CMS Measure ID/CMS QCDR ID: CAP 17

Measure Title: FMS-like Tyrosine 3-Internal Tandem Duplication (FLT3-ITD) Biomarker Testing to Inform Clinical Management and Treatment Decisions in Patients with Acute Myeloid Leukemia

Measure Specifications

Measure Description	Percentage of acute myeloid leukemia (AML) pathology reports that include FMS-like tyrosine 3-internal tandem duplication (FLT3-ITD) status. INSTRUCTIONS: This measure is to be reported each time an acute myeloid leukemia specimen pathology report is finalized during the performance period. This measure may be submitted by eligible clinicians who perform the quality actions described in the measure based on the services provided and the measure-specific denominator coding. The results of FLT3-ITD testing of a specimen are frequently needed at some point during a patient's treatment. Pathologists are uniquely well positioned at the time of signing out the surgical pathology report to detail the disposition of FLT3-ITD testing for that specimen. Referring physicians depend on both the pathologists' interpretations of and any recommendations for tests in order to provide quality patient care. If the status is not indicated in each pathology report for the patient, unnecessary repeat testing may be performed delaying treatment and increasing cost. This measure monitors the success of pathologists in effectively communicating this important information for the purpose of care coordination and efficient use of resources.
Denominator Statement	All pathology reports with an AML diagnosis. CPT®: 88305 **AND** ICD10: • C92.00: Acute myeloblastic leukemia, not having achieved remission • C92.30: Myeloid sarcoma, not having achieved remission • C92.40: Acute promyelocytic leukemia, not having achieved remission • C92.50: Acute myelomonocytic leukemia, not having achieved remission • C92.60: Acute myeloid leukemia with 11q23-abnormality not having achieved remission • C92.90: Myeloid leukemia, unspecified, not having achieved remission • C92.A0: Acute myeloid leukemia with multilineage dysplasia, not having achieved remission • C92.Z0: Other myeloid leukemia not having achieved remission • C93.00: Acute monoblastic/monocytic leukemia, not having achieved remission • C93.90: Monocytic leukemia, unspecified, not having achieved remission • C93.Z0: Other monocytic leukemia, not having achieved remission • C94.00: Acute erythroid leukemia, not having achieved remission

