

**Measure #455 (NQF 0213): Proportion Admitted to the Intensive Care Unit (ICU) in the Last 30 Days of Life – National Quality Strategy Domain: Effective Clinical Care**

**2017 OPTIONS FOR INDIVIDUAL MEASURES:**  
**REGISTRY ONLY**

**MEASURE TYPE:**  
Outcome

**DESCRIPTION:**  
Proportion of patients who died from cancer admitted to the ICU in the last 30 days of life

**INSTRUCTIONS:**  
This measure is to be reported a minimum of **once per performance period** for patients who died of cancer during the measurement year. It is anticipated that eligible clinicians who provide services for patients with the diagnosis of cancer will submit this measure.

**Measure Reporting:**  
The listed denominator criteria is used to identify the intended patient population. The numerator options included in this specification are used to submit the quality actions allowed by the measure. The quality-data codes listed do not need to be submitted for registry-based submissions; however, these codes may be submitted for those registries that utilize claims data.

**DENOMINATOR:**  
Patients who died from cancer

**Denominator Criteria (Eligible Cases):**

**Diagnosis for cancer (ICD-10-CM):** C00.0, C00.1, C00.2, C00.3, C00.4, C00.5, C00.6, C00.8, C00.9, C01, C02.0, C02.1, C02.2, C02.3, C02.4, C02.8, C02.9, C03.0, C03.1, C03.9, C04.0, C04.1, C04.8, C04.9, C05.0, C05.1, C05.2, C05.8, C05.9, C06.0, C06.1, C06.2, C06.80, C06.89, C06.9, C07, C08.0, C08.1, C08.9, C09.0, C09.1, C09.8, C09.9, C10.0, C10.1, C10.2, C10.3, C10.4, C10.8, C10.9, C11.0, C11.1, C11.2, C11.3, C11.8, C11.9, C12, C13.0, C13.1, C13.2, C13.8, C13.9, C14.0, C14.2, C14.8, C15.3, C15.4, C15.5, C15.8, C15.9, C16.1, C16.2, C16.3, C16.4, C16.5, C16.6, C16.8, C17.0, C17.1, C17.2, C17.3, C17.8, C17.9, C18.0, C18.1, C18.2, C18.3, C18.4, C18.5, C18.6, C18.7, C18.8, C18.9, C19, C20, C21.0, C21.1, C21.2, C21.8, C22.0, C22.1, C22.2, C22.3, C22.4, C22.7, C22.8, C22.9, C23, C24.0, C24.1, C24.8, C24.9, C25.0, C25.1, C25.2, C25.3, C25.4, C25.7, C25.8, C25.9, C26.0, C26.1, C26.9, C30.0, C30.1, C31.0, C31.1, C31.2, C31.3, C31.8, C31.9, C32.0, C32.1, C32.2, C32.3, C32.8, C32.9, C33, C34.00, C34.01, C34.02, C34.10, C34.11, C34.12, C34.2, C34.30, C34.31, C34.32, C34.80, C34.81, C34.82, C34.90, C34.91, C34.92, C37, C38.0, C38.1, C38.2, C38.3, C38.4, C38.8, C39.0, C39.9, C40.00, C40.01, C40.02, C40.10, C40.11, C40.12, C40.20, C40.21, C40.22, C40.30, C40.31, C40.32, C40.80, C40.81, C40.82, C40.90, C40.91, C40.92, C41.0, C41.1, C41.2, C41.3, C41.4, C41.9, C43.0, C43.10, C43.11, C43.12, C43.20, C43.21, C43.22, C43.30, C43.31, C43.39, C43.4, C43.51, C43.52, C43.59, C43.60, C43.61, C43.62, C43.70, C43.71, C43.72, C43.8, C43.9, C44.00, C44.01, C44.02, C44.09, C44.101, C44.102, C44.109, C44.111, C44.112, C44.119, C44.121, C44.122, C44.129, C44.191, C44.192, C44.199, C44.201, C44.202, C44.209, C44.211, C44.212, C44.219, C44.221, C44.222, C44.229, C44.291, C44.292, C44.299, C44.300, C44.301, C44.309, C44.310, C44.311, C44.319, C44.320, C44.321, C44.329, C44.390, C44.391, C44.399, C44.40, C44.41, C44.42, C44.49, C44.500, C44.501, C44.509, C44.510, C44.511, C44.519, C44.520, C44.521, C44.529, C44.590, C44.591, C44.599, C44.601, C44.602, C44.609, C44.611, C44.612, C44.619, C44.621, C44.622, C44.629, C44.691, C44.692, C44.699, C44.701, C44.702, C44.709, C44.711, C44.712, C44.719, C44.721, C44.722, C44.729, C44.791, C44.792, C44.799, C44.80, C44.81, C44.82, C44.89, C44.90, C44.91, C44.92, C44.99, C45.0, C45.1, C45.2, C45.7, C45.9, C46.0, C46.1,

