days

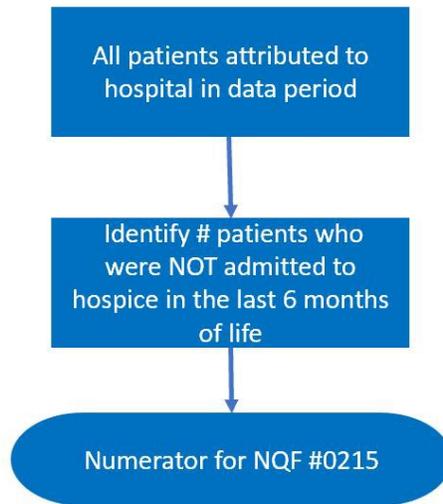
**Flowchart for NQF #0210**



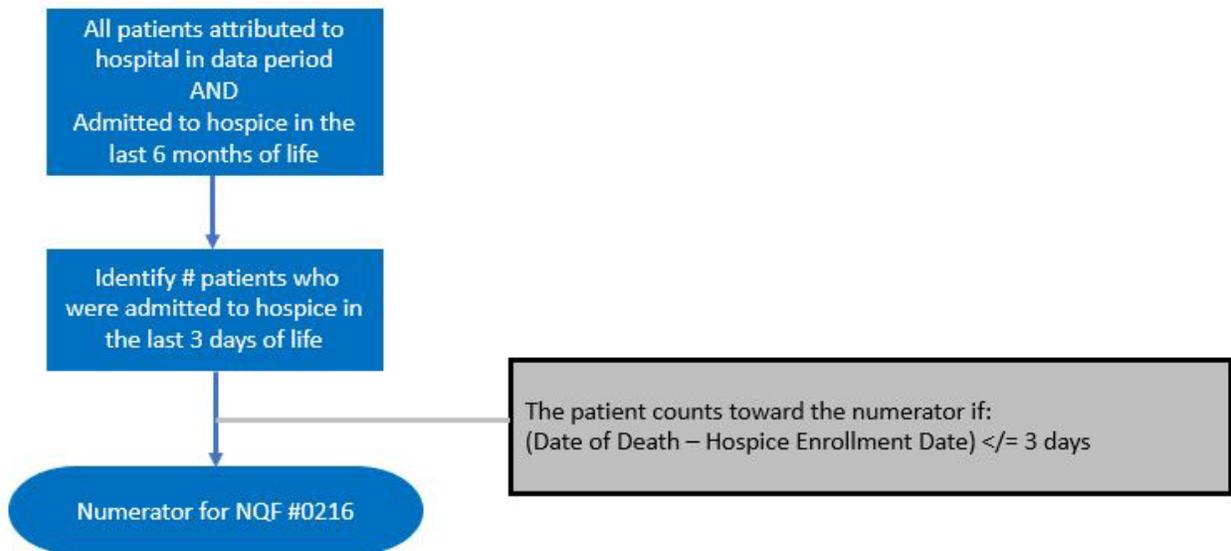
**Flowchart for NQF #0213**



**Flowchart for NQF #0215**



Flowchart for NQF #0216



**5: Calculation of Performance Rate:** for each measure, the applicable numerator should be divided by the applicable denominator and reported as a percentage. Note that lower performance score indicates better quality.

**6: Stratification:** The ADCC has tested and is proposing the following stratification categories:

- Acute Hematology – Lymphoblastic (diffuse) lymphoma, Burkitt lymphoma, anaplastic large cell lymphoma, acute lymphoblastic leukemia, acute myeloblastic leukemia, acute monoblastic/monocytic leukemia, acute erythroid leukemia, acute megakaryoblastic leukemia, and acute leukemia of unspecified cell type

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- Non-Acute Hematology - chronic leukemia, Hodgkin's lymphoma, non-Hodgkin's lymphoma, multiple myeloma, and other hematological malignancies not included in 'acute hematology'
- Solid Tumor – All other cancers included in the cancer diagnoses codes used in determining the cohort for these measures

Note that the performance score for accountability will remain the un-stratified score, as that is consistent with the NQF-endorsed specifications.