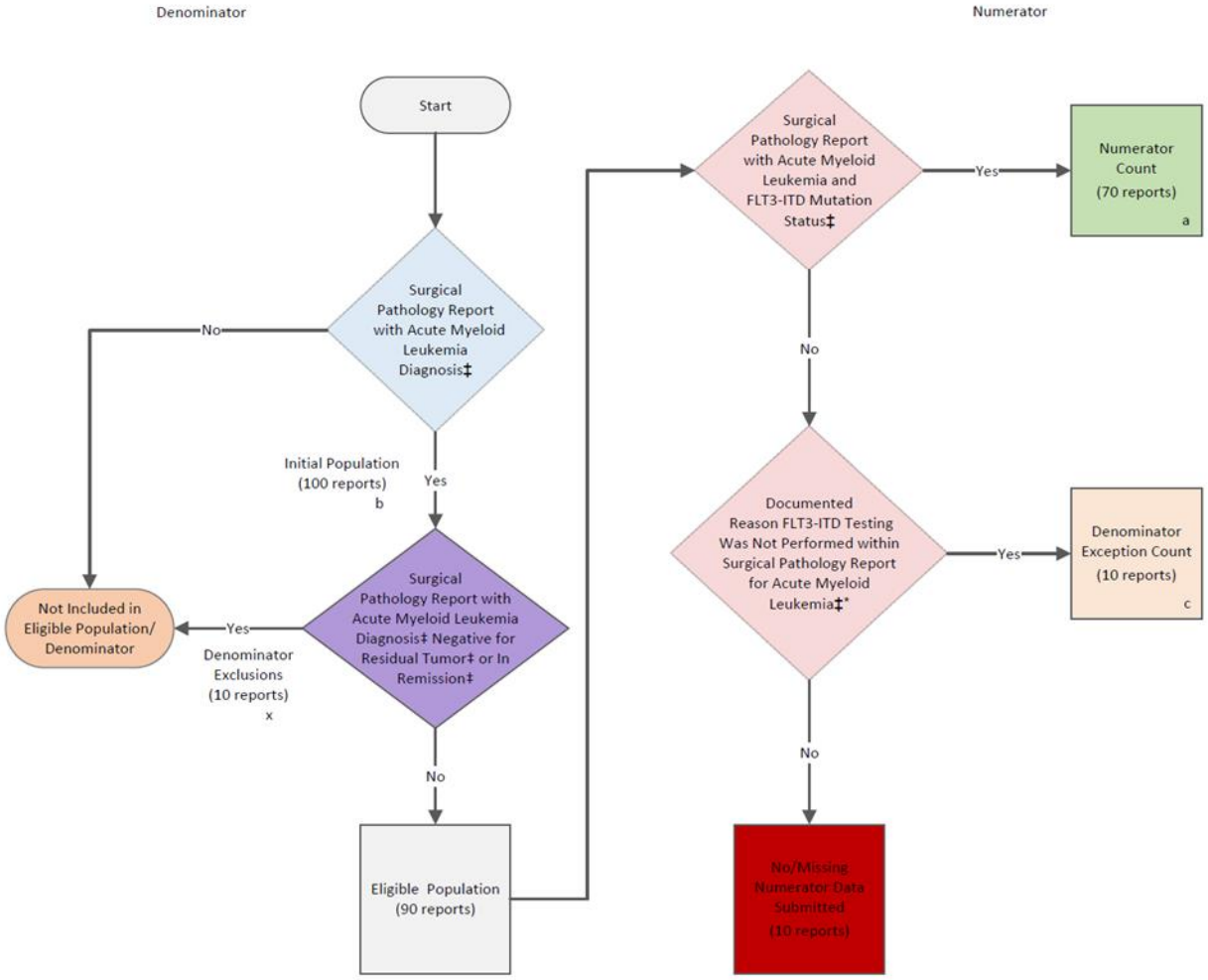
	• C94.20: Acute megakaryoblastic leukemia not having achieved remission Denominator Definition: Denominator does not include patients with AML in remission.
Denominator Exclusions	No residual tumor in patient with history of AML
Denominator Exceptions	Documentation of reason(s) FLT3-ITD testing was not performed (e.g., payor-related limitations, patients receiving hospice)
Numerator Statement	Pathology reports that contain impression or conclusion of, or recommendation for FLT3-ITD testing. Numerator guidance A short note on FLT3-ITD mutation status can be made in the final report, such as: • FLT3-ITD mutation(s) identified/positive • No FLT3-ITD mutation(s) identified/ negative • FLT3-ITD previously performed • FLT3-ITD mutation testing recommended • FLT3-ITD mutation cannot be determined FLT3-ITD mutation status may be derived from either the primary or a reference laboratory.
Numerator Exclusions	None
Measure Information	
NQS Domain	Communication and Care Coordination
Meaningful Measures Area(s)	Transfer of Health Information and Interoperability
Meaningful Measure Rationale	A number of gene mutations have been identified that affect AML prognosis, including fms-related tyrosine kinase 3 internal tandem duplication (FLT3-ITD) (1, 2). FLT3-ITD mutation is one of the most common molecular alteration and has been detected in about 20% - 30% of AML patients (3, 4). lower rates of relapse-free and overall survival (5, 6). It is incumbent upon pathologists to include information about the FLT3-ITD result to ensure optimal management. If the status is not documented, unnecessary repeat testing may be performed delaying treatment and increasing cost. 1. Arber DA, Borowitz MJ, Cessna M, Etzell J, Foucar K, Hasserjian RP, Rizzo JD, Theil K, Wang SA, Smith AT, Rumble RB, Thomas NE, Vardiman JW. Initial Diagnostic Workup of Acute Leukemia: Guideline From the College of American Pathologists and the

	American Society of Hematology. Arch Pathol Lab Med. 2017. Oct;141(10):1342-1393. 2. Kottaridis PD, Gale RE, Frew ME, Harrison G, Langabeer SE, Belton AA, et al. The presence of a FLT3 internal tandem duplication in patients with acute myeloid leukemia (AML) adds important prognostic information to cytogenetic risk group and response to the first cycle of chemotherapy: analysis of 854 patients from the United Kingdom Medical Research Council AML 10 and 12 trials. Blood. 2001 Sep 15;98(6):1752-9. 3. Gilliland DG, Griffin JD. The roles of FLT3 in hematopoiesis and leukemia. Blood. 2002;100:1532–1542. 4. Estey E, Döhner H. Acute myeloid leukaemia. Lancet. 2006 Nov25;368(9550):1894-907. 5. Port M, Böttcher M, Thol F, Ganser A, Schlenk R, Wasem J, et al. Prognostic significance of FLT3 internal tandem duplication, nucleophosmin 1, and CEBPA gene mutations for acute myeloid leukemia patients with normal karyotype and younger than 60 years: a systematic review and meta-analysis. Ann Hematol. 2014 Aug;93(8):1279-86. 6. Schlenk RF, Döhner K, Krauter J, Fröhling S, Corbacioglu A, Bullinger L, et al. Habdank M, Späth D, Morgan M, Benner A, Schlegelberger B, Heil G, Ganser A, Döhner H; German-Austrian Acute Myeloid Leukemia Study Group. Mutations and treatment outcome in cytogenetically normal acute myeloid leukemia. N Engl J Med.2008 May 1;358(18):1909-18.
Measure Type	Process
Data Source	Laboratory Information Systems; pathology reports
Summary of Performance Gap Evidence	Acute myeloid leukemia (AML) accounts for approximately 20,000 new cases and more than 10,000 deaths annually in the US (1). A number of gene mutations have been identified that affect AML prognosis, including fms-related tyrosine kinase 3 internal tandem duplication (FLT3-ITD) (2, 3). FLT3-ITD mutation is one of the most common molecular alteration and has been detected in about 20% - 30% of AML patients (4, 5). lower rates of relapse-free and overall survival (6, 7). It is incumbent upon pathologists to include information about the FLT3-ITD result to ensure optimal management. If the status is not documented, unnecessary repeat testing may be performed delaying treatment and increasing cost. 1. American Cancer Society. Cancer facts & figures 2018. Atlanta: American Cancer Society, 2018. 2. Arber DA, Borowitz MJ, Cessna M, Etzell J, Foucar K, Hasserjian RP, Rizzo JD, Theil K, Wang SA, Smith AT, Rumble RB, Thomas NE, Vardiman JW. Initial Diagnostic Workup of Acute Leukemia: Guideline From the College of American Pathologists and the American Society of Hematology. Arch Pathol Lab Med. 2017. Oct;141(10):1342-1393.

