Reimbursement for laboratory-developed and *in vitro* diagnostic tests

Key points

- Understand the use of CPT codes
- Define the role of a Medicare administrative contractor (MAC)
- Understand the various types of reimbursement strategies

CPT codes

When a laboratory begins planning a laboratory-developed test (LDT), it should carefully consider how it will receive payment for the test. Current Procedural Terminology (CPT™) codes for medical procedures and laboratory tests are defined by the American Medical Association (AMA), reviewed three times per year, and used worldwide to define services performed by health care providers. A CPT code is a five-character numeric or alphanumeric code that indicates to physicians, accreditation organizations, and health insurers what type of care has been provided.

Types of CPT codes

There are three categories of CPT codes (Table 1). CPT codes for laboratory tests are included in Category I, which encompasses all services and procedures performed by physicians or health care workers. Codes for laboratory and pathology procedures are in the 80000–89999 range. CPT codes in Category II are for supplemental tracking and include performance measurement codes for chart review and medical records. Category III includes temporary codes for emerging technologies, which are most often used in clinical trials.

LDTs and IVD tests must have designated CPT codes in order for laboratories to bill and receive payment for performing the tests and to report the results for patient care. These codes are used for billing purposes along with ICD-10 codes, which identify diagnosed medical conditions and indicate why particular tests are necessary. CPT codes are updated annually for implementation on January 1 of each year.

Vendors of IVD tests usually apply for CPT codes, but laboratories that develop LDTs or IVD tests must determine how to code their tests. To assess reimbursement for an LDT, a laboratory should first review the existing Category I CPT codes related to the technology the LDT utilizes. An existing CPT code may cover the test, depending on its complexity, and it provides the most direct path to reimbursement. If no existing CPT code applies to the test, it may be launched with a miscellaneous code. The laboratory can then apply to the AMA for a new CPT code. To satisfy AMA requirements, the test must improve patient outcomes, and the data should be published in a peer-reviewed journal to drive favorable coverage and reimbursement by payors.

Table 1. 2021 CPT code categories defined by the AMA.[1]

CPT code category	Category description and criteria	Subcategories
Category I	Includes codes corresponding to procedures and services in the range from 00100 to 99499. Category I CPT codes are divided into subcategories based on the procedures or service types and applicable anatomy.	• Evaluation & Management Services (99202–99499) • Anesthesia Services (01000–01999) • Surgery (10021–69990) – further broken into body area or system within this code range • Radiology Services (70010–79999) • Pathology and Laboratory Services (80047–89398) • Medical Services and Procedures (90281–99607)
Category II	Includes supplementary alphanumeric tracking and performance measurement codes for chart review and medical records.	• Composite Measures (0001F–0015F) • Patient Management (0500F–0584F) • Patient History (1000F–1505F) • Physical Examination (2000F–2060F) • Diagnostic/Screening Processes or Results (3006F–3776F) • Therapeutic, Preventive, or Other Interventions (4000F–4563F) • Follow-up or Other Outcomes (5005F–5250F) • Patient Safety (6005F–6150F) • Structural Measures (7010F–7025F) • Nonmeasure Code Listing (9001F–9007F)
Category III	Includes temporary alphanumeric codes for new and developing technologies, procedures, and services. These codes are related to data collection and assessment. In some cases, they are used to bill for new services or procedures that currently do not meet Category I code criteria.	N/A
Proprietary Laboratory Analyses (PLA) codes	Alphanumeric codes for laboratories and manufacturers that want more specific test classification. Tests in this category include, but are not limited to, advanced diagnostic laboratory tests (ADLTs) and clinical diagnostic laboratory tests (CDLTs) as defined by the 2014 Protecting Access to Medicare Act (PAMA).	N/A

[1] https://www.ama-assn.org/practice-management/cpt/cpt-overview-and-code-approval

If no existing CPT code is applicable for a test, the test may qualify for a Category III CPT code. Category III codes are a set of temporary (T) codes assigned to emerging technologies, services, and procedures. They are intended to be used for data collection in clinical trials or to provide documentation for the Food and Drug Administration (FDA) approval process. There is generally little published, peer-reviewed evidence of the efficacy, safety, and applicability of these tests in clinical practice, and they are not considered established standards of care. Consequently, reimbursement for these tests is unlikely.

