Germline Multi-Gene Panel Testing



Policy Number: PG0453 Last Review: 5/01/2023

HMO & PPO MARKETPLACE MEDICARE – ELITE, MAP

GUIDELINES

- This policy does not certify benefits or authorization of benefits, which is designated by each individual
 policyholder terms, conditions, exclusions and limitations contract. It does not constitute a contract or guarantee
 regarding coverage or reimbursement/payment. Self-Insured group specific policy will supersede this general
 policy when group supplementary plan document or individual plan decision directs otherwise.
- Paramount applies coding edits to all medical claims through coding logic software to evaluate the accuracy and adherence to accepted national standards.
- This medical policy is solely for guiding medical necessity and explaining correct procedure reporting used to assist in making coverage decisions and administering benefits.

SCOPE

X Professional X Facility

DESCRIPTION

Next-generation sequencing provides the ability to analyze multiple genes simultaneously. This technology has the potential for more cost-effective testing when multiple genetic tests are indicated as well as quicker turnaround times. The specific genes included in these panels and the particular next-generation sequencing technology utilized may differ between manufacturers. As some manufacturers include genes that are less well studied, multi-gene panels can result in more complex findings.

Multi-gene panels are utilized in many areas of healthcare. Often manufacturers will curate multi-gene panels specific to a particular diagnosis. Examples of diagnoses that may be associated with multiple genes include (but are not limited to) hereditary cancer, epilepsy, hearing loss, cardiomyopathy, arrhythmias, intellectual disability, thrombophilia, and retinal dystrophy. Additionally, there are "expanded carrier screening tests" that are multi-gene panels.

POLICY

Paramount Commercial Insurance Plans and Medicare Advantage Plans Multi-gene panel testing coverage listed below. Codes: 81410, 81411, 81412, 81413, 81414, 81415, 81416, 81417, 81418, 81419, 81425, 81426, 81427, 81430, 81431, 81432, 81433, 81434, 81435, 81436, 81437, 81438, 81439, 81440, 81441, 81442, 81443, 81448, 81460, 81465, 81470, 81471.

Medicare Advantage Plans is excluded for indications based upon family history solely.

If the servicing laboratory selects to use multiple CPT codes (i.e., unbundled or stacked version) for billing purposes, and the medical necessity criteria are met below for a panel, the laboratory will be strongly encouraged to use an applicable panel CPT code.

COVERAGE CRITERIA Paramount Commercial Insurance Plans and Medicare Advantage Plans

Counseling

Pre-test and post-test genetic counseling is recommended when multi-gene panel testing is being offered. Documentation of pre-test genetic counseling is required for coverage of multi-gene panel testing and should detail informed consent.

Informed consent is a necessary component of pre-test counseling and should include discussion of the following topics (NSGC, 2012):

- Purpose of test and who to test (i.e., discussion of limitations to testing an unaffected individual in the absence of a known familial mutation)
- General information about gene(s) included in the testing
- Possible test results (positive, negative, uncertain findings)
- Technical aspects and accuracy of test
- Economic considerations
- Potential for genetic discrimination (i.e., discussion of the Genetic Information Non-Discrimination Act, and applicable state laws)
- Psychosocial aspects
- Confidentiality
- Utilization of test results (i.e., potential medical management options)
- Alternatives to testing

A 3-generation pedigree should be completed during pre-test counseling. The 3-generation pedigree is required for prior authorization of multi-gene panel testing.

In circumstances where the individual is unaffected but genetic testing is being considered due to family history (in the absence of a known familial mutation), further information will be required to determine medical necessity¹.

Paramount Commercial Insurance Plans

Hereditary Cancer Multi-Gene Panel Testing

- Breast/Ovarian/Pancreatic/Prostate Cancer Susceptibility: Testing for cancer susceptibility using multi-gene panels (containing 5-50 genes) is considered medically necessary when the panel contains BRCA1 and BRCA2 and an individual meets criteria for BRCA genetic testing according to Paramount Medical Policy PG0067 (Genetic Testing for Hereditary Breast and Ovarian Cancer syndrome).
- Colorectal Cancer Susceptibility: Testing for Lynch syndrome (Hereditary Non-Polyposis Colorectal Cancer) using gene panels (containing 5-50 genes) is considered medically necessary when the panel contains, at a minimum, the following genes: EPCAM, MLH1, MSH2, MSH6, and PMS2, and an individual meets criteria for Lynch syndrome genetic testing according to Paramount Medical Policy PG0302 (Genetic Testing for Lynch Syndrome and Polyposis Syndromes).
- Colorectal Cancer Susceptibility: Testing for Familial Adenomatous Polyposis (FAP) and/or MUTYH-Associated Polyposis (MAP) using gene panels (containing 5-50 genes) is considered medically necessary when the panel contains, at a minimum, the following genes: APC and MUTYH, and an individual meets criteria for genetic testing for Adenomatous Polyposis according to Paramount Medical Policy PG0302 (Genetic Testing for Lynch Syndrome and Polyposis Syndromes).

Medicare Advantage Plans

All the following must be present for coverage eligibility:

- The patient must have:
 - Any cancer diagnosis
 - AND a clinical indication for germline (inherited) testing for hereditary cancer
 - AND a risk factor for germline (inherited) cancer
 - AND has not been previously tested for the same germline genetic content.
- The test has satisfactorily completed a Technical Assessment (TA) by Molecular Diagnostic Services Program (MolDX[®]) for the stated indications of the test.

- The test performed includes **at least** the minimum genetic content (genes or genetic variants) with definitive or well-established guidelines-based evidence required for clinical decision making for its intended use that can be reasonably detected by the test.
 - Because these genes and variants will change as the literature and drug indications evolve, they are listed separately in associated documents, such as the MoIDX[®] TA forms.
 - A single gene or variant may be tested if it is the only gene or variant considered to be reasonable and necessary for a cancer type.
- If a previous test was performed with a similar/duplicative intended use, a subsequent test is only reasonable and necessary if the non-duplicative genetic content of the second test is reasonable and necessary.
- If the test is an NGS test, it must abide by all conditions listed in the NCD 90.2.

Situations in which a test should not be used, or coverage is denied:

The test in question will be non-covered if:

- It is an NGS test and does not fulfill all the criteria set forth in the NCD 90.2
- A previous test was performed for the same genetic content
- It is a panel or single gene test used to identify a known familial variant(s) that could be identified with a test targeted to that specific variant(s)
- It is a panel or single gene test used to confirm a variant(s) detected by somatic tumor testing that can be confirmed by a test targeted to that specific variant(s)
- A satisfactory TA is not completed
- For tests that are currently covered but a TA submission has not been made, providers must submit complete TA materials by the original effective date of the policy or coverage will be denied

Paramount Commercial Insurance Plans and Medicare Advantage Plans Other Medical Necessity/Indication

(Medicare Advantage Plans is excluded for indications based upon family history solely).

