2025 Quality ID PIMSH13: Oncology: Mutation Testing for Stage IV Lung Cancer Completed Prior to the Start of Targeted Therapy

--**High Priority Type:** Appropriate Use
--**Measure Type**: Process

2025 COLLECTION TYPE:
QCDR-- Practice Insights by McKesson in Collaboration with The US Oncology Network

DATA SOURCES USED FOR THE MEASURE:
Practice Insights by McKesson in Collaboration with The US Oncology Network - QCDR - EHR: Medical record, including lab results.

DESCRIPTION:
Proportion of stage IV nsNSCLC patients tested for actionable biomarkers and received targeted therapy or chemotherapy based on biomarker results.

DENOMINATOR:
Patients with stage IV non-squamous, NSCLC receiving initial treatment during the measurement period AND patient encounter during the performance period.

DENOMINATOR EXCEPTION:
None

DENOMINATOR EXCLUSION:
Patients on clinical trial

NUMERATOR:
Patients who received mutation testing for all actionable biomarkers at Stage IV diagnosis of nsNSCLC (including NTRK1/2/3, RET, MET, ROS1, EGFR, EGFR T790M, BRAF mutation, ALK rearrangement, CD274(PD-L1), KRAS, ERBB2 mutation) AND lung cancer treated with appropriate mutation-directed therapy or standard chemotherapy if biomarker results are negative.

NUMERATOR NOTE:
Mutation testing may include tissue and/or liquid biopsy options

NUMERATOR EXCLUSION:
None

TELEHEALTH:
Included

MIPS REPORTING OPTIONS:

MVP, Traditional MIPS

CLINICAL RECOMMENDATION STATEMENTS:

This measure is endorsed by The US Oncology Network Steering Committee. Recent discovery of some of the driver mutations for NSCLC have advanced more individualized and targeted treatment options. It is now a standard recommendation that patients with advanced NSCLC undergo routine molecular testing to identify certain abnormalities which influence treatment selection to improve efficacy. Guidelines:
NCCN Practice Guidelines in Oncology. Non-Small Cell Lung Cancer.
http://www.nccn.org/professionals/physicians_gls/pdf/nsclc.pdf. Published July 14, 2017.
2017 CAP/IASLC/AMP guideline recommendations for biomarker testing in NSCLC.Lindeman NI, Cagle PT, Beasley MB, et al. Molecular testing guideline for selection of lung cancer patients for EGFR and ALK tyrosine kinase inhibitors: guideline from the College of American Pathologists, International Association for the Study of Lung Cancer, and Association for Molecular Pathology. J Mol Diagn. 2013;15(4):415-453.
ASCO provisional clinical opinion: Epidermal growth factor receptor (EGFR) mutation testing for patients with advanced non-small-cell lung cancer considering first-line EGFR tyrosine kinase inhibitor therapy. (2011).

QCDR MEASURE RATIONALE:

Clinicians still face considerable challenges when establishing and implementing biomarker testing standards, including interpreting large-scale genomic data from multiple tumor types, making it difficult to stay current with practice standards. A recent study of oncologists assessed the degree to which a patient with NSCLC's genetic makeup impacted first-line treatment decisions. 60% of oncologists in the US did not base their treatment decisions on a patient's genetic mutation subtype. Despite ordering mutation tests, 21% determined the treatment regimen for their patients before the mutation test results were available. Overall, 23% of clinicians did not consider EGFR mutation subtypes in making treatment decisions. (Spicer, 2015) Monitoring of appropriate biomarker testing through quality measurement and providing that feedback to physicians is a first step to understanding clinical practice guideline compliance to optimize diagnosis and management of NSCLC.
References:
Mason C, et al. Patterns of biomarker testing rates and appropriate use of targeted therapy in the first-line, metastatic non-small cell lung cancer treatment setting. J Clin Pathways. 2018; 4(1): 49-54.
Levy, BP, et al. Molecular testing for treatment of metastatic non-small cell lung cancer: how to implement evidence-based recommendations. The Oncologist 2015; 20: 1175-1181.
Spicer J, et al. EGFR mutation testing and oncologist treatment choice in advanced NSCLC: global trends and differences. Ann Oncol. 2015; 26(1): i57-i61.