PLA codes

A test developed by a sole-source laboratory or manufacturer may qualify for a Proprietary Laboratory Analyses (PLA) code. PLA codes are alphanumeric CPT codes with descriptors that identify specific tests that must be performed on human specimens. A PLA code must be requested by the clinical laboratory or manufacturer that offers the test or licenses it to multiple providers cleared by the FDA.

PLA codes are assigned to laboratory tests defined in the Protecting Access to Medicare Act (PAMA) of 2014. These include advanced diagnostic laboratory tests (ADLTs), clinical diagnostic laboratory tests (CDLTs), multianalyte assays with algorithmic analyses (MAAA), and genomic sequencing procedures (GSPs). Applications are reviewed quarterly, and the codes are effective during the subsequent quarter.

CMS began to require some laboratories to collect and submit private payor rates for PLA tests in 2017, and CMS payments in 2018 were based on weighted median private payor rates. Since only some laboratories were selected for setting these reimbursement rates, the College of American Pathologists (CAP) and other industry leaders complained that the new rates were flawed and not representative of the industry. While CMS may offer reimbursement for tests with PLA codes, commercial payors and Medicaid do not. There is consequently a perception of bias against payment for tests assigned PLA codes.

CMS contractors

CMS relies on a network of Medicare administrative contractors (MACs) to serve as primary operational contacts for health care providers and the Medicare Fee for Service program. A MAC is a private regional health care insurer that has multistate jurisdiction to process Medicare Part A and B claims, and there are currently 12 authorized MACs that do so.

Palmetto GBA is a MAC that established the MolDX™ Program in 2011. It sets reimbursement rates for new molecular tests based on test registration and the assigned test identification codes. It also reviews applications and makes coverage determinations. A laboratory that develops a novel LDT for molecular testing can apply for a DEX Z-code in the DEX™ Diagnostics Exchange Registry through Palmetto GBA (formerly McKesson). This online test registry assigns unique and proprietary five-character alphanumeric Palmetto GBA DEX Z-codes to tests. To apply, a laboratory must register online and submit a technical assessment report for review (Table 2).

Table 2. MolDX application framework for coverage as described in the manual of the MolDX Program administered by Palmetto GBA.[2]

Technical assessment section	Component	Description
Executive summary	Other	A concise summary with a description of the assay, intended patient population(s), and intended purpose.
Technical Assessment (TA) Summary Form (M00116)	Other	Complete this form if the assay is performed on any platform other than NGS.
Analytical Performance Specifications for Comprehensive Genomic Profiling (CM00012)	Other	Complete this form in addition to M00116 if the assay is performed using NGS technology.
Clinical utility studies	Clinical utility (CU)	All CU articles must be submitted as complete and published works. Abstracts and data from unpublished studies are not accepted.
Analytical Performance Specifications for Qualitative Tumor-only Somatic Variant Detection Using Circulating Tumor DNA (M00135)	Other	Complete this form in addition to M00116 if testing for circulating tumor DNA (ctDNA).
Clinical validity studies	Clinical validity (CV)	Submit all relevant data supporting CV.
Analytic validity materials	Analytical validity (AV)	Submit all relevant AV data.
Economic value studies	Economic value	Submit relevant economic impact data.

[2] https://www.palmettogba.com/moldx

Assays with Z-codes are genetic or genomic in nature and often involve next-generation sequencing (NGS). To receive a favorable review, an assay must demonstrate clinical utility (CU), satisfy CMS reasonable and necessary criteria, and meet analytical and clinical validity (AV/CV) standards. If approved, a DEX Z-code is published in the registry for reference and review by other laboratory stakeholders. Palmetto GBA can determine CMS coverage and payment without documentation review. DEX Z-codes for molecular tests continue to be used by payors and laboratories that receive CMS reimbursements.

