I. Description

The traditional risk factors for cardiovascular disease include smoking, hypertension, diabetes, obesity, age, family history, lipid abnormalities and sedentary lifestyle. Nearly half of the patients that present with a myocardial infarction do not have these classic risk factors. This finding has directed research to look for other risk factors that may be responsible for coronary artery disease and to develop screening tests to predict future coronary events in healthy individuals. Cholesterol screening consisting of a lipid profile which includes total cholesterol, high density lipoprotein cholesterol, low density lipoprotein cholesterol, and triglycerides are covered for members with coverage for preventative services. Several nontraditional markers of cardiovascular risk have been developed to improve identification of patients at high risk. These include the following laboratory tests:

- **High Sensitivity C-reactive protein (hs-CRP):** (CPT 86141) It is thought that certain markers of inflammation may indicate the development of atherosclerosis. High sensitivity C-reactive protein is a systemic marker of inflammation that has been used as a screening test for assessing cardiovascular disease risk.

- **Homocysteine:** (CPT 83090) is an amino acid normally found in the body. Studies suggest that high blood levels of homocysteine may increase an individual’s chance of developing heart disease, stroke and damage to arteries.

- **Apolipoprotein A-I, LDL gradient gel electrophoresis, and Lipoprotein (a) immunoassay:** (CPT 82172, 83695) these tests are performed to help determine coronary heart disease risk and to guide drug and diet therapy in patients with established coronary artery disease.

- **Apolipoprotein B:** is thought to be a useful risk assessment tool in patients with normal LDL who have a high family risk for premature coronary artery disease. However, apo B assays have not been fully standardized and there is no consensus on predictive or treatment value. **Apolipoprotein E** polymorphisms have functional effects on lipoprotein metabolism and have been studied in disorders associated with elevated cholesterol levels and lipid derangements. Research investigators have found
that the apo E genotype yields poor predictive values when screening for clinically defined atherosclerosis.

**LDL subspecies:** Larger and smaller low-density lipoprotein (LDL) particle size may be associated with coronary heart disease. In addition, nearly half of patients with coronary atherosclerotic disease have dense LDL particles. When present, dense LDL greatly increases the risk of coronary disease.

**HDL subspecies:** High-density lipoprotein (HDL) is known as the “good cholesterol”, however, not all HDL is beneficial. HDL subfractions (lipoprotein Al (LpAI) and lipoprotein Al/All (LpAl/All) and/or HDL3 and HDL2) have also been used for risk prediction. However, studies have not shown superiority of HDL subspecies over HDL cholesterol in CHD risk assessments.

**Angiotensin gene (AGT) or CardiaRisk:** This test analyzes angiotensin gene polymorphisms which have been associated with cardiovascular disease risk and some forms of hypertension. Certain AGT polymorphisms have been associated with responsiveness of blood pressure to ACE inhibitor therapy and sodium reduction. Therefore, analysis of the AGT gene may beneficial in helping to predict how patients will respond to certain antihypertensive interventions. CardiaRisk is a lab test done at Myriad Genetics Laboratories that analyzes the angiotensinogen gene.

II. Criteria: CWQI HCS-0015

A. Moda Health covers the following tests for preventive cholesterol screening when the member has benefits available: total cholesterol, high density lipoprotein cholesterol (HDL), low density lipoprotein cholesterol (LDL), VLDL (very low density lipoprotein), and triglycerides.

B. Moda Health will cover hs-CRP as a medical diagnostic only. hs-CRP is considered investigational and will not be covered when performed as a routine screening test.

C. Moda Health will cover Homocysteine testing (measurements of plasma homocysteine) for 1 or more of the following:
   a. Assessment of borderline vitamin B12 deficiency, where the results will impact the member’s management
   b. Assessment of homocysteinuria caused by cystathionine beta synthase deficiency (Note: for newborn screening, measurements of plasma homocysteine/total homocysteine are performed only when hypermethioninemia has been confirmed
   c. Assessment of idiopathic venous thrombo-embolism
   d. Assessment of recurrent venous thrombo-embolism
   e. Assessment of thrombosis occurring at a young age (i.e. less than 45 years of age
   f. Assessment of thrombosis at an unusual site
   g. Moda Health considers homocysteine testing experimental or investigational for all other indications

D. Moda Health will allow limited coverage of specific tests under the following circumstances for 1 or more of the following:
   a. Lipoprotein (a) and hs-CRP will be covered for young individuals who have unexplained coronary artery disease and lack traditional risk factors.
b. Lipoprotein (a) will be covered for members with the diagnosis of complex lipid disorder with familial hyperlipidemia, such as Familial Lp (a) hyperlipidemia.

