



March 30, 2017

Noridian Healthcare Solutions, LLC
JE and JF Part B Contractor Medical Director(s)
Attention: Draft LCD Comments
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Re: Draft Local Coverage Determination: MoIDX: Comprehensive Genomic Profiling to Guide Treatment in Patients with Metastatic Melanoma (DL37109 and DL37111)

Dear Dr. Lurvey, Dr. Haley and Dr. Oakes,

Thank you for this opportunity to respond to your draft local coverage determination regarding MoIDX: Comprehensive Genomic Profiling (CGP) to Guide Treatment in Patients with Metastatic Melanoma (DL37109 and DL37111). The Association for Molecular Pathology (AMP) is an international medical professional association representing approximately 2,300 physicians, doctoral scientists, and medical technologists who perform or are involved with laboratory testing based on knowledge derived from molecular biology, genetics and genomics. Membership includes professionals from the government, academic and commercial clinical laboratories, community hospitals, and the in vitro diagnostics industry.

As the world's largest organization of board-certified pathologists and leading provider of laboratory accreditation and proficiency testing programs, the College of American Pathologists (CAP) serves patients, pathologists, and the public by fostering and advocating excellence in the practice of pathology and laboratory medicine worldwide.

Members of both AMP and CAP are experts in molecular pathology and the implementation of this coverage policy will directly impact their practices. We are submitting joint comments because at this time both of our organizations share the same concerns regarding this draft LCD.

Proposed Coverage for Comprehensive Genomic Profiling

AMP and CAP applaud Noridian for proposing to provide coverage for comprehensive genomic profiling (CGP), which typically uses next generation sequencing (NGS)-based strategies. The National Comprehensive Cancer Network (NCCN) guidelines are updated on an annual basis and are based on the most current medical evidence (NCCN Melanoma Guideline 2017). Similarly the European Society for Medical Oncology (ESMO) publishes evidence-based guidelines for melanoma on a regular basis (Dumer et al 2015). Both NCCN and ESMO guidelines for melanoma require multi-gene testing for patients with advanced disease or clinical recurrence. Laboratories can meet these guidelines using a panel of single tests or by NGS methods. Despite the consensus on clinical benefits of NGS-based CGP, we believe that this draft LCD proposal is unreasonably restrictive, and we would like to work with you to improve coverage policy for patients with melanoma – to avoid inappropriate denials for CGP

coverage, which will occur due to restrictions in this overly stringent draft policy.

Our predominant concern with this draft LCD is that the policy, as drafted, will severely restrict patient access to testing, given the extremely specific (and unjustified) testing requirements. If the draft LCD remains unchanged, for all practical purposes it is applicable to only a very limited number of laboratories in the entire country. Our comments outline changes supported by the medical literature that would broaden this restrictive testing criteria so that more high-quality, stringently compliant laboratories would also be able offer this clinically-proven testing to their patients.

We have found no evidence in the scientific literature that many of the requirements outlined in this policy improve downstream clinical decisions. Limiting coverage to the very small number of labs currently meeting these criteria will significantly restrict access to testing without a justifiable improvement in clinical decision making – and could, unintentionally, even worsen outcomes by delaying or preventing the genomic tests that often inform optimal therapies. In addition to the limitations in patient access to testing that will be caused by this overly stringent policy, the concomitant lack of competition in the testing space could also lead to a downturn in quality and an increase in testing costs. Furthermore, clinical research trials into new targeted cancer therapies will become more expensive and available in fewer locations due to the restricted access to testing and lack of competition.

We also remain very concerned, as detailed in previous LCD responses, about whether Noridian has the statutory authority to regulate LDTs (and their analytical and clinical validity), which typically fall under the purview of CLIA.

CGP Test Description

In the policy, CGP analysis is defined as a single test using tumor tissue only (i.e., not matched tumor and normal) that can detect all four classes of genomic alterations (base pair substitutions, small indels, copy number alterations, rearrangements, tumor mutation burden (TMB) and microsatellite instability (MSI)) in a single test. Noridian states that other non-NGS testing platforms may be considered if they can similarly detect all classes of alterations and genomic information with comparable test performance as CGP.