If an existing CPT code is applicable for a new LDT, the appropriate MAC and private payors should be notified and asked to provide reimbursement for the test. While there are codes for unlisted tests that are "not otherwise specified," laboratories that provide these tests are not often reimbursed by private payors. A laboratory could also implement a reimbursement strategy and messaging through the companion diagnostic (CDx) regulatory pathway if appropriate. Table 3 compares a typical molecular test for specific infectious disease agents with a "not otherwise specified" test and a test with a CPT PLA code.

Table 3. Examples of CPT code descriptions.

Type of code	Alphanumeric identifier	Code description
AMA CPT (specific)	87483	Test to detect nucleic acid (DNA or RNA) from central nervous system pathogens, including *Neisseria meningitidis*, *Streptococcus pneumoniae*, *Listeria monocytogenes*, *Haemophilus influenzae*, *Escherichia coli*, varicella-zoster virus, *Cryptococcus*, and others. Applicable for tests involving multiplex reverse transcription, multiplex amplified probe techniques, and various subtypes with 12–25 targets.
AMA CPT (general, not otherwise specified/unlisted)	87797	Test to detect an infectious agent not otherwise specified that employs a direct nucleic acid probe technique.
CPT PLA code for bacterial typing by whole genome sequencing (Mayo Clinic)	0010U	Infectious bacterial strain typing by whole genome sequencing to generate a phylogenetic report of strain relatedness per submitted isolate.

How would a laboratory or manufacturer apply for a unique CPT?

A laboratory or manufacturer must first submit a code change request form to the CPT Advisory Committee of the AMA. Review of a code change application may take as long as two years, depending on the committee meeting schedule, and these meetings are often not synchronized. Requirements for a code change include proof that a test is truly new; published, peer-reviewed data from a clinical trial; strong clinical advocates, often medical societies; and widespread use of the test in the U.S.

CMS bases reimbursement for new and substantially revised tests on the Clinical Laboratory Fee Schedule (CLFS) in consultation with an external expert advisory panel each year. The clinical laboratory panel convenes after CLFS review and recommends either crosswalk or gap-fill calculations to determine new reimbursement rates.

- **Crosswalk calculation for a test that is similar to an existing test:** CMS identifies an existing test with similar clinical features, resource requirements, and performance, then applies the payment amount for the existing test to the new test. This is the approach preferred by CMS. CMS payments may be accepted by a regional MAC.
- **Gap-fill calculation for a test when no comparable test is identified:** The MAC assembles data about the unique performance features of the test; its complexity and utilization; and the total cost of the new test, including the costs of reagents, equipment, and personnel. The data are then used to establish a new payment rate at the MAC level. After a year of reimbursement at that rate, CMS calculates a median rate across all MACs.

Even when a test is given a new CPT code, there is no guarantee that an insurer will automatically pay for it. All tests with new CPT codes require negotiations with insurers to establish coverage and reimbursement rates. Setting the MAC and national limitation amount (NLA) as benchmarks for LDT reimbursement facilitates insurance negotiations.

Coverage is tied to coding and requires evidence. Tests with existing codes are implicitly covered “under the radar” with minimal effort and generate revenue faster than tests with unlisted codes. Tests with unlisted codes are reviewed on a case-by-case basis for medical necessity, and coverage is adjudicated for each claim. Tests with new codes are considered covered, although payments must be negotiated with payors. In addition, clinical evidence that the test results provide physicians with evidence to guide treatment decisions and improve net patient health outcomes is mandatory. Tests with new codes take longer to reach the market, but risks are minimal once coverage is in place.

Reimbursement strategies

One way to highlight the advantages of an LDT for payors is to provide health economics data. A new LDT should be more accurate than existing tests and enable physicians to make better decisions. The results should also reduce the cost of care. Shorter hospital stays, pharmaceutical optimization, and the ability to make clinical decisions more quickly are quantifiable outcomes that can be evaluated to set a reimbursement rate.