Germline multi-gene panels are considered medically necessary when the following criteria are met:

- The individual meets genetic testing criteria listed in previous medical policies for at least two conditions (or if there are not published medical policies for the specific condition, there are established professional guidelines that can be considered, however this needs to be documented)
- The results will directly impact the individual's medical management
- There is clinical suspicion that the condition of concern is related to a genetic etiology
- The condition of concern has multiple genes that are associated to it in which management guidelines exist

Note: The multi-gene panel policy does not apply to individuals who only meet criteria for Spinal Muscular Atrophy and Cystic Fibrosis carrier screening.

Please submit an unaffected member request for multi-gene panel genetic testing with the prior authorization request.

CODING/BILLING INFORMATION

The inclusion or exclusion of a code in this section does not necessarily indicate coverage. Codes referenced in this clinical policy are for informational purposes only.

Codes that are covered may have selection criteria that must be met.

Payment for supplies may be included in payment for other services rendered.

CPT CODES		Paramount Commercial Insurance Plans	Medicare Advantage Plans
Genomic Sequencing Procedures and Other Molecular Multianalyte			(MAA)
81410	Aortic dysfunction or dilation (e.g., Marfan syndrome, Loeys Dietz syndrome, Ehler Danlos syndrome type IV, arterial tortuosity syndrome); duplication/deletion analysis panel, must include analyses for TGFBR1, TGFBR2, MYH11, and COL3A1	Prior Authorization required	Prior Authorization required

81411	Aortic dysfunction or dilation (e.g., Marfan syndrome, Loeys Dietz syndrome, Ehler Danlos syndrome type IV, arterial tortuosity syndrome); duplication/deletion analysis panel, must include analyses for TGFBR1, TGFBR2, MYH11, and COL3A1	Prior Authorization required	Prior Authorization required	
	Ashkenazi Jewish associated disorders (e.g., Bloom syndrome, Canavan disease, cystic fibrosis, familial dysautonomia, Fanconi apemia group C. Gaucher disease, Tay-	Prior Authorization required	Prior Authorization required	
81412	Sachs disease), genomic sequence analysis panel, must include sequencing of at least 9 genes, including ASPA, BLM, CFTR, FANCC, GBA, HEXA, IKBKAP, MCOLN1, and SMPD1	PG0453 Germline Multi-Gene Panel Testing/PG0442 Carrier Screening for Gen Diseases		;
	Cardiac ion channelopathies (e.g., Brugada syndrome, long QT syndrome, short QT syndrome, catecholaminergic polymorphic	Prior Authorization required	Prior Authorization required	
81413	analysis panel, must include sequencing of at least 10 genes, including ANK2, CASQ2, CAV3, KCNE1, KCNE2, KCNH2, KCNJ2, KCNQ1, RYR2, and SCN5A	PG0453 Germline Multi-Gene Pane Testing/PG0280 Genetic Testing for Ca Conditions		
	Cardiac ion channelopathies (e.g., Brugada syndrome, long QT syndrome, short QT syndrome, catecholaminergic polymorphic	Prior Authorization required	Prior Authorization required	
81414	ventricular tachycardia); duplication/deletion gene analysis panel, must include analysis of at least 2 genes, including KCNH2 and KCNQ1	PG0453 Germline Multi-Gene Panel Testing/PG0280 Genetic Testing for Car Conditions		
	Exome (e.g., unexplained constitutional or	Prior Authorization required	Non-Covered	1
81415	heritable disorder or syndrome); sequence analysis	PG0453 Germline Testing/PG0468 Whol (WES) and Whole Genc	Multi-Gene Panel le Exome Sequencing ome Sequencing (WGS))
	Exome (e.g., unexplained constitutional or beritable disorder or syndrome); sequence	Prior Authorization required	Non-Covered	
81416	analysis, each comparator exome (e.g., parents, siblings) (List separately in addition	PG0453 Germline Testing/PG0468 Who	Multi-Gene Panel le Exome Sequencing	
	to code for primary procedure)	(WES) and Whole Gence Prior Authorization	ome Sequencing (WGS))
04447	heritable disorder or syndrome); re-	required	Non-Covered	
81417	evaluation of previously obtained exome sequence (e.g., updated knowledge or unrelated condition/syndrome)	Testing/PG0453 Germline Testing/PG0468 Whol (WES) and Whole Genc	Multi-Gene Panel le Exome Sequencing ome Sequencing (WGS))
	Drug metabolism (e.g., pharmacogenomics)	PG0453 Germline Mul	ti-Gene Panel Testing/ armacogenetic Testing	1/
81110	genomic sequence analysis panel, must	PG0368 Pharmacogene	omic Testing for Mental	Í
01410	CYP2C19, CYP2D6, and CYP2D6 duplication/deletion analysis	Non-Covered	Prior Authorization Required	
81419	Epilepsy genomic sequence analysis panel, must include analyses for ALDH7A1,	Prior Authorization required effective 5/1/2021	Prior Authorization required effective 5/1/2021	