These performance measures are not clinical guidelines and do not establish a standard of medical care and have not been tested for all potential applications.

THE MEASURES AND SPECIFICATIONS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND.

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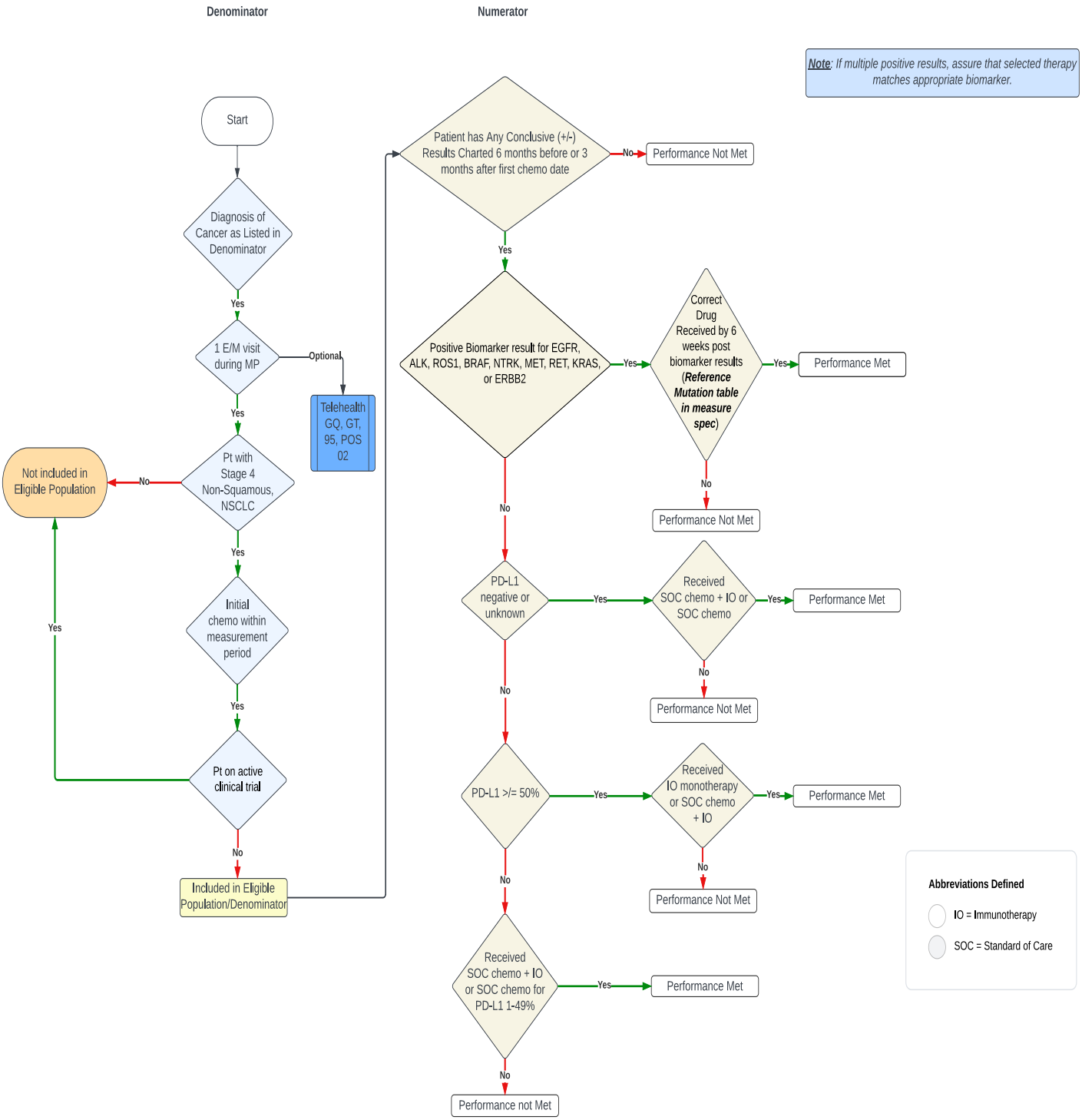
Disclaimer: *Refer to the measure specification details and value sets for measure guidance.*