Having a clinical advocate or a group of subspecialists who perform clinical trials and economic studies that demonstrate the benefits of a test for diagnosis, prognosis, or treatment decisions can be a very powerful strategy for increasing a reimbursement rate. Even after an initial decision, CMS may increase the reimbursement rate for an LDT if a study demonstrating the benefits of the test is published in a peer-reviewed journal. Without CMS reimbursement, negotiations with private payors are difficult. If a laboratory is unable to receive payment for an LDT, the only alternatives it has are either to apply for FDA clearance or approval or to partner with a test or equipment vendor to support trials for premarket approval (PMA) or a 510(k) premarket notification submission.

Premarket approval by the FDA is granted after medical and regulatory review to ensure the safety and effectiveness of Class III medical devices prior to marketing. After review, the FDA can issue an approval for a PMA submission. A 510(k) notification requires review and approval for a medical device that performs comparably to a previously approved test. After review, the FDA can grant clearance for it as a substantially comparable device.

How long does it take for the FDA to grant clearance or approval for an LDT?

The era of SARS-CoV-2 provides no set timeline for FDA employees who work from home or officials who are tasked with prioritizing public health decisions. However, the FDA must adhere to certain timelines based on historical precedent. In 2016, the FDA published the Medical Device User Fee Amendments (MDUFA) to protect and promote public health by providing timely access to safe and effective medical devices. The objective was to track the duration—from the time of submission to an FDA decision for PMA and 510(k) applications—over a five-year period. The FDA proposed a timeframe of 90 business days for 95% of all MDUFA decisions. The agency also proposed a timeframe of 100 business days to provide written feedback with discussion taking place in a meeting or teleconference. Unfortunately, these timelines were not successfully implemented.

In July 2021, the FDA introduced the Total Product Lifecycle (TPLC) Advisory Program to encourage industry manufacturers to interact earlier and more frequently with the agency. The perception of industry was that the proposal would extend beyond the scope of the MDUFA and require costlier, more complex premarket review.

The current short-term priorities of the FDA are to draft guidance documents regarding full marketing authorization for tests with EUA

approval and the handling of products marketed under temporary enforcement policies. Requests by laboratory and industry leaders to increase FDA staffing and return to a five-year offset for overcollections have been reviewed by the FDA, but no consensus has been reached.

Conclusion

CPT codes are crucial for test coverage and payment from all payors, but new codes may not be available at the time a product is launched. Existing CPT codes should be used carefully, as coverage policies may require a significant amount of data. It may be best to employ a combination of regulatory strategy, data acquisition, and labeling indications to seek coverage, since obtaining coverage can be a lengthy process.

Reimbursement by Medicare is based on the reimbursement rates determined for existing codes, either by short-term gap-fill or crosswalk calculations. In the long term, reimbursement is based on payments by private payors. It is prudent to plan ahead and work with private payors, educate payors locally, negotiate, and obtain additional experience and data to expand nationally.

References

1. https://www.darkintelligencegroup.com/the-dark-report/laboratory-billing/insurers-are-rejecting-many-pla-maaa-codes/.
2. https://www.raps.org/news-and-articles/news-articles/2021/7/mdufa-v-negotiations-press-on-with-breakdown-over.

Glossary

Term	Definition
510(k)	A 510(k) is a premarket notification submitted to the FDA to demonstrate that a device can be marketed as safe and effective, and that it is substantially equivalent to a legally marketed device (FD&C Act section 513(i)(1)(A)).
CDD	Coverage with data development
CED	Coverage with evidence development
LCD	Local coverage determination
MAAA	Member of the American Academy of Actuaries
MAC	Medicare administrative contractor
MolDX	Molecular diagnostics
NCD	National coverage determination
PLA	Proprietary Laboratory Analyses
PMA	Premarket approval
Z-code	A code in the DEX Diagnostics Exchange Registry obtained through Palmetto GBA (formerly McKesson).

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