Tumor mutation burden should be considered a subclass of base pair substitutions, rather than a separate class of genomic alteration since TMB is defined by the literature as the number of exonic single nucleotide substitutions (Rizvi et al 2015). Similarly, microsatellite instability is defined as the expansion of or contraction of mononucleotide, dinucleotide, trinucleotide repeats, etc. and should be considered a subclass of the “indel” genomic alteration (i.e. insertion or deletion of nucleotides) (Salipante et al 2014).

Several groups have published CGP validation studies showing the utility of paired normal tissue for improving the analysis of DNA sequencing (Luthra et al 2017, Ross et al 2017). Consequently, CGP analysis should also include covered assays that used matched tumor and normal since this approach offers high quality CGP results. Extra reimbursement for those labs that choose to sequence matched normal tissue (as a quality control exercise) is not justified.

We believe that requiring the detection of all “four” classes of genomic alterations within a single procedure is not necessary, is overly burdensome to laboratories that use alternative technical approaches to provide the comparable findings, and does little to guide treatment and increase benefit to the patient. Medical necessity must be paramount in any coverage determination and the medical necessity for detecting all “four” classes of genomic alterations has not been rigorously established. Moreover, there is no medical literature that suggests multiple genomic aberrations need to be detected by a “single test”, as mandated on page 4 of the draft LCD. For

example, there are technologies such as SNP-based microarray that can detect genome wide copy number alterations in a sensitive and cost-efficient fashion. Targeted translocations and copy number alterations can also be detected by FISH and PCR-based methods. **We, therefore, recommend altering this policy to:**

1. **NOT require the detection of all “four” classes of genomic alterations;**
2. **NOT require the detection of all alterations in a single assay, and**
3. **Allow coverage consideration for laboratories that incorporate diverse and complimentary multi-test (not “single test”) technologies to detect the “four” classes of genomic alterations.**

Recommendations Regarding the Proposed Coverage Requirements

AMP and CAP are supportive of Noridian’s proposal to cover CGP analysis using multiplex or NGS technology, recognizing that this testing is reasonable and necessary to guide targeted therapy (e.g. BRAF/MEK inhibitor) and possibly for immuno-oncology therapy in patients with melanoma (Van Allen E.M. et al. 2015). We disagree that all eight of the criteria listed in the draft LCD must be met and combined into a “single test” to qualify as medically necessary. As detailed above, these overly stringent criteria will limit CGP testing for melanoma, for all practical purposes, to only a very few laboratories that have chosen, for commercial purposes, to market their assay as a “single test”. We recommend that these criteria be revised to reflect the content in the NCCN guidelines.

The policy states the following:

CGP analysis using multiplex or next generation sequencing technology is reasonable and necessary to guide targeted and/or immune-oncology patients with metastatic melanoma when ALL of the following criteria are met.

AMP and CAP recommend that the words “ALL of” be struck from this sentence.

We have further recommendations for revisions to the eight specific testing criteria outlined in the draft LCD. In particular, we recommend:

Criterion One

“Patient has been newly diagnosed with stage 4 metastatic melanoma.”

Both, NCCN and ESMO guidelines for melanoma require multi-gene testing, typically performed with next generation sequencing (NGS), in patients with advanced disease (unresectable stage III or stage IV) or at clinical recurrence regardless of presentation stage (Dummer et al 2015, NCCN Melanoma Guideline 2017, see NCCN ME-8,9,10). ESMO guidelines also highly recommend mutation analysis in high-risk resected melanoma (stage IIc, stage IIIb–IIIc) at presentation.

AMP and CAP recommend changing criterion one to reflect current NCCN and ESMO guidelines.

Criterion Two

“Patient has not been tested for genomic alterations via CGP methods or PCR techniques.”

Both NCCN and ESMO guidelines for melanoma require multi-gene testing for the “treatable mutations” BRAF and KIT in the appropriate clinical context. ESMO guidelines state that “if the tumor is BRAF-wild type, testing for NRAS mutations & c-kit mutation should be considered.” Consequently, routine clinical work up for melanoma patients will usually be limited to these genes (BRAF, KIT, NRAS) at the request of the treating oncologist. This

sequential targeted approach is less expensive and can offer more rapid results for the patient. Oncologists often request comprehensive genomic profiling only in instances when patients are unlikely to respond to, or fail, standard therapy in order to guide clinical decision making for enrollment in a clinical trial.