	3. Kottaridis PD, Gale RE, Frew ME, Harrison G, Langabeer SE, Belton AA, et al. The presence of a FLT3 internal tandem duplication in patients with acute myeloid leukemia (AML) adds important prognostic information to cytogenetic risk group and response to the first cycle of chemotherapy: analysis of 854 patients from the United Kingdom Medical Research Council AML 10 and 12 trials. Blood. 2001 Sep 15;98(6):1752-9. 4. Gilliland DG, Griffin JD. The roles of FLT3 in hematopoiesis and leukemia. Blood. 2002;100:1532–1542. 5. Estey E, Döhner H. Acute myeloid leukaemia. Lancet. 2006 Nov25;368(9550):1894-907. 6. Port M, Böttcher M, Thol F, Ganser A, Schlenk R, Wasem J, et al. Prognostic significance of FLT3 internal tandem duplication, nucleophosmin 1, and CEBPA gene mutations for acute myeloid leukemia patients with normal karyotype and younger than 60 years: a systematic review and meta-analysis. Ann Hematol. 2014 Aug;93(8):1279-86. 7. Schlenk RF, Döhner K, Krauter J, Fröhling S, Corbacioglu A, Bullinger L, et al. Habdank M, Späth D, Morgan M, Benner A, Schlegelberger B, Heil G, Ganser A, Döhner H; German-Austrian Acute Myeloid Leukemia Study Group. Mutations and treatment outcome in cytogenetically normal acute myeloid leukemia. N Engl J Med.2008 May 1;358(18):1909-18.
Measure Owner	College of American Pathologists
NQF ID	N/A
Number of Performance Rates	1
Overall Performance Rate	1st Performance Rate
High-priority	Yes
Improvement Notation	Inverse Measure: No **Proportional Measure: Yes (Higher score indicates better quality)** Continuous Variable Measure: No Ratio Measure: No Risk-adjusted: No
Specialty	Pathology
Current Clinical Guideline the Measure is Derived From	For pediatric and adult patients with suspected or confirmed acute myeloid leukemia (AML) of any type, the pathologist or treating clinician should ensure that testing for FLT3-ITD is performed (Strong Recommendation) 1. Arber DA, Borowitz MJ, Cessna M, Etzell J, Foucar K, Hasserjian RP, Rizzo JD, Theil K, Wang SA, Smith AT, Rumble RB, Thomas NE,

	Vardiman JW. Initial Diagnostic Workup of Acute Leukemia: Guideline From the College of American Pathologists and the American Society of Hematology. Arch Pathol Lab Med. 2017. Oct;141(10):1342-1393.

Measure Flow



‡Please refer to the specific section of the measure specification to identify the associated value sets or direct reference codes for use in submitting this measure, or to identify the Definition of the criteria associated with population criteria.

*Documented reasons include payor-related limitations and patients receiving hospice.

SAMPLE CALCULATION:

$$\text{Performance Rate} = \frac{\text{Numerator (a = 70 reports)}}{\text{Denominator (b= 100 reports) – Denominator Exclusions (x= 10 reports) – Denominator Exceptions (c = 10 reports)}} = 87.5\%$$

DISCLAIMER: *Please refer to the measure specification for a complete listing of required data elements, value sets, direct reference codes, and logic definitions. The measure diagrams were developed as a supplement resource to be used in conjunction with the measure specifications. They should not be used alone or as a substitution for the measure specification.*