	CACNA1A, CDKL5, CHD2, GABRG2, GRIN2A, KCNQ2, MECP2, PCDH19, POLG, PRRT2, SCN1A, SCN1B, SCN2A, SCN8A, SLC2A1, SLC9A6, STXBP1, SYNGAP1, TCF4, TPP1, TSC1, TSC2, and ZEB2	PG0453 Germline Multi-Gene Panel Testing/PG0467 Genetic Testing for Epilepsy		
		Non-Covered	Non-Covered	
81425	heritable disorder or syndrome); sequence analysis	PG0453 Germline Multi-Gene Panel Testing/PG0468 Whole Exome Sequencing (WES) and Whole Genome Sequencing (WGS		
	Genome (e.g., unexplained constitutional or heritable disorder or syndrome): sequence	Non-Covered	Non-Covered	
81426	analysis, each comparator genome (e.g., parents, siblings) (List separately in addition to code for primary procedure)	PG0453 Germline Testing/PG0468 Whol (WES) and Whole Genc	Multi-Gene Panel e Exome Sequencing ome Sequencing (WGS)	
	Genome (e.g., unexplained constitutional or heritable disorder or syndrome); re-	Non-Covered	Non-Covered	
81427	evaluation of previously obtained genome sequence (e.g., updated knowledge or unrelated condition/syndrome)	PG0453 Germline Testing/PG0468 Whol (WES) and Whole Genc	Multi-Gene Panel e Exome Sequencing ome Sequencing (WGS)	
81430	Hearing loss (e.g., nonsyndromic hearing loss, Usher syndrome, Pendred syndrome); genomic sequence analysis panel, must include sequencing of at least 60 genes, including CDH23, CLRN1, GJB2, GPR98, MTRNR1, MYO7A, MYO15A, PCDH15, OTOF, SLC26A4, TMC1, TMPRSS3, USH1C, USH1G, USH2A, and WFS1	Prior Authorization required	Prior Authorization required	
81431	Hearing loss (e.g., nonsyndromic hearing loss, Usher syndrome, Pendred syndrome); duplication/deletion analysis panel, must include copy number analyses for STRC and DFNB1 deletions in GJB2 and GJB6 genes	Prior Authorization required	Prior Authorization required	
	Hereditary breast cancer-related disorders (e.g., hereditary breast cancer, hereditary ovarian cancer, hereditary endometrial	Prior Authorization required	Prior Authorization required	
81432	cancer); genomic sequence analysis panel, must include sequencing of at least 10 genes, always including BRCA1, BRCA2, CDH1, MLH1, MSH2, MSH6, PALB2, PTEN, STK11, and TP53	PG0067 Genetic Testing for Breast and Ovar Cancers/PG0453 Germline Multi-Gene Pane Testing		
	Hereditary breast cancer-related disorders (e.g., hereditary breast cancer, hereditary	Prior Authorization required	Prior Authorization required	
81433	ovarian cancer, hereditary endometrial cancer); duplication/deletion analysis panel, must include analyses for BRCA1, BRCA2, MLH1, MSH2, and STK11	PG0067 Genetic Testing for Breast and Ovari Cancers/PG0453 Germline Multi-Gene Pane Testing		
81434	Hereditary retinal disorders (e.g., retinitis pigmentosa, Leber congenital amaurosis, cone-rod dystrophy), genomic sequence analysis panel, must include sequencing of at least 15 genes, including ABCA4, CNGA1, CRB1, EYS, PDE6A, PDE6B, PRPF31, PRPH2, RDH12, RHO, RP1, RP2, RPE65, RPGR, and USH2A	Prior Authorization required	Prior Authorization required	

	Hereditary colon cancer disorders (e.g., Lynch syndrome, PTEN hamartoma syndrome, Cowden syndrome, familial	Prior Authorization required	Prior Authorization required
81435	adenomatosis polyposis); genomic sequence analysis panel, must include analysis of at least 10 genes, including APC, BMPR1A, CDH1, MLH1, MSH2, MSH6, MUTYH, PTEN, SMAD4 and STK11	PG0302 Genetic Testing for Lynch Syndrome and Polyposis Syndromes/PG0453 Germline Multi-Gene Panel Testing	
	Hereditary colon cancer disorders (e.g., Lynch syndrome, PTEN hamartoma syndrome, Cowden syndrome, familial	Prior Authorization required	Prior Authorization required
81436	adenomatosis polyposis); duplication/deletion gene analysis panel, must include analysis of at least 5 genes, including MLH1, MSH2, EPCAM, SMAD4, and STK11	PG0302 Genetic Testing for Lynch Syndror and Polyposis Syndromes/PG0453 Germlin Multi-Gene Panel Testing	
81437	Hereditary neuroendocrine tumor disorders (e.g., medullary thyroid carcinoma, parathyroid carcinoma, malignant pheochromocytoma or paraganglioma; genomic sequence analysis panel, must include sequencing of at least 6 genes, including MAX, SDHB, SDHC, SDHD, TMEM127, and VHL	Prior Authorization required	Prior Authorization required
81438	Hereditary neuroendocrine tumor disorders (e.g., medullary thyroid carcinoma, parathyroid carcinoma, malignant pheochromocytoma or paraganglioma; duplication/deletion analysis panel, must include analyses for SDHB, SDHC, SDHD, and VHL	Prior Authorization required	Prior Authorization required
	Hereditary cardiomyopathy (e.g., hypertrophic cardiomyopathy, dilated	Prior Authorization required	Prior Authorization required
81439	ventricular cardiomyopathy), genomic sequence analysis panel, must include sequencing of at least 5 cardiomyopathy- related genes (e.g., DSG2, MYBPC3, MYH7, PKP2, TTN)	PG0280 Genetic Testing for Cardiac Conditions/PG0453 Germline Multi-Gene F 7, Testing	
81440	Nuclear encoded mitochondrial genes (e.g., neurologic or myopathic phenotypes), genomic sequence panel, must include analysis of at least 100 genes, including BCS1L, C10orf2, COQ2, COX10, DGUOK, MPV17, OPA1, PDSS2, POLG, POLG2, RRM2B, SCO1, SCO2, SLC25A4, SUCLA2, SUCLG1, TAZ, TK2, and TYMP	Prior Authorization required	Prior Authorization required
81441	Inherited bone marrow failure syndromes (IBMFS) (e.g., Fanconi anemia, dyskeratosis congenita, Diamond-Blackfan anemia, Shwachman-Diamond syndrome, GATA2 deficiency syndrome, congenital amegakaryocytic thrombocytopenia) sequence analysis panel, must include sequencing of at least 30 genes, including BRCA2, BRIP1, DKC1, FANCA, FANCB,	Prior Authorization required	Prior Authorization required