This criterion will place an undue financial burden on hospital labs that provide a targeted panel for “treatable mutations” prior to an oncologist’s request for comprehensive genomic profiling (CGP). In this scenario the laboratory performing the “second” CGP test would not be paid for the cost of performing the test, given the prior targeted test had occurred. For hospital labs that offer a “targeted” panel but do not perform CGP, the current Medicare rules require the outside CGP laboratory to bill a hospital for pathology technical component services for Medicare inpatients and outpatients. Based on this criterion the hospital lab will be unable to bill Medicare for the substantial additional cost of outside CGP laboratory services. Compliance with NCCN/ESMO guidelines will lead to a tiered testing approach for patients who are unlikely to respond to, or fail, standard therapies. Further, patients with recurrence may require testing of more than one specimen (i.e. at presentation and at clinical recurrence).

AMP and CAP recommend changing criterion two to reflect NCCN/ESMO guidelines and the reality of clinical practice in oncology.

Criterion Four

“The CGP is a hybrid-capture based NGS genomic testing platform that can detect all four types of DNA alterations seen in cancer – base pair substitutions, small indels, copy number alterations and rearrangements – in hundreds of cancer-related genes with high sensitivity and specificity that has been validated in a peer-reviewed journal(s)”

- a) This is a very restrictive approach, dictating laboratory specific methodology, despite evidence that this approach is not the only effective one. Many NGS-based strategies employ amplicon based library preparation, which are equally effective as hybrid-capture to identify these genomic aberrations (Luthra R et al. 2017). Specifically, a large, multi-site trial sponsored by the National Cancer Institute, Molecular Analysis for Therapy Choice (NCI-MATCH), has deployed genomic testing that is amplicon-based, not hybrid-capture based. This testing strategy was thoroughly investigated prior to deployment and has been successfully utilized to detect the DNA alterations described above (Chih-Jian Lih et al. 2017). For example, in the cohort tested, the 143 gene OncoPrint Comprehensive Assay – Proton assay detected 145 of 148 SNVs (97.9% sensitivity), 48 of 49 indels (97.9% sensitivity), and all 40 CNVs (100% sensitivity) indicating an overall average sensitivity of 98.6%. The intent of the study is to screen thousands of patients with this assay, and the assay’s manufacturer, Thermo Fisher Scientific, has submitted a premarket Approval Application to the FDA in November of 2016. Thus, the provision in this LCD indicating a specific required hybrid capture methodology does not take into account the current state of the art in laboratory science and could lead to significantly decreased patient access to testing. The requirements for an assay that is “*hybrid capture-based*” should thus be deleted.
- b) The requirements for an assay that detects aberrations in “*hundreds of cancer related genes*” should be deleted. The number of clinically “actionable” genomic gene targets is a matter of considerable scientific debate, and many laboratories offer clinically validated NGS-based testing that targets less than “hundreds” of genes, yet is considered comprehensive for clinically “actionable” therapies. We recommend that the required genes be limited to those included in the current NCCN and ESMO guidelines: BRAF, KIT, and NRAS.
- c) The requirement for an assay that has been “validated in a peer-reviewed journal” falls outside requirements of any current regulatory framework and should be deleted. We are unaware of any precedent in the history of CMS laboratory medicine coverage policy that any assay be “validated in a peer-reviewed journal”. Many

extensively validated CGP assays are developed in non-academic reference laboratories whose commercial mission often does not prioritize publication in a peer-reviewed medical journal. Even FDA does not mandate publication of assay validation details in a peer-reviewed journal. Additionally, despite completing rigorous validations as dictated by CLIA, many laboratories may decide not to pursue an academic publication, if similar or identical assay validations have already been published in a peer-reviewed journal.

Criterion Five

“The laboratory providing CGP testing services must meet the minimum requirements of being CLIA-certified, CAP-accredited and approved by the New York State Department of Health...”

The New York State Department of Health’s (NYSDOH) requires premarket review by Clinical Laboratory Evaluation Program (CLEP) if the test is performed in New York State or the sample is from New York State. The Noridian jurisdictions are JE and JF. Laboratories within the Noridian jurisdictions do not test patient samples from New York state unless they have a large outreach business serving patients in New York. In the State of New York, CLEP compliance supersedes other forms of accreditation to avoid duplicative requirements, but this does not apply to labs in the Noridian jurisdictions that would require multiple rounds of certification. The “New York State” requirement would place an unnecessary financial and regulatory burden on laboratories that serve only a local patient population. As such, this criterion will act as an impediment to laboratory adoption of CGP assays and is likely to reduce local cancer patient’s access to this testing.

