Medical Coverage Policy | Next Generation Sequencing for Solid Tumors

EFFECTIVE DATE: 01|01|2024
POLICY LAST REVIEWED: 09|06|2023

OVERVIEW

Next generation sequencing (NGS) testing in solid tumors is becoming a routine component of the diagnostic process; the results can uncover the genomic mechanisms of cancer that have predictive, diagnostic, and prognostic utility to the patient and are used to better their management. Understanding the mechanisms of disease and targeting treatment based on those aberrant processes (i.e., targeted therapies for biomarkers) has improved patient outcomes in many tumor types and is the basis of Precision Medicine. Capturing mutations and other relevant genetic/genomic information is standard of care for determining clinical care for many tumor types, including the most common, such as melanoma, lung, colorectal, and breast carcinoma. NGS adds the ability to capture abundant genomic data both efficiently, and relatively cheaply, and its use is showing to improve patient outcomes although studies in this regard are ongoing. The established Centers for Medicare and Medicaid Services (CMS) National Coverage policy NCD 90.2 confirms these tests to be both reasonable and necessary in Medicare beneficiaries.

The following test is addressed in this policy:

- Oncotype MAP™ Pan-Cancer Tissue Test, Paradigm Diagnostics, Inc. (CPT 0244U)

MEDICAL CRITERIA

Medicare Advantage Plans and Commercial Products

The following test may be medically necessary when all of the medical criteria below are met:

- Oncotype MAP™ Pan-Cancer Tissue Test

1. As per NCD 90.2, this test is reasonable and necessary when: the patient has either:
    - Recurrent cancer
    - Relapsed cancer
    - Refractory cancer
    - Metastatic cancer
    - Advanced cancer (stages III or IV)
2. AND has not been previously tested by the same test for the same genetic content,
3. AND is seeking further treatment.

Situations in which Test should not be used or coverage is denied:
The test in question will be non-covered if:

- It does not fulfill all the criteria set forth in the NCD 90.2 as stated above
- Another CGP test was performed on the same tumor specimen (specimen obtained on the same date of service)

PRIOR AUTHORIZATION

Medicare Advantage Plans and Commercial Products

Prior authorization is required for Medicare Advantage Plans and recommended for Commercial Products for the following test:

- Oncotype MAP™ Pan-Cancer Tissue Test

Prior authorization is required for Medicare Advantage Plans and recommended for Commercial Products and is obtained via the online tool for participating providers. See the Related Policies section.

POLICY STATEMENT

Medicare Advantage Plans and Commercial Products

The following test may be considered medically necessary when the medical criteria above are met:

- Oncotype MAP™ Pan-Cancer Tissue Test

Commercial Products

Some genetic testing services are not covered and a contract exclusion for any self-funded group that has excluded the expanded coverage of biomarker testing related to the state mandate, R.I.G.L. **§27-19-81** described in the Biomarker Testing Mandate policy. For these groups, a list of which genetic testing services are covered with prior authorization, are not medically necessary or are not covered because they are a contract exclusion can be found in the Coding section of the Genetic Testing Services or Proprietary Laboratory Analyses policies. Please refer to the appropriate Benefit Booklet to determine whether the member's plan has customized benefit coverage. Please refer to the list of Related Policies for more information

COVERAGE

Benefits may vary between groups and contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage or Subscriber Agreement for applicable laboratory and not medically necessary benefits/coverage.

BACKGROUND

NGS is not a specific test but a sequencing methodology utilized to capture genomic information. Unlike Sanger sequencing (the prior standard technology) that typically provides sequence information for a single deoxyribonucleic acid (DNA)strand/molecule, NGS allows for massively parallel sequencing of millions of DNA molecules concurrently. This allows for capturing many relevant genomic targets simultaneously, usually by utilizing capture technologies such as by polymerase chain reaction (PCR) amplification or hybrid capture. As such, NGS tests for use in cancer are often comprised of gene panels whose content is either relevant to a specific tumor type or condition, or a larger panel of genes that can be used for multiple tumor types.

NGS tests can vary significantly for many reasons. While NGS defines a broad methodology for massively parallel sequencing, different technologies that have different strengths, weaknesses, and technical limitations or liabilities are available. The most common sequencing platforms in clinical use today are from Illumina and Thermo Fisher. While both sequence by synthesis similar to Sanger sequencing, these platforms utilize different chemistries, signal amplification, and detection methods. Gene panels can include only the portions of genes that contain the most critical clinically-relevant information, or be comprehensive, containing entire exonic gene regions (coding regions), introns (non-coding regions), and even sequence ribonucleic acid (RNA) for detecting gene fusions. Downstream from the pre-analytic processes mentioned- above, the bioinformatics used to process and assess the resultant sequencing reads and identify variants/mutations can yield different results based on the software used and what variant types of variants the test is attempting to detect. These software tools must take the resultant sequencing file (generally starting with the FASTQ format), align all possible sequences with a reference genome (BAM/SAM), and identify variants from the reference (typically a VCF file). Once such variants are identified, they must be assessed for validity and subsequently for their clinical relevance. The types of genomic information reported can vary, as tests can uncover a myriad of genomic alterations such as single nucleotide variants (SNVs), Insertions/Deletions (INDELs), Copy Number Alterations (CNAs; these can be simply amplifications at a single locus or chromosomal gains and losses), and gene fusions/translocations. The resultant information can also be used to calculate additional relevant information, such as Tumor Mutation Burden (TMB), or the presence of microsatellite instability (MSI). All of these variant classes have demonstrated clinical utility. As such, NGS testing in cancer comprises a large heterogeneous group of assays that are substantially different from each other. Additionally, NGS testing is highly complex and requires expertise from handling the specimen, to

running complex equipment, to understanding the required bioinformatics, to interpreting the findings and creating an actionable medical report.

Two types of tests are considered for coverage, "Hot-spot" tests and comprehensive genomic profile tests (CGP). The definition of these terms, in addition to appropriate coding information is located in Coverage Articles associated with this Local Coverage Determination (LCD). These tests can detect any combination of the previously described variant types, but in general, Hot-spot tests are limited to SNVs and small INDELs, whereas CGPs can detect those variants in addition to CNAs, larger INDELs, gene fusions/translocations, and be used to calculate MSI status and TMB.

CODING

The following CPT code may be considered medically necessary for Medicare Advantage Plans and Commercial Products when the medical criteria above are met:

This code can be used for Oncotype MAP™ Pan-Cancer Tissue Test:

0244U Oncology (solid organ), DNA, comprehensive genomic profiling, 257 genes, interrogation for single-nucleotide variants, insertions/deletions, copy number alterations, gene rearrangements, tumor-mutational burden and microsatellite instability, utilizing formalin-fixed paraffin-embedded tumor tissue

RELATED POLICIES

Biomarker Testing Mandate
Proprietary Laboratory Analysis (PLA) and Multianalyte Assays with Algorithmic Analyses (MAAA)

PUBLISHED

Provider Update, November 2023

REFERENCES

1. Centers for Medicare and Medicaid Services. Local Coverage Determination (LCD) MolDX: Next-Generation Sequencing for Solid Tumors (L38121)
2. Centers for Medicare and Medicaid Services. Local Coverage Article Billing and Coding: MolDX: Next-Generation Sequencing for Solid Tumors (A57905)
3. Centers for Medicare and Medicaid Services. National Coverage Determination (NCD) Next Generation Sequencing (NGS) 90.2