C46.2, C46.3, C46.4, C46.50, C46.51, C46.52, C46.7, C46.9, C47.0, C47.10, C47.11, C47.12, C47.20, C47.21, C47.22, C47.3, C47.4, C47.5, C47.6, C47.8, C47.9, C48.0, C48.1, C48.2, C48.8, C49.0, C49.10, C49.11, C49.12, C49.20, C49.21, C49.22, C49.3, C49.A1, C49.A2, C49.A3, C49.A4, C49.A5, C49.A9, C49.5, C49.8, C49.9, C4A.0, C4A.10, C4A.11, C4A.12, C4A.20, C4A.21, C4A.22, C4A.30, C4A.31, C4A.39, C4A.4, C4A.51, C4A.52, C4A.59, C4A.60, C4A.61, C4A.62, C4A.70, C4A.71, C4A.72, C4A.8, C4A.9, C50.011, C50.012, C50.019, C50.021, C50.022, C50.029, C50.111, C50.112, C50.119, C50.121, C50.122, C50.129, C50.211, C50.212, C50.219, C50.221, C50.222, C50.229, C50.311, C50.312, C50.319, C50.321, C50.322, C50.329, C50.411, C50.412, C50.419, C50.421, C50.422, C50.429, C50.511, C50.512, C50.519, C50.521, C50.522, C50.529, C50.611, C50.612, C50.619, C50.621, C50.622, C50.629, C50.811, C50.812, C50.819, C50.821, C50.822, C50.829, C50.911, C50.912, C50.919, C50.921, C50.922, C50.929, C51.0, C51.1, C51.2, C51.8, C51.9, C52, C53.0, C53.1, C53.8, C53.9, C54.0, C54.1, C54.2, C54.3, C54.8, C54.9, C55, C56.1, C56.2, C56.9, C57.00, C57.01, C57.02, C57.10, C57.11, C57.12, C57.20, C57.21, C57.22, C57.3, C57.4, C57.7, C57.8, C57.9, C58, C60.0, C60.1, C60.2, C60.8, C60.9, C61, C62.00, C62.01, C62.02, C62.10, C62.11, C62.12, C62.90, C62.91, C62.92, C63.00, C63.01, C63.02, C63.10, C63.11, C63.12, C63.2, C63.7, C63.8, C63.9, C64.1, C64.2, C64.9, C65.1, C65.2, C65.9, C66.1, C66.2, C66.9, C67.0, C67.1, C67.2, C67.3, C67.4, C67.5, C67.6, C67.7, C67.8, C67.9, C68.0, C68.1, C68.8, C68.9, C69.00, C69.01, C69.02, C69.10, C69.11, C69.12, C69.20, C69.21, C69.22, C69.30, C69.31, C69.32, C69.40, C69.41, C69.42, C69.50, C69.51, C69.52, C69.60, C69.61, C69.62, C69.80, C69.81, C69.82, C69.90, C69.91, C69.92, C70.0, C70.1, C70.9, C71.0, C71.1, C71.2, C71.3, C71.4, C71.5, C71.6, C71.7, C71.8, C71.9, C72.0, C72.1, C72.20, C72.21, C72.22, C72.30, C72.31, C72.32, C72.40, C72.41, C72.42, C72.50, C72.59, C72.9, C73, C74.00, C74.01, C74.02, C74.10, C74.11, C74.12, C74.90, C74.91, C74.92, C75.0, C75.1, C75.2, C75.3, C75.4, C75.5, C75.8, C75.9, C76.0, C76.1, C76.2, C76.3, C76.40, C76.41, C76.42, C76.50, C76.51, C76.52, C76.8, C77.0, C77.1, C77.2, C77.3, C77.4, C77.5, C77.8, C77.9, C78.00, C78.01, C78.02, C78.1, C78.2, C78.30, C78.39, C78.4, C78.5, C78.6, C78.7, C78.80, C78.89, C79.00, C79.01, C79.02, C79.10, C79.11, C79.19, C79.2, C79.31, C79.32, C79.40, C79.49, C79.51, C79.52, C79.60, C79.61, C