We recommend that Noridian strike the requirement for New York State Department of Health approval. Since the MoDx program’s policies are now applied in approximately half the country, AMP and CAP believe it would not only be appropriate, but legally required, that testing requirements comply with the Department of Health and Human Services’ national regulations, rather the requirements of any single state’s health department. Specifically, we recommend the requirement be altered to state that the lab be “CLIA-certified or equivalent, as required.” The draft policy requirement, as written, implies that all laboratories – whether or not they provide services to patients in the state of New York – must be certified by the New York State Department of Health.

Criterion Six

“The CGP result will report out all known BRAF mutations, KRAS mutations, KIT mutations, TMB , MSI, CDKN2A mutations, and other appropriate familial genetic abnormalities causing melanoma; and potentially provide direction to an expert in hereditary cancer risk assessment or other specialist (e.g. gastroenterology) when CDKN2A, CDK4, BRCA1 or BRCA2 alternation is identified to determine if a hereditary cancer syndrome exists; NRAS not KRAS mutations are common in melanoma, and like KRAS mutations, confer resistance to BRAF V600E inhibitors. Melanoma patients with NRAS mutations may benefit from MEK kinase-inhibitor therapy (Ascierto et al 2013, Dummer et al. 2015).

TMB: Elevated nonsynonymous mutation load has been associated with response to ipilimumab, yet melanoma patients with long-term survival had low mutational load (Van Allen E.M. et al. 2015). Consequently, this approach may enrich for patients who benefit from immunotherapy, but should not be used to exclude patients from therapy. Data supporting this approach for therapeutic selection is immature in the literature, and mandating its deployment is not consistent with current guidelines.

MSI: Microsatellite instability is most commonly associated with mutations in mismatch repair proteins (e.g. MLH1/PMS2, MSH2/MSH6) and is usually observed in Lynch syndrome tumors such as colorectal carcinoma, endometrial carcinoma, sebaceous adenoma/carcinoma of the skin, small bowel, urinary tract). Currently NCCN

and ESMO guidelines do not mention MSI testing for melanoma patients. The literature provides limited evidence for mismatch repair defects in rare instances of melanoma (Ponti et al. 2008, Karamurzin et al. 2011, Lobo et al. 2017).

Familial Genetic Abnormalities: NCCN guidelines recognize genetic predisposition associated with “presence of melanoma susceptibility polymorphisms (including CDKN2A, CDK4, MC1R, and other as yet undetermined germline mutations). NCCN guidelines state “consider testing in the presence of 3 or more invasive melanomas or a mix of invasive melanoma and pancreatic cancer diagnoses in an individual or family.” Currently NCCN and ESMO guidelines do not mention BRCA1 or BRCA2. The literature shows that BRCA carriers may carry an increased risk for melanoma but represent a small percentage of melanoma patients (<2%) (Ginsburg OM et al 2010). Since this draft LCD defines CGP as “a single test using tumor tissue only (i.e., not matched tumor and normal)” this approach may detect a significant number of mutations in genes listed above that are somatic rather than hereditary germline in nature. This approach encompasses the extra expense of additional genetic testing of a non-tumor sample and this testing is not currently covered by Medicare in any jurisdiction.

AMP and CAP recommend changing criterion six to reflect the genes/mutations referred to in current NCCN and ESMO guidelines or genes recognized in the literature as having clinical utility. We, therefore, recommend that criterion six be revised as follows “The panel includes established biomarkers such as BRAF mutations, NRAS mutations, KIT mutations and may also include emerging biomarkers such as TMB and MSI. CDKN2A mutations, and other appropriate familial genetic abnormalities causing melanoma should be reported in the appropriate clinical context; and potentially provide direction to an expert in hereditary cancer risk assessment or other specialist (e.g. oncologist) when an alteration may suggest a hereditary cancer syndrome. Such alterations may include but are not limited to the following genes: CDKN2A, CDK4, MC1R.”

