Department: Medical Management

Policy No: MM184

Policy Title: Pharmacogenetic Testing Clinical Coverage Criteria

Approved By: UM Medical Subcommittee

Applicable Line(s) of Business
☒ Washington Apple Health (Medicaid)
☒ Behavioral Health Services Only
☒ Medicare Advantage
☒ Medicare Special Needs Plan
☒ Cascade Select

Policy
This policy applies to Community Health Plan of Washington (CHPW) Apple Health (AH), BHSO, Medicare, and Individual & Family (Cascade Select).

Required Clinical Documentation for Review
1. Clinical records from within the past 6 months including history, evaluation, and relevant specialty consultation notes that address the member’s condition and need for the service. All previous interventions for the problem, including dates and the patient’s response to the intervention
2. Imaging studies
3. Laboratory studies
4. Details of any specific needs related to risk/trauma/cultural etc.

Background
For Pharmacogenetic testing for patients being treated for selected behavioral health conditions or for patients being treated with oral anticoagulants:

This policy is written to ensure decisions for Apple Health members regarding requests for Pharmacogenetic testing are reviewed using the appropriate evidence-based guidelines from the Washington State healthcare Authority Health Technology Assessment Program criteria:

Topic Summary (HTA 20180518B - Pharmacogenetic testing for patients being treated with oral anticoagulants)
Topic Summary (HTA 220170120A - Pharmacogenomic testing for selected conditions).

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For MTHFR testing:
Methylenetetrahydrofolate Reductase (MTHFR) enzyme plays an important role in processing amino acids, specifically, the conversion of homocysteine to methionine and is encoded by the MTHFR gene. In the US, 35 percent of the population has one copy of the C677T MTHFR allele, and 10-15 percent of the population has two copies of the C677T MTHFR allele. This makes it a common polymorphism, not a disease-causing mutation. The American College of Medical Genetics (ACMG) states: “Recent meta-analyses have disproven an association between hyperhomocysteinemia and risk for coronary heart disease and between MTHFR polymorphism status and risk for venous thromboembolism. There is growing evidence that MTHFR polymorphism testing has minimal clinical utility and therefore should not be ordered as a part of a routine evaluation for thrombophilia.”

The ACMG practice guidelines on genetic testing for MTHFR state:

1. MTHFR polymorphism genotyping should not be ordered for at risk family members.
2. MTHFR polymorphism genotyping should not be ordered as part of the clinical evaluation for thrombophilia or recurrent pregnancy loss.
3. There is currently no evidence that specific treatments reduce risks associated with homocysteinemia or MTHFR genotype status.

MTHFR status does not change the recommendation that women of childbearing age should take the standard dose of folic acid supplementation to reduce the risk of neural tube defects as per the general population guidelines.

Definitions
Medically Necessary:
1. Consistent with standards of good medical practice and supported by evidence-based medicine;
2. There is no other equally effective, more conservative, or substantially less costly course of treatment available or suitable for the enrollee requesting the service. For the purpose of this section, ‘course of treatment’ may include mere observation or, where appropriate, no medical treatment at all.” (WAC 182-500-0070);
3. Consistent with the symptoms, diagnosis, treatment, and plan of care of the member’s condition;
4. Not solely for the convenience of the member, the member’s family, or the provider of service

For Medicare (MA) Members:

For Physical or Behavioral Health Conditions:
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Pharmacogenetic testing: According to L38337 MolDX: Pharmacogenomics Testing, medical necessity criteria require all the following

1. The medications being considered for use (or already being administered) that are
   a. medically necessary, appropriate, and approved for use in the patient’s condition; and
   b. are known to have a gene(s)-drug interaction that has been demonstrated to be clinically actionable as defined by:
      i. the FDA (PGx information required for safe drug administration); or
      ii. Clinical Pharmacogenetic Implementation Consortium (CPIC) guidelines (category A and B)

2. the medications in question must be derived from clinical factors/necessity rather than from a pharmacogenetic test

3. the result of the pharmacogenetic test is necessary for the physician’s decision-making process regarding safely administering or dosing the drug

4. the treating clinician has already considered non-genetic factors to make a preliminary drug selection

For AH, BHSO, and Cascade Select Members:
For Behavioral Health Indications:

1. Consistent with standards of good medical practice and supported by evidence-based medicine;
   Review of medical evidence by the HCA Health Technology Clinical Committee shows that pharmacogenetic testing is not medically necessary for management of the selected behavioral health conditions (depression, mood disorders, psychosis, anxiety, ADHD, and substance use disorder) because, according to the Final Evidence Report from the HTA 20170120A - Pharmacogenomic testing for selected conditions, “the evidence base is of low to very low quality and is insufficient to support recommendations regarding the clinical use of pharmacogenomic testing…”

Genetic testing panels for behavioral health disorders include, but are not limited to the following:

1. **Genecept Assay (Genomind)** for managing psychiatric conditions
2. **SureGene** Test for Antipsychotic and Antidepressant Response STA2R test
3. **GeneSightRx**
4. **Proove** Drug Metabolism Panel, Opioid Response Panel
5. **Mental Health DNA Insight**
6. **YouScript** Personalized Prescribing System

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For Physical Health Indications:

Criteria should be sought in MCG current edition first.