	FANCC, FANCD2, FANCE, FANCF, FANCG, FANCI, FANCL, GATA1, GATA2, MPL, NHP2, NOP10, PALB2, RAD51C, RPL11, RPL35A, RPL5, RPS10, RPS19, RPS24, RPS26, RPS7, SBDS, TERT, and TINF2		
81442	Noonan spectrum disorders (e.g., Noonan syndrome, cardio-facio-cutaneous syndrome, Costello syndrome, LEOPARD syndrome, Noonan-like syndrome), genomic sequence analysis panel, must include sequencing of at least 12 genes, including BRAF, CBL, HRAS, KRAS, MAP2K1, MAP2K2, NRAS, PTPN11, RAF1, RIT1, SHOC2, and SOS1	Prior Authorization required	Prior Authorization required
81443	Genetic testing for severe inherited conditions (e.g., cystic fibrosis, Ashkenazi Jewish-associated disorders [e.g., Bloom syndrome, Canavan disease, Fanconi anemia type C, mucolipidosis type VI, Gaucher disease, Tay-Sachs disease], beta hemoglobinopathies, phenylketonuria, galactosemia), genomic sequence analysis panel, must include sequencing of at least 15 genes (e.g. ACADM, ARSA, ASPA, ATP7B, BCKDHA, BCKDHB, BLM, CFTR, DHCR7, FANCC, G6PC, GAA, GALT, GB1, GBE1, HBB, HEXA, IKBKAP, MCOLN1, PAH)	Prior Authorization required	Prior Authorization required
81448	Hereditary peripheral neuropathies (e.g., Charcot- Marie-Tooth, spastic paraplegia), genomic sequence analysis panel, must include sequencing of at least 5 peripheral neuropathy-related genes (eg, BSCL2, GJB1, MFN2, MPZ, REEP1, SPAST, SPG11, SPTLC1)	Prior Authorization required	Prior Authorization required
81460	Whole mitochondrial genome (eg, Leigh syndrome, mitochondrial encephalomyopathy, lactic acidosis, and stroke-like episodes [MELAS], myoclonic epilepsy with ragged-red fibers [MERFF], neuropathy, ataxia, and retinitis pigmentosa [NARP], Leber hereditary optic neuropathy [LHON]), genomic sequence, must include sequence analysis of entire mitochondrial genome with heteroplasmy detection	Prior Authorization required	Prior Authorization required
81465	Whole mitochondrial genome large deletion analysis panel (eg, Kearns-Sayre syndrome, chronic progressive external ophthalmoplegia), including heteroplasmy detection, if performed	Prior Authorization required	Prior Authorization required
81470	X-linked intellectual disability (XLID) (eg, syndromic and non-syndromic XLID); genomic sequence analysis panel, must include sequencing of at least 60 genes,	Prior Authorization required	Prior Authorization required

	including ARX, ATRX, CDKL5, FGD1, FMR1, HUWE1, IL1RAPL, KDM5C, L1CAM, MECP2, MED12, MID1, OCRL, RPS6KA3, and SLC16A2		
81471	X-linked intellectual disability (XLID) (eg, syndromic and non-syndromic XLID); duplication/deletion gene analysis, must include analysis of at least 60 genes, including ARX, ATRX, CDKL5, FGD1, FMR1, HUWE1, IL1RAPL, KDM5C, L1CAM, MECP2, MED12, MID1, OCRL, RPS6KA3, and SLC16A2	Prior Authorization required	Prior Authorization required
Additic	onal Medical Policy Reference: PG0041 Genet	ic Testing	

REVISION HISTORY EXPLANATION

	<u>ATE: 10/01/2020</u>
Date	Explanation & Changes
5/31/19	 Policy created to reflect most current clinical evidence
	 Additional coverage clarification documentation added, <u>Note: The multi-gene panel policy</u>
10/07/19	does not apply to individuals who only meet criteria for Spinal Muscular Atrophy and Cystic
	Fibrosis carrier screening.
12/02/2020	 Medical Policy placed on the new Paramount Medical Policy Format
	 Updated the Medical Policy to include all the Genomic Sequencing Procedures and Other
02/26/2021	Molecular Multianalyte Assays (MAA) [as is listed in medical policy PG0041 Genetic
02/20/2021	Testing]
	Added new 2021 procedure 81419
	 Effective 10/1/2022 procedure 81420 will be covered for the Advantage product line,
10/06/2022	without a prior authorization, when the coverage criteria are met - PG0287 Non-Invasive
	Prenatal Screening (NIPS)/ Cell-Free DNA Screening for Fetal Aneuploidy
	 Paramount added the new 2023 procedure codes 81418 and 81441, effective 01/010/2023
	 Paramount removed procedure codes 81420 and 81422 as this testing does not apply to
01/23/2023	this medical policy
	 Paramount removed procedure codes 81445, 81450, 81455 as this testing is for somatic
	testing, not germline testing
02/21/2023	 Medical Policy updated to reflect Medicaid coverage to Anthem as of 02/01/2023
	 Paramount updated Medicare coverage based upon CMS updates
	 Paramount added specific additional criteria for hereditary cancer multi-gene panels to the
	Paramount Commercial Insurance Plans
05/01/2023	 Added new 2023 codes 81418 and 81441 to the box within the medical policy Note the
	codes had been added to the table within the medical policy 01/23/2023
	 Removed codes 81420, 81422, 81445, 81450 and 81455 from the policy box within the
	medical policy. Note the codes had been removed to the table within the medical policy
	01/23/2023

Paramount reserves the right to review and revise our policies periodically when necessary. When there is an update, we will publish the most current policy to https://www.paramounthealthcare.com/services/providers/medical-policies/.

REFERENCES/RESOURCES

Centers for Medicare and Medicaid Services, CMS Manual System and other CMS publications and

Ohio Department of Medicaid

American Medical Association, *Current Procedural Terminology (CPT®)* and associated publications and services

Centers for Medicare and Medicaid Services, Healthcare Common Procedure Coding System, HCPCS Release and Code Sets

Industry Standard Review

Hayes, Inc.

National Society of Genetic Counselors (NSGC) Practice Guideline: Risk Assessment and Genetic Counseling for Hereditary Breast and Ovarian Cancer, Volume 21, April 2012

National Comprehensive Cancer Network® (NCCN) Guidelines, Genetic/Familial High-Risk Assessment: Breast, Ovarian, and Pancreatic

National Comprehensive Cancer Network® (NCCN) Guidelines, Genetic/Familial High-Risk Assessment: Colorectal

PRIOR TO 05/01/2022

Paramount Commercial Insurance Plans, Medicare Advantage Plans, and Paramount Advantage Medicaid

Multi-gene panel testing coverage listed below, for all product lines. Codes: 81410, 81411, 81412, 81413, 81414, 81415, 81416, 81417, 81419, 81420, 81422, 81425, 81426, 81427, 81430, 81431, 81432, 81433, 81434, 81435, 81436, 81437, 81438, 81439, 81440, 81442, 81443, 81445, 81448, 81450, 81455, 81460, 81465, 81470, 81471.

Medicare Advantage Plans is excluded for indications based upon family history solely.

COVERAGE CRITERIA

Paramount Commercial Insurance Plans, Medicare Advantage Plans, and Paramount Advantage Medicaid

Counseling

Pre-test and post-test genetic counseling is recommended when multi-gene panel testing is being offered. Documentation of pre-test genetic counseling is required for coverage of multi-gene panel testing. Informed consent is a necessary component of pre-test counseling and should include discussion of the following topics (NSGC, 2012):

- Purpose of test and who to test (i.e., discussion of limitations to testing an unaffected individual in the absence of a known familial mutation)
- General information about gene(s) included in the testing
- Possible test results (positive, negative, uncertain findings)
- Technical aspects and accuracy of test
- Economic considerations
- Potential for genetic discrimination (i.e., discussion of the Genetic Information Non-Discrimination Act, and applicable state laws)
- Psychosocial aspects
- Confidentiality
- Utilization of test results (i.e., potential medical management options)
- Alternatives to testing

A 3-generation pedigree should be completed during pre-test counseling. The 3-generation pedigree is required for

prior authorization of multi-gene panel testing.