Criterion Eight

Noridian requires the following: *Testing is performed with an assay that has been reviewed via the MoIDx Technical Assessment process and is listed as a “Covered Test” on the MoIDx website.*

AMP and the CAP continue to disagree that the MoIDx program technical assessment requirement is necessary to review the analytic validity of each LDT or modified IVD. In order to be reimbursed by Medicare, the laboratory must be CLIA certified. CMS has already certified the laboratory (and all the tests it performs) under the CLIA program, which sets a standard for quality control for all tests performed. Analytical validity is thus already substantively addressed by CLIA regulations, which require laboratories to demonstrate analytical validity and regular proficiency testing. Assuring clinical validity is not directly evaluated by CLIA. In particular, CLIA regulations under 42 CFR § 493.1445(e)(3)(i) require the laboratory director and technical supervisor to ensure that selected test methodologies are capable of providing the quality of results required for patient care. Implicit in this regulation is the responsibility of the laboratory director to use medically relevant test methodologies that have an effective clinical purpose—otherwise those methodologies could not be said to be “required for patient care” (U.S. System of Oversight of Genetic Testing). Thus, the effective clinical purpose or clinical validity is typically documented by the laboratory in review of medical literature. If a lab is not CLIA certified, the test cannot be paid for by Medicare.

CPT Coding

We note that the draft LCD mandates the use of molecular, NOS CPT coding (81479) for submission of claims. This approach is in stark contradiction to previous requirements from MoIDx to exclusively utilize the most appropriate existing CPT code. In this case, existing genomic sequencing codes (81445, 81455) appropriately describe the

scope of services proposed in this LCD. Specifically, the existing codes note the inclusion of ‘interrogation for sequence variants and copy number variants or rearrangements, if performed’. All classes of alterations described in this LCD are included in this CPT descriptor. Tumor mutation burden and MSI, when performed as part of a next generation sequencing based assay, are bioinformatic derivatives of single nucleotide alterations and insertion/deletion alterations. Thus, it would be inappropriate for Noridian to require a non- specific “not otherwise specified” CPT code, given the existence of a CPT code which appropriately describes the scope of services. A precedent also exists in previously finalized LCDs from National Government Services that uses the CPT codes 81445 and 81450 for Genomic Sequence Analysis Panels in the Treatment of Non-Small Cell Lung Cancer (L36376) or Acute Myelogenous Leukemia (L36926). **Therefore we recommend the use of CPT codes 81445 and 81455 (rather than 81479) to fulfill criteria for CGP testing, analogous to the LCD from Noridian on Non-Small Cell Lung Cancer.**

If an individual laboratory's assay is sufficiently unique such that existing CPT codes do not appropriately apply to the assay, the laboratory should endeavor to have its assay recognized through appropriate channels, which would require obtaining a Proprietary Laboratory Analyses (PLA) code through the American Medical Association’s CPT Editorial Panel process, rather than inappropriate utilization of 81479 as suggested in this LCD. The criteria for CGP can also be fulfilled with additional CPT codes that Noridian did not include in its draft policy proposal. For example, **consideration may also be given to other CPT codes that would include PCR-based testing, FISH, and/or cytogenomic microarray.**

ICD-10 Coding

The proposed policy lists the ICD-10 codes, C79.2, C79.9, Z85.821, and Z85.9 as those that support medical necessity, which cover secondary malignant neoplasm to or from skin. (CMS and NCHS 2017) We are concerned that codes covering primary melanoma lesions should also be included in order to more accurately account for all types of tumors that may be encountered.

We request that additional ICD-10 codes added to this policy include, but not be limited to the following list:

- C43 Malignant melanoma of skin
- C43.0 Malignant melanoma of lip
- C43.1 Malignant melanoma of eyelid, including canthus
- C43.10 Malignant melanoma of unspecified eyelid, including canthus
- C43.11 Malignant melanoma of right eyelid, including canthus
- C43.12 Malignant melanoma of left eyelid, including canthus
- C43.2 Malignant melanoma of ear and external auricular canal
- C43.20 Malignant melanoma of unspecified ear and external auricular canal
- C43.21 Malignant melanoma of right ear and external auricular canal
- C43.22 Malignant melanoma of left ear and external auricular canal
- C43.3 Malignant melanoma of other and unspecified parts of face
- C43.30 Malignant melanoma of unspecified part of face
- C43.31 Malignant melanoma of nose
- C43.39 Malignant melanoma of other parts of face
- C43.3 Malignant melanoma of scalp and neck
- C43.5 Malignant melanoma of trunk
- C43.51 Malignant melanoma of anal skin
- C43.52 Malignant melanoma of skin of breast
- C43.59 Malignant melanoma of other part of trunk
- C43.6 Malignant melanoma of upper limb, including shoulder