Value Sets for PIMSH13: Oncology: Mutation Testing for Stage IV Lung Cancer Completed Prior to the Start of Targeted Therapy

Diagnosis Codes:

National Library of Medicine
Value Set Authority Center

Value Set Name	Non Small Cell Lung Cancer
Code System	ICD10CM SNOMEDCT
OID	2.16.840.1.113883.3.1434.1005
Type	Grouping
Definition Version	20190116
Steward	College of American Pathologists Steward
	This update was generated by VSAC to align with code changes published by the code system of one or more member value sets.
Expansion Version	Latest
Expansion Status	Active
Expanded Code List	

Code	Description	Code System	Code System Version	Code System OID
C34.00	Malignant neoplasm of unspecified main bronchus	ICD10CM	2024	2.16.840.1.113883.6.90
C34.01	Malignant neoplasm of right main bronchus	ICD10CM	2024	2.16.840.1.113883.6.90
C34.02	Malignant neoplasm of left main bronchus	ICD10CM	2024	2.16.840.1.113883.6.90
C34.10	Malignant neoplasm of upper lobe, unspecified bronchus or lung	ICD10CM	2024	2.16.840.1.113883.6.90
C34.11	Malignant neoplasm of upper lobe, right bronchus or lung	ICD10CM	2024	2.16.840.1.113883.6.90
C34.12	Malignant neoplasm of upper lobe, left bronchus or lung	ICD10CM	2024	2.16.840.1.113883.6.90
C34.2	Malignant neoplasm of middle lobe, bronchus or lung	ICD10CM	2024	2.16.840.1.113883.6.90
C34.30	Malignant neoplasm of lower lobe, unspecified bronchus or lung	ICD10CM	2024	2.16.840.1.113883.6.90
C34.31	Malignant neoplasm of lower lobe, right bronchus or lung	ICD10CM	2024	2.16.840.1.113883.6.90
C34.32	Malignant neoplasm of lower lobe, left bronchus or lung	ICD10CM	2024	2.16.840.1.113883.6.90
C34.80	Malignant neoplasm of overlapping sites of unspecified bronchus and lung	ICD10CM	2024	2.16.840.1.113883.6.90
C34.81	Malignant neoplasm of overlapping sites of right bronchus and lung	ICD10CM	2024	2.16.840.1.113883.6.90
C34.82	Malignant neoplasm of overlapping sites of left bronchus and lung	ICD10CM	2024	2.16.840.1.113883.6.90
C34.90	Malignant neoplasm of unspecified part of unspecified bronchus or lung	ICD10CM	2024	2.16.840.1.113883.6.90
C34.91	Malignant neoplasm of unspecified part of right bronchus or lung	ICD10CM	2024	2.16.840.1.113883.6.90
C34.92	Malignant neoplasm of unspecified part of left bronchus or lung	ICD10CM	2024	2.16.840.1.113883.6.90

Evaluation and Management Codes:

E/M Codes
99202
99203
99204
99205
99212
99213
99214
99215

Telehealth Modifiers:

Telehealth Modifiers
GQ
GT
95
POS 02

Mutation Table:

MUTATION	EXPRESSION	THERAPEUTIC AGENT
ALK	ALK Rearrangement Positive	Crizotinib Ceritinib Alectinib Lorlatinib Brigatinib
ALK	Negative	Standard of Care Chemo
ALK	Equivocal	Standard of Care Chemo