In circumstances where the individual is unaffected but genetic testing is being considered due to family history (in the absence of a known familial mutation), further information will be required to determine medical necessity¹.

Paramount Commercial Insurance Plans, Medicare Advantage Plans, and Paramount Advantage Medicaid (Medicare Advantage Plans is excluded for indications based upon family history solely). Medical Necessity/Indication

Germline multi-gene panels are considered medically necessary when the following criteria are met:

- The individual meets genetic testing criteria listed in previous medical policies for at least two conditions (or if there are not published medical policies for the specific condition, there are established professional guidelines that can be considered, however this needs to be documented)
- The results will directly impact the individual's medical management
- There is clinical suspicion that the condition of concern is related to a genetic etiology
- The condition of concern has multiple genes that are associated to it in which management guidelines exist

Note: The multi-gene panel policy does not apply to individuals who only meet criteria for Spinal Muscular Atrophy and Cystic Fibrosis carrier screening.

Please submit an unaffected member request for multi-gene panel genetic testing with the prior authorization request.

CODING/BILLING INFORMATION

The inclusion or exclusion of a code in this section does not necessarily indicate coverage. Codes referenced in this clinical policy are for informational purposes only.

Codes that are covered may have selection criteria that must be met.

Payment for supplies may be included in payment for other services rendered.

CPT CC	DDES	Paramount	Medicare	Paramount
		Commercial	Advantage	Advantage
		Insurance	Plans	Medicaid
		Plans		
Genom	ic Sequencing Procedures and Other Molecu	ular Multianalyte	Assays (MAA)	
81410	Aortic dysfunction or dilation (eg, Marfan	Prior	Prior	Prior
	syndrome, Loeys Dietz syndrome, Ehler	Authorization	Authorization	Authorization
	Danlos syndrome type IV, arterial tortuosity	required	required	required
	syndrome); duplication/deletion analysis			
	panel, must include analyses for TGFBR1,			
	TGFBR2, MYH11, and COL3A1			
81411	Aortic dysfunction or dilation (eg, Marfan	Prior	Prior	Prior
	syndrome, Loeys Dietz syndrome, Ehler	Authorization	Authorization	Authorization
	Danlos syndrome type IV, arterial tortuosity	required	required	required
	syndrome); duplication/deletion analysis			
	panel, must include analyses for TGFBR1,			
	TGFBR2, MYH11, and COL3A1			
81412	Ashkenazi Jewish associated disorders (eg,	Prior	Prior	Prior
	Bloom syndrome, Canavan disease, cystic	Authorization	Authorization	Authorization
	fibrosis, familial dysautonomia, Fanconi	required	required	required
	anemia group C, Gaucher disease, Tay-	PG0453 (Germline Multi-Ge	ne Panel
	Sachs disease), genomic sequence analysis	Testing/PG044	2 Carrier Screenii	ng for Genetic
	panel, must include sequencing of at least 9	Diseases		-
	TANUU, UDA, MEAA, INDRAF, WUUULNI,			
	and Sivir D1			

81413	Cardiac ion channelopathies (eg, Brugada syndrome, long QT syndrome, short QT syndrome, catecholaminergic polymorphic	Prior Authorization required	Prior Authorization required	Prior Authorization required
	ventricular tachycardia); genomic sequence analysis panel, must include sequencing of at least 10 genes, including ANK2, CASQ2, CAV3, KCNE1, KCNE2, KCNH2, KCNJ2, KCNQ1, RYR2, and SCN5A	PG0453 Germline Multi-Gene Panel Testing/PG0280 Genetic Testing for Cardiac Conditions		
81414	Cardiac ion channelopathies (eg, Brugada syndrome, long QT syndrome, short QT syndrome, catecholaminergic polymorphic ventricular tachycardia); duplication/deletion gene analysis panel, must include analysis of at least 2 genes, including KCNH2 and	Prior Authorization required PG0453 (Testing/PG02	Prior Authorization required Germline Multi-Ge 80 Genetic Testin	Prior Authorization required ne Panel g for Cardiac
81415	KCNQ1 Exome (eg, unexplained constitutional or heritable disorder or syndrome); sequence analysis	Prior Authorization required	Non-Covered	Prior Authorization required
		PG0453 (Testing/PG04 (WES) and Wh	Germline Multi-Ge 468 Whole Exome ole Genome Sequ	ne Panel Sequencing lencing (WGS)
81416	Exome (eg, unexplained constitutional or heritable disorder or syndrome); sequence analysis, each comparator exome (eg, parante, siblinge) (List separatoly in addition	Prior Authorization required	Non-Covered	Prior Authorization required
04.447	to code for primary procedure)	Testing/PG04 (WES) and Wh	468 Whole Exome ole Genome Sequ	Sequencing lencing (WGS)
81417	Exome (eg, unexplained constitutional or heritable disorder or syndrome); re- evaluation of previously obtained exome sequence (eg, updated knowledge or	Prior Authorization required PG0453 0	Non-Covered Germline Multi-Ge	Prior Authorization required ne Panel
	unrelated condition/syndrome)	Testing/PG04 (WES) and Wh	468 Whole Exome ole Genome Sequ	Sequencing encing (WGS)
81418	Drug metabolism (eg, pharmacogenomics) genomic sequence analysis panel, must include testing of at least 6 genes, including CYP2C19, CYP2D6, and CYP2D6	PG0453 Germ CYP2C19 & CY PG0368 Pharm	nline Multi-Gene P P2D6 Pharmacog nacogenomic Test Health Conditions	anel Testing/ enetic Testing/ ting for Mental
	duplication/deletion analysis	Non-Covered	Prior Authorization Required	Non-Covered
81419	Epilepsy genomic sequence analysis panel, must include analyses for ALDH7A1, CACNA1A, CDKL5, CHD2, GABRG2, GRIN2A, KCNQ2, MECP2, PCDH19, POLG, PRRT2, SCN1A, SCN1B, SCN2A, SCN8A,	Prior Authorization required effective 5/1/2021	Prior Authorization required effective 5/1/2021	Prior Authorization required effective 5/1/2021
	SLC2A1, SLC9A6, STXBP1, SYNGAP1, TCF4, TPP1, TSC1, TSC2, and ZEB2	PG0453 (Testing/PG04	Germline Multi-Ge 67 Genetic Testing	ne Panel g for Epilepsy
81425	Genome (eg, unexplained constitutional or heritable disorder or syndrome); sequence analysis	Non-Covered	Non-Covered	Prior Authorization required
		PG0453 Germline Multi-Gene Panel Testing/PG0468 Whole Exome Sequencing (WES) and Whole Genome Sequencing (WGS)		