C43.60 Malignant melanoma of unspecified upper limb, including shoulder
C43.61 Malignant melanoma of right upper limb, including shoulder
C43.62 Malignant melanoma of left upper limb, including shoulder
C43.7 Malignant melanoma of lower limb, including hip
C43.70 Malignant melanoma of unspecified lower limb, including hip
C43.71 Malignant melanoma of right lower limb, including hip
C43.72 Malignant melanoma of left lower limb, including hip
C43.8 Malignant melanoma of overlapping sites of skin
C43.9 Malignant melanoma of skin, unspecified
C44 Other and unspecified malignant neoplasm of skin
C44.0 Other and unspecified malignant neoplasm of skin of lip
C44.00 Unspecified malignant neoplasm of skin of lip
C44.01 Basal cell carcinoma of skin of lip
C44.02 Squamous cell carcinoma of skin of lip
C44.09 Other specified malignant neoplasm of skin of lip
C44.1 Other and unspecified malignant neoplasm of skin of eyelid, including canthus
C44.10 Unspecified malignant neoplasm of skin of eyelid, including canthus
C44.101 Unspecified malignant neoplasm of skin of unspecified eyelid, including canthus
C44.102 Unspecified malignant neoplasm of skin of right eyelid, including canthus
C44.109 Unspecified malignant neoplasm of skin of left eyelid, including canthus
C44.11 Basal cell carcinoma of skin of eyelid, including canthus
C44.111 Basal cell carcinoma of skin of unspecified eyelid, including canthus
C44.112 Basal cell carcinoma of skin of right eyelid, including canthus
C44.119 Basal cell carcinoma of skin of left eyelid, including canthus
C44.12 Squamous cell carcinoma of skin of eyelid, including canthus
C44.121 Squamous cell carcinoma of skin of unspecified eyelid, including canthus
C44.122 Squamous cell carcinoma of skin of right eyelid, including canthus
C44.129 Squamous cell carcinoma of skin of left eyelid, including canthus
C44.19 Other specified malignant neoplasm of skin of eyelid, including canthus
C44.191 Other specified malignant neoplasm of skin of unspecified eyelid, including canthus
C44.192 Other specified malignant neoplasm of skin of right eyelid, including canthus
C44.199 Other specified malignant neoplasm of skin of left eyelid, including canthus
C44.2 Other and unspecified malignant neoplasm of skin of ear and external auricular canal
C44.20 Unspecified malignant neoplasm of skin of ear and external auricular canal
C44.201 Unspecified malignant neoplasm of skin of unspecified ear and external auricular canal
C44.202 Unspecified malignant neoplasm of skin of right ear and external auricular canal
C44.209 Unspecified malignant neoplasm of skin of left ear and external auricular canal
C44.21 Basal cell carcinoma of skin of ear and external auricular canal
C44.211 Basal cell carcinoma of skin of unspecified ear and external auricular canal
C44.212 Basal cell carcinoma of skin of right ear and external auricular canal
C44.219 Basal cell carcinoma of skin of left ear and external auricular canal
C44.22 Squamous cell carcinoma of skin of ear and external auricular canal
C44.221 Squamous cell carcinoma of skin of unspecified ear and external auricular canal
C44.222 Squamous cell carcinoma of skin of right ear and external auricular canal
C44.229 Squamous cell carcinoma of skin of left ear and external auricular canal
C44.29 Other specified malignant neoplasm of skin of ear and external auricular canal
C44.291 Other specified malignant neoplasm of skin of unspecified ear and external auricular canal
C44.292 Other specified malignant neoplasm of skin of right ear and external auricular canal