BRAF	**BRAF V600E Mutation Positive**	**Dabrafenib** **Vemurafenib** **Dabrafenib + Trametinib** **Encorafenib** **Binimetinib** **Encorafenib + Binimetinib** **Standard of Care Chemo**
BRAF	**Other BRAF Mutation**	**Standard of Care Chemo**
BRAF	**Negative**	**Standard of Care Chemo**
EGFR	**EGFR Sensitizing Mutation Positive**	**Erlotinib** **Afatinib** **Osimertinib** **Gefitinib** **Dacomitinib**
EGFR	**EGFR Sensitizing Mutation Positive (Only Exon19 deletions/L858R)**	**Osimertinib + Pemetrexed + Carbo/Cis** **Erlotinib + Ramucirumab** **Erlotinib + Bevacizumab**
EGFR	*** EGFR T790M Mutation Positive**	**Osimertinib**
EGFR	**Other EGFR Mutation**	**Standard of Care Chemo**
EGFR	**Negative**	**Standard of Care Chemo**
EGFR	**Equivocal**	**Standard of Care Chemo**
EGFR	**EGFR exon 20 Insertion Mutation Positive**	**Amivantamab-vmjw + carbo + pemetrexed** **Standard of Care Chemo**
EGFR	**Other EGFR exon 20 Mutation**	**Standard of Care Chemo**

PD-L1 Expression	**>= 50% Expression**	**Pembrolizumab** **Cemiplimab** **Atezolizumab** **Standard of Care Chemo + Immunotherapy**
PD-L1 Expression	**1-49% Expression**	**Standard of Care Chemo** **Standard of Care Chemo + Immunotherapy**
PD-L1 Expression	**Negative**	**Standard of Care Chemo** **Standard of Care Chemo + Immunotherapy**
ROS1	**ROS1 Rearrangement Positive**	**Crizotinib** **Ceritinib** **Entrectinib** **Lorlatinib** **Repotrectinib**
ROS1	**Negative**	**Standard of Care Chemo**
MET	**MET exon 14 Skipping Mutation Positive**	**Capmatinib** **Crizotinib** **Tepotinib** **Standard of Care Chemo**
MET	**Other MET exon 14 Mutation Positive**	**Standard of Care Chemo**
MET	**Negative**	**Standard of Care Chemo**
NTRK	**NTRK1 Gene Fusion Positive**	**Entrectinib** **Larotrectinib** **Standard of Care Chemo**
NTRK	**NTRK2 Gene Fusion Positive**	**Entrectinib** **Larotrectinib** **Standard of Care Chemo**
NTRK	**NTRK3 Gene Fusion Positive**	**Entrectinib** **Larotrectinib** **Standard of Care Chemo**

NTRK	**Negative**	**Standard of Care Chemo**
RET	**RET Rearrangement Positive**	**Cabozantinib** **Pralsetinib** **Selpercatinib** **Standard of Care Chemo**
RET	**Negative**	**Standard of Care Chemo**
ERBB2	**ERBB2 (HER2) Mutation Positive**	**Standard of Care Chemo**
ERBB2	**Negative**	**Standard of Care Chemo**
KRAS	**KRAS G12C Mutation Positive**	**Standard of Care Chemo**
KRAS	**Other KRAS Mutation**	**Standard of Care Chemo**
KRAS	**Negative**	**Standard of Care Chemo**

Comprehensive Immunotherapy List per PD-L1 result
PDL1 ≥ 50%
Immunotherapy Alone Options
Pembrolizumab
Atezolizumab
Cemiplimab-rwlc
Immunotherapy + Standard of Care Chemo
Pembrolizumab
Atezolizumab
Cemiplimab-rwlc
Nivolumab + ipilimumab
Tremelimumab-actl + durvalumab
PDL1 1-49% and negative
Immunotherapy + Standard of Care Chemo
Pembrolizumab
Atezolizumab
Cemiplimab-rwlc
Nivolumab + ipilimumab
Tremelimumab-actl + durvalumab

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