81426	Genome (eg, unexplained constitutional or	Non-Covered	Non-Covered	Prior
	heritable disorder or syndrome); sequence			Authorization
	analysis, each comparator genome (eg,			required
	parents, siblings) (List separately in addition	PG0453 (Germline Multi-Ge	ne Panel
	to code for primary procedure)	(WES) and Whole Conome Sequencing		
01407	Conomo (og upovalajand constitutional or	(WES) and Wh	Non Covered	Prior
01427	beritable disorder or syndrome): re-	Non-Covered	Non-Covered	Authorization
	evaluation of previously obtained genome			required
	sequence (eq. updated knowledge or	PG0453 (Germline Multi-Ge	ne Panel
	unrelated condition/syndrome)	Testing/PG04	468 Whole Exome	Sequencina
	, , , , , , , , , , , , , , , , , , ,	(WES) and Wh	ole Genome Sequ	encing (WGS)
81430	Hearing loss (eg, nonsyndromic hearing	Prior	Prior	Prior
	loss, Usher syndrome, Pendred syndrome);	Authorization	Authorization	Authorization
	genomic sequence analysis panel, must	required	required	required
	include sequencing of at least 60 genes,			
	including CDH23, CLRN1, GJB2, GPR98,			
	MIRNR1, MYU/A, MYU15A, PUDH15,			
	USH1C USH1C USH2A and WES1			
81431	Hearing loss (eq. nonsyndromic hearing	Prior	Prior	Prior
01401	loss. Usher syndrome. Pendred syndrome):	Authorization	Authorization	Authorization
	duplication/deletion analysis panel, must	required	required	required
	include copy number analyses for STRC and	•	•	•
	DFNB1 deletions in GJB2 and GJB6 genes			
81432	Hereditary breast cancer-related disorders	Prior	Prior	Prior
	(eg, hereditary breast cancer, hereditary	Authorization	Authorization	Authorization
	ovarian cancer, hereditary endometrial	required	required	required
	cancer); genomic sequence analysis panel,	PG0067 Geneti	c Testing for Brea	st and Ovarian
	must include sequencing of at least 10	Cancers/PG04	453 Germline Mult	II-Gene Panel
	CDH1 MI H1 MSH2 MSH6 PAI B2 PTEN		resting	
	STK11, and TP53			
81433	Hereditary breast cancer-related disorders	Prior	Prior	Prior
	(eg, hereditary breast cancer, hereditary	Authorization	Authorization	Authorization
	ovarian cancer, hereditary endometrial	required	required	required
	cancer); duplication/deletion analysis panel,	PG0067 Geneti	c Testing for Brea	st and Ovarian
	must include analyses for BRCA1, BRCA2,	Cancers/PG04	453 Germline Mult	i-Gene Panel
04.40.4	MLH1, MSH2, and STK11	Duion	lesting	Drien
81434	Hereditary retinal disorders (eg, retinitis	Prior	Prior	Prior
	cone-rod dystrophy) depomic sequence	required	required	required
	analysis panel, must include sequencing of	required	required	required
	at least 15 genes, including ABCA4, CNGA1,			
	CRB1, EYS, PDE6A, PDE6B, PRPF31,			
	PRPH2, RDH12, RHO, RP1, RP2, RPE65,			
	RPGR,			
	and USH2A			
81435	Hereditary colon cancer disorders (eg, Lynch	Prior	Prior	Prior
	syndrome, PIEN hamartoma syndrome,	Authorization	Authorization	Authorization
	Cowaen synarome, raminal adenomatosis		requirea	required
	polyposis, genomic sequence analysis nanel must include analysis of at least 10	and Polyposi	ac resting for Lyn	453 Gormling
	aenes, including APC, BMPR1A CDH1		ti-Gene Panel Test	ting
		iviul		