79.62, C79.70, C79.71, C79.72, C79.81, C79.82, C79.89, C79.9, C7A.00, C7A.010, C7A.011, C7A.012, C7A.019, C7A.020, C7A.021, C7A.022, C7A.023, C7A.024, C7A.025, C7A.026, C7A.029, C7A.090, C7A.091, C7A.092, C7A.093, C7A.094, C7A.095, C7A.096, C7A.098, C7A.1, C7A.8, C7B.00, C7B.01, C7B.02, C7B.03, C7B.04, C7B.09, C7B.1, C7B.8, C80.0, C80.1, C80.2, C81.00, C81.01, C81.02, C81.03, C81.04, C81.05, C81.06, C81.07, C81.08, C81.09, C81.10, C81.11, C81.12, C81.13, C81.14, C81.15, C81.16, C81.17, C81.18, C81.19, C81.20, C81.21, C81.22, C81.23, C81.24, C81.25, C81.26, C81.27, C81.28, C81.29, C81.30, C81.31, C81.32, C81.33, C81.34, C81.35, C81.36, C81.37, C81.38, C81.39, C81.40, C81.41, C81.42, C81.43, C81.44, C81.45, C81.46, C81.47, C81.48, C81.49, C81.70, C81.71, C81.72, C81.73, C81.74, C81.75, C81.76, C81.77, C81.78, C81.79, C81.90, C81.91, C81.92, C81.93, C81.94, C81.95, C81.96, C81.97, C81.98, C81.99, C82.00, C82.01, C82.02, C82.03, C82.04, C82.05, C82.06, C82.07, C82.08, C82.09, C82.10, C82.11, C82.12, C82.13, C82.14, C82.15, C82.16, C82.17, C82.18, C82.19, C82.20, C82.21, C82.22, C82.23, C82.24, C82.25, C82.26, C82.27, C82.28, C82.29, C82.30, C82.31, C82.32, C82.33, C82.34, C82.35, C82.36, C82.37, C82.38, C82.39, C82.40, C82.41, C82.42, C82.43, C82.44, C82.45, C82.46, C82.47, C82.48, C82.49, C82.50, C82.51, C82.52, C82.53, C82.54, C82.55, C82.56, C82.57, C82.58, C82.59, C82.60, C82.61, C82.62, C82.63, C82.64, C82.65, C82.66, C82.67, C82.68, C82.69, C82.80, C82.81, C82.82, C82.83, C82.84, C82.85, C82.86, C82.87, C82.88, C82.89, C82.90, C82.91, C82.92, C82.93, C82.94, C82.95, C82.96, C82.97, C82.98, C82.99, C83.00, C83.01, C83.02, C83.03, C83.04, C83.05, C83.06, C83.07, C83.08, C83.09, C83.10, C83.11, C83.12, C83.13, C83.14, C83.15, C83.16, C83.17, C83.18, C83.19, C83.30, C83.31, C83.32, C83.33, C83.34, C83.35, C83.36, C83.37, C83.38, C83.39, C83.50, C83.51, C83.52, C83.53, C83.54, C83.55, C83.56, C83.57, C83.58, C83.59, C83.70, C83.71, C83.72, C83.73, C83.74, C83.75, C83.76, C83.77, C83.78, C83.79, C83.80, C83.81, C83.82, C83.83, C83.84, C83.85, C83.86, C83.87, C83.88, C83.89, C83.90, C83.91, C83.92, C83.93, C83.94, C83.95, C83.96, C83.97, C83.98, C83.99, C84.00, C84.01, C84.02, C84.03, C84.04, C84.05, C84.06, C84.07, C84.08, C84.09, C84.10, C84.11, C84.12, C84.13, C84.14, C84.15, C84.16, C84.17, C84.18, C84.19, C84.40, C84.41, C84.42, C84.43, C84.44, C84.45, C84.46, C84.47, C84.48, C84.49, C84.60, C84.61, C84.62, C84.63, C84.64, C84.65,