C44.299 Other specified malignant neoplasm of skin of left ear and external auricular canal
C44.3 Other and unspecified malignant neoplasm of skin of other and unspecified parts of face
C44.30 Unspecified malignant neoplasm of skin of other and unspecified parts of face
C44.300 Unspecified malignant neoplasm of skin of unspecified part of face
C44.301 Unspecified malignant neoplasm of skin of nose
C44.309 Unspecified malignant neoplasm of skin of other parts of face
C44.31 Basal cell carcinoma of skin of other and unspecified parts of face
C44.310 Basal cell carcinoma of skin of unspecified parts of face
C44.311 Basal cell carcinoma of skin of nose
C44.319 Basal cell carcinoma of skin of other parts of face
C44.32 Squamous cell carcinoma of skin of other and unspecified parts of face
C44.320 Squamous cell carcinoma of skin of unspecified parts of face
C44.321 Squamous cell carcinoma of skin of nose
C44.329 Squamous cell carcinoma of skin of other parts of face
C44.39 Other specified malignant neoplasm of skin of other and unspecified parts of face
C44.390 Other specified malignant neoplasm of skin of unspecified parts of face
C44.391 Other specified malignant neoplasm of skin of nose
C44.399 Other specified malignant neoplasm of skin of other parts of face
C44.4 Other and unspecified malignant neoplasm of skin of scalp and neck
C44.40 Unspecified malignant neoplasm of skin of scalp and neck
C44.41 Basal cell carcinoma of skin of scalp and neck
C44.42 Squamous cell carcinoma of skin of scalp and neck
C44.49 Other specified malignant neoplasm of skin of scalp and neck
C44.5 Other and unspecified malignant neoplasm of skin of trunk
C44.50 Unspecified malignant neoplasm of skin of trunk
C44.500 Unspecified malignant neoplasm of anal skin
C44.501 Unspecified malignant neoplasm of skin of breast
C44.509 Unspecified malignant neoplasm of skin of other part of trunk
C44.51 Basal cell carcinoma of skin of trunk
C44.510 Basal cell carcinoma of anal skin
C44.511 Basal cell carcinoma of skin of breast
C44.519 Basal cell carcinoma of skin of other part of trunk
C44.52 Squamous cell carcinoma of skin of trunk
C44.520 Squamous cell carcinoma of anal skin
C44.521 Squamous cell carcinoma of skin of breast
C44.529 Squamous cell carcinoma of skin of other part of trunk
C44.59 Other specified malignant neoplasm of skin of trunk
C44.590 Other specified malignant neoplasm of anal skin
C44.591 Other specified malignant neoplasm of skin of breast
C44.599 Other specified malignant neoplasm of skin of other part of trunk
C44.6 Other and unspecified malignant neoplasm of skin of upper limb, including shoulder
C44.60 Unspecified malignant neoplasm of skin of upper limb, including shoulder
C44.601 Unspecified malignant neoplasm of skin of unspecified upper limb, including shoulder
C44.602 Unspecified malignant neoplasm of skin of right upper limb, including shoulder
C44.609 Unspecified malignant neoplasm of skin of left upper limb, including shoulder
C44.61 Basal cell carcinoma of skin of upper limb, including shoulder
C44.611 Basal cell carcinoma of skin of unspecified upper limb, including shoulder
C44.612 Basal cell carcinoma of skin of right upper limb, including shoulder