If there are no appropriate criteria in MCG, then the Noridian criteria apply:

Pharmacogenetic testing for Physical Health Conditions: According to L38337 MolDX: Pharmacogenomics Testing, medical necessity criteria require all the following

1. The medications being considered for use (or already being administered) that are
   a. medically necessary, appropriate, and approved for use in the patient’s condition; and
   b. are known to have a gene(s)-drug interaction that has been demonstrated to be clinically actionable as defined by:
      i. the FDA (PGx information required for safe drug administration); or
      ii. Clinical Pharmacogenetic Implementation Consortium (CPIC) guidelines (category A and B)
2. the medications in question must be derived from clinical factors/necessity rather than from a pharmacogenetic test
3. the result of the pharmacogenetic test is necessary for the physician’s decision-making process regarding safely administering or dosing the drug
4. the treating clinician has already considered non-genetic factors to make a preliminary drug selection

INDICATIONS/Criteria

For Medicare (MA) Members:

Please see: Noridian Local Coverage Determination Noridian Local Coverage Determination L36159 MolDX: Genetic Testing for Hypercoagulability / Thrombophilia (Factor V Leiden, Factor II Prothrombin, and MTHFR) for the medical necessity criteria.

For AH and for Cascade Select Members:

Pharmacogenetic testing for patients being treated with oral anticoagulants is not medically necessary for management of anticoagulation therapy because, according to the evidence from the HCA 20180518B - Pharmacogenetic testing for patients being treated with oral anticoagulants, “Select use of pharmacogenetic testing for patients being treated with oral anticoagulants was equivalent for safety and equivalent for effectiveness compared to not being tested.”
FOR MTHFR Testing (Physical and Behavioral Health)
For AH, BHSO, and Cascade Select Members:


Indications/Criteria for HIV Co-Receptor Tropism Assays
For Medicare, AH and for Cascade Select Members:

The criteria for HIV Co-receptor Trophism Assay for patients with an HIV infection require the following:

1. There has not been previous detection of CCXR4 utilizing or D/M-trophic viruses on prior tropism testing, and
2. One of the following criteria must be met:
   a) A CCR5 co-receptor antagonist (such as Maraviroc) is being considered
   b) Virologic failure on a CCR5 antagonist
   c) HIV-1 RNA is undetectable and a CCR5 antagonist is being considered for use in a new regimen (as part of a regimen switch or simplification)


Special Considerations
None.

Limitations/Exclusions
Please see link to member coverage documents below:

<table>
<thead>
<tr>
<th>Line of Business</th>
<th>Link to Member Coverage Documents</th>
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| Medicare Advantage Plans (Including D-SNP) | https://medicare.chpw.org/  
  Select the appropriate plan from the “Plans” drop down on the top navigation bar. |
| Apple Health                            | https://www.chpw.org/for-members/benefits-and-coverage-imc/             |
| Individual & Family (Cascade Select)    |                                                                        |

List of Appendices
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None.

Citations & References

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<tr>
<th>CFR</th>
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<tr>
<td>WAC</td>
<td>WAC 284-43-2050; chapter 182-55 WAC; WAC 284-43-5642</td>
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<td>☒ WAHIMC</td>
<td>§ 1.179; § 11.1; § 11.4</td>
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<td>☒ BHSO</td>
<td>§ 10.1; § 13.1</td>
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<td>☒ MA</td>
<td>Medicare Managed Care Manual (MMCM) CH 4 Benefits &amp; Beneficiary Protections Section 110.1.1 and 40.1.1; Part C &amp; D Enrollee Grievances, Organization/Coverage Determinations, and Appeals Guidance Section 10.4.2</td>
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Other Requirements

NCQA Elements

UM 2, UM 5

References

HTA [20180518B - Pharmacogenetic testing for patients being treated with oral anticoagulants](#)  
HTA [220170120A - Pharmacogenomic testing for selected conditions](#)  
[https://www.acmg.net/docs/MTHFR_gim2012165a_Feb2013.pdf](#)

Revision History

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<th>Revision Description</th>
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<tr>
<td>03/20/2020</td>
<td>New policy written</td>
<td>LuAnn Chen, MD</td>
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<tr>
<td>07/08/2020</td>
<td>Added criteria from MM160 MTHFR Testing and from 220170120A - Pharmacogenomic testing for selected conditions. Retired MM160.</td>
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<td>Corrected hyperlink to LCD L36159.</td>
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<td>09/22/2021</td>
<td>Corrected Medicare criteria to the LCDs.</td>
<td>Clarified physical health criteria for AH-IMC. Corrected quote from the HTA</td>
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<td>02/23/2022</td>
<td>Added criteria for HIV co-receptor tropism</td>
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