	MLH1, MSH2, MSH6, MUTYH, PTEN,			
	SMAD4 and STK11			
81436	Hereditary colon cancer disorders (eg, Lynch	Prior	Prior	Prior
	syndrome, PTEN namartoma syndrome,	Authorization	Authorization	Authorization
	Cowden syndrome, familial adenomatosis	PG0202 Gonot	required	required
	analysis panel must include analysis of at	and Polynosis	s Syndromes/PG0	453 Germline
	least 5 genes, including MLH1, MSH2.	Mult	i-Gene Panel Test	tina
	EPCAM, SMAD4, and STK11			
81437	Hereditary neuroendocrine tumor disorders	Prior	Prior	Prior
	(eg, medullary thyroid carcinoma,	Authorization	Authorization	Authorization
	parathyroid carcinoma, malignant	required	required	required
	pheochromocytoma or paraganglioma;			
	genomic sequence analysis panel, must			
	include sequencing of at least 6 genes,			
	TMEM127 and VIII			
81438	Hereditary neuroendocrine tumor disorders	Prior	Prior	Prior
01430	(eq. medullary thyroid carcinoma	Authorization	Authorization	Authorization
	parathyroid carcinoma, malignant	required	required	required
	pheochromocytoma or paraganglioma;			
	duplication/deletion analysis panel, must			
	include analyses for SDHB, SDHC, SDHD,			
	and VHL			
81439	Hereditary cardiomyopathy (eg, hypertrophic	Prior	Prior	Prior
	cardiomyopathy, dilated cardiomyopathy,	Authorization	Authorization	Authorization
	arrnythmogenic right ventricular	required	requirea	required
	ardiamyanathy) ganamia gaguanaa		Conctio Testing for	r Cardiaa
	cardiomyopathy), genomic sequence	PG0280 Conditions/PG	Senetic Testing for	r Cardiac
	cardiomyopathy), genomic sequence analysis panel, must include sequencing of at least 5 cardiomyopathy-related genes (eq.	PG0280 G Conditions/PG	Genetic Testing for 0453 Germline Mu Testing	r Cardiac Ilti-Gene Panel
	cardiomyopathy), genomic sequence analysis panel, must include sequencing of at least 5 cardiomyopathy-related genes (eg, DSG2, MYBPC3, MYH7, PKP2, TTN)	PG0280 G Conditions/PG	Genetic Testing fo 0453 Germline Mu Testing	r Cardiac Ilti-Gene Panel
81440	cardiomyopathy), genomic sequence analysis panel, must include sequencing of at least 5 cardiomyopathy-related genes (eg, DSG2, MYBPC3, MYH7, PKP2, TTN) Nuclear encoded mitochondrial genes (eg,	PG0280 G Conditions/PG Prior	Genetic Testing fo 0453 Germline Mu Testing Prior	r Cardiac Ilti-Gene Panel Prior
81440	cardiomyopathy), genomic sequence analysis panel, must include sequencing of at least 5 cardiomyopathy-related genes (eg, DSG2, MYBPC3, MYH7, PKP2, TTN) Nuclear encoded mitochondrial genes (eg, neurologic or myopathic phenotypes),	PG0280 G Conditions/PG Prior Authorization	Genetic Testing for 0453 Germline Mu Testing Prior Authorization	r Cardiac Ilti-Gene Panel Prior Authorization
81440	cardiomyopathy), genomic sequence analysis panel, must include sequencing of at least 5 cardiomyopathy-related genes (eg, DSG2, MYBPC3, MYH7, PKP2, TTN) Nuclear encoded mitochondrial genes (eg, neurologic or myopathic phenotypes), genomic sequence panel, must include	PG0280 G Conditions/PG Prior Authorization required	Genetic Testing for 0453 Germline Mu Testing Prior Authorization required	r Cardiac Ilti-Gene Panel Prior Authorization required
81440	cardiomyopathy), genomic sequence analysis panel, must include sequencing of at least 5 cardiomyopathy-related genes (eg, DSG2, MYBPC3, MYH7, PKP2, TTN) Nuclear encoded mitochondrial genes (eg, neurologic or myopathic phenotypes), genomic sequence panel, must include analysis of at least 100 genes, including	PG0280 G Conditions/PG Prior Authorization required	Genetic Testing for 0453 Germline Mu Testing Prior Authorization required	r Cardiac Ilti-Gene Panel Prior Authorization required
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81440	cardiomyopathy), genomic sequence analysis panel, must include sequencing of at least 5 cardiomyopathy-related genes (eg, DSG2, MYBPC3, MYH7, PKP2, TTN) Nuclear encoded mitochondrial genes (eg, neurologic or myopathic phenotypes), genomic sequence panel, must include analysis of at least 100 genes, including BCS1L, C10orf2, COQ2, COX10, DGUOK, MPV17, OPA1, PDSS2, POLG, POLG2, RRM2B, SCO1, SCO2, SLC25A4, SUCLA2, SUCL G1, TAZ, TK2, and TYMP	PG0280 G Conditions/PG Prior Authorization required	Genetic Testing for 0453 Germline Mu Testing Prior Authorization required	r Cardiac Ilti-Gene Panel Prior Authorization required
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81440 81441	cardiomyopathy), genomic sequence analysis panel, must include sequencing of at least 5 cardiomyopathy-related genes (eg, DSG2, MYBPC3, MYH7, PKP2, TTN) Nuclear encoded mitochondrial genes (eg, neurologic or myopathic phenotypes), genomic sequence panel, must include analysis of at least 100 genes, including BCS1L, C10orf2, COQ2, COX10, DGUOK, MPV17, OPA1, PDSS2, POLG, POLG2, RRM2B, SCO1, SCO2, SLC25A4, SUCLA2, SUCLG1, TAZ, TK2, and TYMP Inherited bone marrow failure syndromes (IBMFS) (eg, Fanconi anemia, dyskeratosis congenita, Diamond-Blackfan anemia,	PG0280 G Conditions/PG Prior Authorization required Prior Authorization required	Genetic Testing for 0453 Germline Mu Testing Prior Authorization required Prior Authorization required	r Cardiac Ilti-Gene Panel Prior Authorization required Prior Authorization required
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81440	cardiomyopathy), genomic sequence analysis panel, must include sequencing of at least 5 cardiomyopathy-related genes (eg, DSG2, MYBPC3, MYH7, PKP2, TTN) Nuclear encoded mitochondrial genes (eg, neurologic or myopathic phenotypes), genomic sequence panel, must include analysis of at least 100 genes, including BCS1L, C10orf2, COQ2, COX10, DGUOK, MPV17, OPA1, PDSS2, POLG, POLG2, RRM2B, SCO1, SCO2, SLC25A4, SUCLA2, SUCLG1, TAZ, TK2, and TYMP Inherited bone marrow failure syndromes (IBMFS) (eg, Fanconi anemia, dyskeratosis congenita, Diamond-Blackfan anemia, Shwachman-Diamond syndrome, GATA2 deficiency syndrome, congenital amegakaryocytic thrombocytopenia) sequence analysis panel, must include sequencing of at least 30 genes, including BRCA2, BRIP1, DKC1, FANCA, FANCB, FANCC, FANCD2 FANCE FANCE	PG0280 G Conditions/PG	Genetic Testing for 0453 Germline Mu Testing Prior Authorization required Prior Authorization required	r Cardiac Ilti-Gene Panel Prior Authorization required Prior Authorization required
81440	cardiomyopathy), genomic sequence analysis panel, must include sequencing of at least 5 cardiomyopathy-related genes (eg, DSG2, MYBPC3, MYH7, PKP2, TTN) Nuclear encoded mitochondrial genes (eg, neurologic or myopathic phenotypes), genomic sequence panel, must include analysis of at least 100 genes, including BCS1L, C10orf2, COQ2, COX10, DGUOK, MPV17, OPA1, PDSS2, POLG, POLG2, RRM2B, SCO1, SCO2, SLC25A4, SUCLA2, SUCLG1, TAZ, TK2, and TYMP Inherited bone marrow failure syndromes (IBMFS) (eg, Fanconi anemia, dyskeratosis congenita, Diamond-Blackfan anemia, Shwachman-Diamond syndrome, GATA2 deficiency syndrome, congenital amegakaryocytic thrombocytopenia) sequence analysis panel, must include sequencing of at least 30 genes, including BRCA2, BRIP1, DKC1, FANCA, FANCB, FANCC, FANCD2, FANCE, FANCF, FANCG, FANCL, FANCL, GATA1, GATA2	PG0280 G Conditions/PG	Genetic Testing for 0453 Germline Mu Testing Prior Authorization required Prior Authorization required	r Cardiac Ilti-Gene Panel Prior Authorization required Prior Authorization required
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81440	cardiomyopathy), genomic sequence analysis panel, must include sequencing of at least 5 cardiomyopathy-related genes (eg, DSG2, MYBPC3, MYH7, PKP2, TTN) Nuclear encoded mitochondrial genes (eg, neurologic or myopathic phenotypes), genomic sequence panel, must include analysis of at least 100 genes, including BCS1L, C10orf2, COQ2, COX10, DGUOK, MPV17, OPA1, PDSS2, POLG, POLG2, RRM2B, SCO1, SCO2, SLC25A4, SUCLA2, SUCLG1, TAZ, TK2, and TYMP Inherited bone marrow failure syndromes (IBMFS) (eg, Fanconi anemia, dyskeratosis congenita, Diamond-Blackfan anemia, Shwachman-Diamond syndrome, GATA2 deficiency syndrome, congenital amegakaryocytic thrombocytopenia) sequence analysis panel, must include sequencing of at least 30 genes, including BRCA2, BRIP1, DKC1, FANCA, FANCB, FANCC, FANCD2, FANCE, FANCF, FANCG, FANCI, FANCL, GATA1, GATA2, MPL, NHP2, NOP10, PALB2, RAD51C, RPL11, RPL35A, RPL5, RPS10, RPS19.	PG0280 G Conditions/PG	Genetic Testing for 0453 Germline Mu Testing Prior Authorization required Prior Authorization required	r Cardiac Ilti-Gene Panel Prior Authorization required Prior Authorization required
81440	cardiomyopathy), genomic sequence analysis panel, must include sequencing of at least 5 cardiomyopathy-related genes (eg, DSG2, MYBPC3, MYH7, PKP2, TTN) Nuclear encoded mitochondrial genes (eg, neurologic or myopathic phenotypes), genomic sequence panel, must include analysis of at least 100 genes, including BCS1L, C10orf2, COQ2, COX10, DGUOK, MPV17, OPA1, PDSS2, POLG, POLG2, RRM2B, SCO1, SCO2, SLC25A4, SUCLA2, SUCLG1, TAZ, TK2, and TYMP Inherited bone marrow failure syndromes (IBMFS) (eg, Fanconi anemia, dyskeratosis congenita, Diamond-Blackfan anemia, Shwachman-Diamond syndrome, GATA2 deficiency syndrome, congenital amegakaryocytic thrombocytopenia) sequence analysis panel, must include sequencing of at least 30 genes, including BRCA2, BRIP1, DKC1, FANCA, FANCB, FANCC, FANCD2, FANCE, FANCF, FANCG, FANCI, FANCL, GATA1, GATA2, MPL, NHP2, NOP10, PALB2, RAD51C, RPL11, RPL35A, RPL5, RPS10, RPS19, RPS24, RPS26, RPS7, SBDS, TERT, and	PG0280 G Conditions/PG	Genetic Testing for 0453 Germline Mu Testing Prior Authorization required Prior Authorization required	r Cardiac Ilti-Gene Panel Prior Authorization required Prior Authorization required