C44.619 Basal cell carcinoma of skin of left upper limb, including shoulder
C44.62 Squamous cell carcinoma of skin of upper limb, including shoulder
C44.621 Squamous cell carcinoma of skin of unspecified upper limb, including shoulder
C44.622 Squamous cell carcinoma of skin of right upper limb, including shoulder
C44.629 Squamous cell carcinoma of skin of left upper limb, including shoulder
C44.69 Other specified malignant neoplasm of skin of upper limb, including shoulder
C44.691 Other specified malignant neoplasm of skin of unspecified upper limb, including shoulder
C44.692 Other specified malignant neoplasm of skin of right upper limb, including shoulder
C44.699 Other specified malignant neoplasm of skin of left upper limb, including shoulder
C44.7 Other and unspecified malignant neoplasm of skin of lower limb, including hip
C44.70 Unspecified malignant neoplasm of skin of lower limb, including hip
C44.701 Unspecified malignant neoplasm of skin of unspecified lower limb, including hip
C44.702 Unspecified malignant neoplasm of skin of right lower limb, including hip
C44.709 Unspecified malignant neoplasm of skin of left lower limb, including hip
C44.71 Basal cell carcinoma of skin of lower limb, including hip
C44.711 Basal cell carcinoma of skin of unspecified lower limb, including hip
C44.712 Basal cell carcinoma of skin of right lower limb, including hip
C44.719 Basal cell carcinoma of skin of left lower limb, including hip
C44.72 Squamous cell carcinoma of skin of lower limb, including hip
C44.721 Squamous cell carcinoma of skin of unspecified lower limb, including hip
C44.722 Squamous cell carcinoma of skin of right lower limb, including hip
C44.729 Squamous cell carcinoma of skin of left lower limb, including hip
C44.79 Other specified malignant neoplasm of skin of lower limb, including hip
C44.791 Other specified malignant neoplasm of skin of unspecified lower limb, including hip
C44.792 Other specified malignant neoplasm of skin of right lower limb, including hip
C44.799 Other specified malignant neoplasm of skin of left lower limb, including hip
C44.8 Other and unspecified malignant neoplasm of overlapping sites of skin
C44.80 Unspecified malignant neoplasm of overlapping sites of skin
C44.81 Basal cell carcinoma of overlapping sites of skin
C44.82 Squamous cell carcinoma of overlapping sites of skin
C44.89 Other specified malignant neoplasm of overlapping sites of skin
C44.9 Other and unspecified malignant neoplasm of skin, unspecified
C44.90 Unspecified malignant neoplasm of skin, unspecified
C44.91 Basal cell carcinoma of skin, unspecified
C44.92 Squamous cell carcinoma of skin, unspecified
C44.99 Other specified malignant neoplasm of skin, unspecified
C77.1 Secondary and unspecified malignant neoplasm of intrathoracic lymph nodes
C77.2 Secondary and unspecified malignant neoplasm of intra-abdominal lymph nodes
C77.3 Secondary and unspecified malignant neoplasm of axilla and upper limb lymph nodes
C77.4 Secondary and unspecified malignant neoplasm of inguinal and lower limb lymph nodes
C77.5 Secondary and unspecified malignant neoplasm of intrapelvic lymph nodes
C77.8 Secondary and unspecified malignant neoplasm of lymph nodes of multiple regions
C77.9 Secondary and unspecified malignant neoplasm of lymph node, unspecified
C78 Secondary malignant neoplasm of respiratory and digestive organs
C78.0 Secondary malignant neoplasm of lung
C78.00 Secondary malignant neoplasm of unspecified lung
C78.01 Secondary malignant neoplasm of right lung
C78.02 Secondary malignant neoplasm of left lung

- C78.1 Secondary malignant neoplasm of mediastinum
- C78.2 Secondary malignant neoplasm of pleura
- C78.3 Secondary malignant neoplasm of other and unspecified respiratory organs
- C78.30 Secondary malignant neoplasm of unspecified respiratory organ
- C78.39 Secondary malignant neoplasm of other respiratory organs
- C78.4 Secondary malignant neoplasm of small intestine
- C78.5 Secondary malignant neoplasm of large intestine and rectum
- C78.6 Secondary malignant neoplasm of retroperitoneum and peritoneum
- C78.7 Secondary malignant neoplasm of liver and intrahepatic bile duct
- C78.8 Secondary malignant neoplasm of other and unspecified digestive organs
- C78.80 Secondary malignant neoplasm of unspecified digestive organ
- C78.89 Secondary malignant neoplasm of other digestive organs (
- C79 Secondary malignant neoplasm of other and unspecified sites
- C79.0 Secondary malignant neoplasm of kidney and renal pelvis
- C79.00 Secondary malignant neoplasm of unspecified kidney and renal pelvis
- C79.01 Secondary malignant neoplasm of right kidney and renal pelvis
- C79.02 Secondary malignant neoplasm of left kidney and renal pelvis
- C79.3 Secondary malignant neoplasm of brain and cerebral meninges
- C79.31 Secondary malignant neoplasm of brain
- C79.32 Secondary malignant neoplasm of cerebral meninges
- C79.5 Secondary malignant neoplasm of bone and bone marrow
- C79.51 Secondary malignant neoplasm of bone
- C79.52 Secondary malignant neoplasm of bone marrow

We respectfully ask that you consider these comments which were prepared by expert members of AMP and CAP who provide services to Medicare beneficiaries covered by Noridian. We are happy to be of assistance in providing additional clinical information, references, contacts, or whatever is needed to assist you with this draft LCD. Please direct your correspondence to Tara Burke, AMP Policy Analyst, at tburke@amp.org or Nonda Wilson, CAP's Manager, Economic and Regulatory Affairs, at nwilson@cap.org.

Sincerely,

Association for Molecular Pathology
College of American Pathologists

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B) Local Coverage Determination (LCD): Genomic Sequence Analysis Panels in the Treatment of Acute Myelogenous Leukemia (AML) (L36926)

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