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**AND**

Patient encounter during the performance period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215

**AND**

Two or more encounters at the reporting site

**AND**

Patients who died from cancer: G9852

**NUMERATOR:**

Patients who died from cancer and were admitted to the ICU in the last 30 days of life

**Numerator Instructions:**

**INVERSE MEASURE-** A lower calculated performance rate for this measure indicates better clinical care or control. The "Performance Not Met" numerator option for this measure is the representation of the better clinical quality or control. Reporting that numerator option will produce a performance rate that trends closer to 0%, as quality increases. For inverse measures a rate of 100% means all of the denominator eligible patients did not receive the appropriate care or were not in proper control.

**Numerator Options:**

***Performance Met:***

Patient admitted to the ICU in the last 30 days of life  
(G9853)

**OR**

***Performance Not Met:***

Patient was not admitted to the ICU in the last 30 days of life (G9854)

**RATIONALE:**

The American Society of Clinical Oncology (ASCO) recognizes the importance of curtailing aggressive care at the end-of-life period for patients diagnosed with cancer. Unfortunately, studies have suggested that over time, cancer care is becoming more aggressive especially near the end-of-life period. Intensive care unit (ICU) admissions are often been deemed as an indicator of "aggressive care" and typically used to gauge the quality of care provided to late stage cancer patients.

ASCO advocates for early integration of palliative care/hospice services for patients with late stage cancer in order to avoid aggressive measures at the end of life. With this measure, ASCO hopes providers can evaluate internal processes and make the necessary changes through quality improvement initiatives to ultimately improve a patient's death experience and improve patient and caregiver/family satisfaction. Additionally, the reduction of ICU admissions at the end of life should reduce overall unnecessary resource utilization costs.

Zhang B, Nilsson ME, Prigerson HG. Factors important to patients'quality of life at the end of life. ArchIntern Med 2012;172:1133-1142. Available at: [Factors important to patients'quality of life at the end of life article](#)

Wright AA, Keating NL, Balboni TA, et al. Place of death: correlations with quality of life of patients with cancer and predictors of bereaved caregivers' mental health. J Clin Oncol 2010; 28:4457–4464. Available at: [Place of death: correlations with quality of life of patients with cancer and predictors of bereaved caregivers' mental health article](#)

Langton JM, Blanch B, Drew AK, et al. Retrospective studies of end-of-life resource utilization and costs in cancer care using health administrative data: a systematic review. Palliat Med 2014;28:1167-1196. Available at: [Retrospective studies of end-of-life resource utilization and costs in cancer care using health administrative data: a systematic review article.](#)

Kao YH, Chiang JK. Effect of hospice care on quality indicators of end-of-life care among patients with liver cancer: a national longitudinal population based study in Taiwan 2000-2011. BMC Palliat Care 2015; 14:39. Available at: [Effect of hospice care on quality indicators of end-of-life care among patients with liver cancer: a national longitudinal population based study in Taiwan 2000-2011 article](#)

Barbera L, Seow H, et al. Quality of end-of-life cancer care in Canada: a retrospective four-province study using administrative health care data. Curr Oncol 2015 Oct; 22(5): 341-355. Available at: [Quality of end-of-life cancer care in Canada: a retrospective four-province study using administrative health care data article](#)

#### **CLINICAL RECOMMENDATION STATEMENTS:**

2012 ASCO PCO

Seven published randomized trials demonstrate the feasibility of providing various components of PC alongside usual oncology care. There is, however, a dearth of data evaluating the integration of modern PC practices into standard oncology care, especially in concert with ongoing antitumor therapy. Overall, the addition of PC interventions to standard oncology care delivered via different models to patients with cancer provided evidence of benefit.