81442	Noonan spectrum disorders (eg, Noonan	Prior	Prior	Prior
	syndrome, cardio-facio-cutaneous	Authorization	Authorization	Authorization
	syndrome, Costello syndrome, LEOPARD	required	required	required
	syndrome, Noonan-like syndrome), genomic	•	•	•
	sequence analysis panel, must include			
	sequencing of at least 12 genes, including			
	BRAF CBI HRAS KRAS MAP2K1			
	MAP2K2 NRAS PTPN11 RAF1 RIT1			
	SHOC2 and SOS1			
81443	Genetic testing for severe inherited	Prior	Prior	Prior
01440	conditions (eq. cystic fibrosis Ashkenazi	Authorization	Authorization	Authorization
	lowish-associated disorders [og. Bloom	roquirod	roquirod	roquirod
	syndromo. Canavan disoaso. Eanconi	required	required	required
	anomia type C, mucelinidesis type VI			
	Coucher discose, Tay Sacha discosed beta			
	bemeglebinenethice, phenylketenurie			
	galactosemia), genomic sequence analysis			
	panel, must include sequencing of at least			
	15 genes (eg ACADM, ARSA, ASPA,			
	ATP7B, BCKDHA, BCKDHB, BLM, CFTR,			
	DHCR7, FANCC, G6PC, GAA, GALT, GB1,			
	GBE1, HBB, HEXA, IKBKAP, MCOLN1,			
	РАН)			
81448	Hereditary peripheral neuropathies (eg,	Prior	Prior	Prior
	Charcot- Marie-Tooth, spastic paraplegia),	Authorization	Authorization	Authorization
	genomic sequence analysis panel, must	required	required	required
	include sequencing of at least 5 peripheral			
	neuropathy-related genes (eg, BSCL2,			
	GJB1, MFN2, MPZ, REEP1, SPAST,			
	SPG11,			
	SPTLC1)			
81460	Whole mitochondrial genome (eg, Leigh	Prior	Prior	Prior
	syndrome, mitochondrial	Authorization	Authorization	Authorization
	encephalomyopathy, lactic acidosis, and	required	required	required
	stroke-like episodes [MELAS], myoclonic			
	epilepsy with ragged-red fibers [MERFF],			
	neuropathy, ataxia, and retinitis pigmentosa			
	[NARP], Leber hereditary optic neuropathy			
	[LHON]), genomic sequence, must include			
	sequence analysis of entire mitochondrial			
	genome with heteroplasmy detection			
81465	Whole mitochondrial genome large deletion	Prior	Prior	Prior
	analysis panel (eq. Kearns-Savre syndrome.	Authorization	Authorization	Authorization
	chronic progressive external	reauired	reauired	reauired
	ophthalmoplegia), including heteroplasmy			
	detection, if performed			
81470	X-linked intellectual disability (XLID) (eq	Prior	Prior	Prior
	syndromic and non-syndromic XI ID).	Authorization	Authorization	Authorization
	genomic sequence analysis nanel must	required	required	required
	include sequencing of at least 60 genes	i oquii ou	i oquii ou	required
	including ARX ATRX CDKL5 FGD1			
	MECP2 MED12 MID1 OCPI DOSKA2			
	and SI C16A2			
1	and SLUTUAZ	1	1	

81471	X-linked intellectual disability (XLID) (eg, syndromic and non-syndromic XLID); duplication/deletion gene analysis, must include analysis of at least 60 genes, including ARX, ATRX, CDKL5, FGD1, FMR1, HUWE1, IL1RAPL, KDM5C, L1CAM, MECP2, MED12, MID1, OCRL, RPS6KA3, and SLC16A2	Prior Authorization required	Prior Authorization required	Prior Authorization required
Additional Medical Policy Reference: PG0041 Genetic Testing				