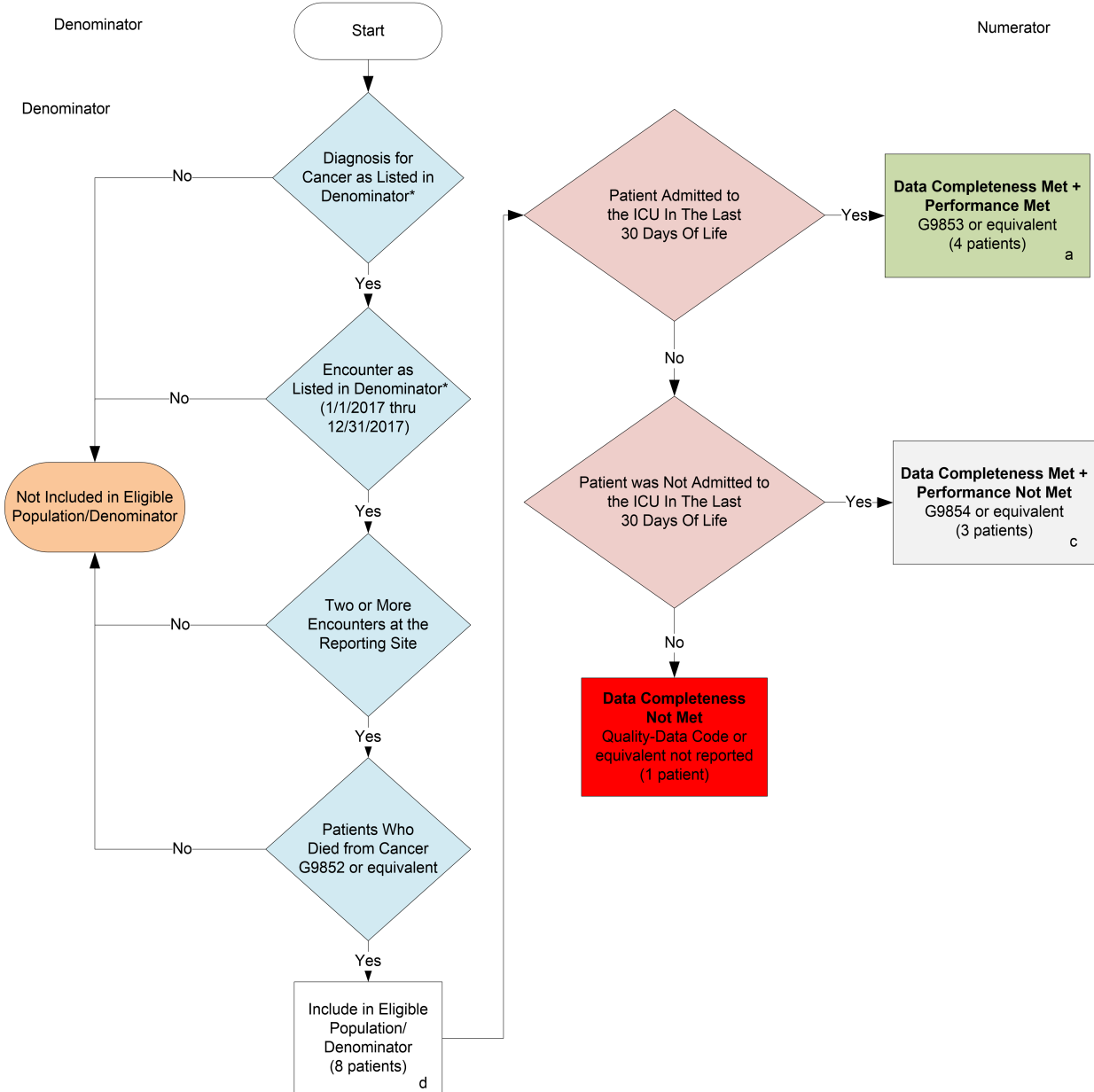
Smith TJ, Temin S, Alesi ER, et al. American Society of Clinical Oncology Provisional Clinical Opinion: The Integration of Palliative Care into Standard Oncology Care. J Clin Oncol 2012;30:880-887. Available at: [Institute for Quality Website.](#)

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## 2017 Registry Individual Measure Flow

### #455 NQF #0213: Proportion Admitted To The Intensive Care Unit (ICU) In The Last 30 Days Of Life



#### SAMPLE CALCULATIONS:

##### Data Completeness=

Performance Met (a=4 patients) + Performance Not Met (c=3 patients) = 7 patients = 87.50%  
Eligible Population / Denominator (d=8 patients) = 8 patients

##### Performance Rate=

Performance Met (a=4 patients) = 4 patients = 57.14%  
Data Completeness Numerator (7 patients) = 7 patients

\*See the posted Measure Specification for specific coding and instructions to report this measure.

A lower calculated performance rate for this measure indicates better clinical control and care.

NOTE: Reporting Frequency: Patient-process

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The measure diagrams were developed by CMS as a supplemental resource to be used in conjunction with the measure specifications. They should not be used alone or as a substitution for the measure specification.

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## 2017 Registry Individual Measure Flow

### #455 NQF #0213: Proportion Admitted to the Intensive Care Unit (ICU) In the Last 30 Days of Life

Please refer to the specific section of the Measure Specification to identify the denominator and numerator information for use in reporting this Individual Measure.

1. Start with Denominator
2. Check Diagnosis:
  - a. If Diagnosis for Cancer as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Diagnosis for Cancer as Listed in the Denominator equals Yes, proceed to Encounter
3. Check Encounter Performed:
  - a. If Encounter Performed as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Encounter Performed as Listed in the Denominator equals Yes, proceed to Two or More Encounters at the Reporting Site.
4. Check Two or More Encounters at the Reporting Site:
  - a. If Two or More Encounters at the Reporting Site equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Two or More Encounters at the Reporting Site equals Yes, proceed to Patients that Died from Cancer.
5. Check Patients that Died from Cancer:
  - a. If Patients that Died from Cancer equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Patients that Died from Cancer equals Yes, include in Eligible population.
6. Denominator Population:
  - a. Denominator population is all Eligible Patients in the denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d equals 8 patients in the sample calculation.
7. Start Numerator
8. Check Patient Admitted To The ICU In The Last 30 Days of Life:
  - a. If Patient Admitted to the ICU in the Last 30 Days of Life equals Yes, include in Data Completeness Met and Performance Met.
  - b. Data Completeness Met and Performance Met letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a equals 4 patients in Sample Calculation.

- c. If Patient Admitted to the ICU in the last 30 Days of Life equals No, proceed to Patient Was Not Admitted to the ICU in the Last 30 Days of Life.
9. Check Patient Was Not Admitted to the ICU in the Last 30 Days of Life:
  - a. If Patient Was Not Admitted to the ICU in the Last 30 Days of Life equals Yes, include in Data Completeness Met and Performance Not Met.
  - b. Data Completeness Met and Performance Not Met letter is represented in the Data Completeness in the Sample Calculation listed at the end of this document. Letter c equals 3 patients in the Sample Calculation.
  - c. If Patient Was Not Admitted to the ICU in the Last 30 Days of Life equals No, proceed to Data Completeness Not Met.
10. Check Data Completeness Not Met:
  - a. If Data Completeness Not Met equals No, Quality Data Code or equivalent not reported. 1 patient has been subtracted from the Data Completeness numerator in the sample calculation.

**SAMPLE CALCULATIONS:**

**Data Completeness=**

$$\frac{\text{Performance Met (a=4 patients) + Performance Not Met (c=3 patients)}}{\text{Eligible Population / Denominator (d=8 patients)}} = \frac{7 \text{ patients}}{8 \text{ patients}} = 87.50\%$$

**Performance Rate=**

$$\frac{\text{Performance Met (a=4 patients)}}{\text{Data Completeness Numerator (7 patients)}} = \frac{4 \text{ patients}}{7 \text{ patients}} = 57.14\%$$