E. Apolipoprotein B will be covered for members undergoing management of lipoprotein abnormalities and who have 1 or more of the following:
   a. Diabetes; or
   b. Coronary heart disease; or
   c. Member is a smoker; or
   d. Member has a family history of premature coronary heart disease

F. Other laboratory tests for assessing coronary heart disease are considered investigational for screening, diagnosing, or managing coronary heart disease.

III. Information Submitted with the Prior Authorization Request
   1. Documentation from the ordering physician supporting one of the above listed indications.
   2. When performed as a routine screening, these tests are considered investigational and will not be covered. Prevailing medical literature does not support the use of these tests for screening of coronary heart disease.

IV. CPT or HCPC codes covered

<table>
<thead>
<tr>
<th>Codes</th>
<th>Description</th>
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<tbody>
<tr>
<td>80061</td>
<td>Lipid panel</td>
</tr>
<tr>
<td>82172</td>
<td>Apolipoprotein, each</td>
</tr>
<tr>
<td>82465</td>
<td>Cholesterol, serum or whole blood, total</td>
</tr>
<tr>
<td>83695</td>
<td>Lipoprotein (a)</td>
</tr>
<tr>
<td>83718</td>
<td>Lipoprotein, direct measurement; high density cholesterol (HDL cholesterol)</td>
</tr>
<tr>
<td>83721</td>
<td>Lipoprotein, direct measurement; LDL cholesterol</td>
</tr>
<tr>
<td>84478</td>
<td>Triglycerides</td>
</tr>
<tr>
<td>86141</td>
<td>C-reactive protein, high sensitivity (hsCRP)</td>
</tr>
<tr>
<td>83090</td>
<td>Homocysteine</td>
</tr>
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V. CPT or HCPC codes not covered

<table>
<thead>
<tr>
<th>Codes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>83704</td>
<td>Lipoprotein, blood; quantitation of lipoprotein particle numbers and lipoprotein particle subclasses</td>
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</table>
VI. Annual Review History

<table>
<thead>
<tr>
<th>Review Date</th>
<th>Revisions</th>
<th>Effective Date</th>
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<tbody>
<tr>
<td>03/2013</td>
<td>Annual Review: Added table with review date, revisions, and effective date.</td>
<td>04/03/2013</td>
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<td>06/2014</td>
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<tr>
<td>9/2015</td>
<td>Removed ICD-9 codes, added ICD-10</td>
<td>09/26/2015</td>
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<tr>
<td>08/2017</td>
<td>Annual Review: Included itemized list of codes approved for Homocysteine</td>
<td>08/23/2017</td>
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<tr>
<td>02/27/2019</td>
<td>Annual Review: Include criteria for homocysteine testing</td>
<td>03/01/2019</td>
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<td>01/22/2020</td>
<td>Annual Review: Codes updated</td>
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VII. References

19. Physician Advisors

Appendix 1 – Applicable ICD-10 codes approved for Homocysteine test

<table>
<thead>
<tr>
<th>Codes</th>
<th>Description</th>
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<tbody>
<tr>
<td>D51.0-D51.9</td>
<td>Vitamin B12 deficiency anemia</td>
</tr>
<tr>
<td>D81.818</td>
<td>Other biotin-dependent carboxylase deficiency</td>
</tr>
<tr>
<td>D81.819</td>
<td>Biotin-dependent carboxylase deficiency, unspecified</td>
</tr>
<tr>
<td>E53.8</td>
<td>Deficiency of other specified group B vitamins</td>
</tr>
<tr>
<td>E72.10 - E72.11; E72.19</td>
<td>Disturbances of Sulphur-bearing amino-acid metabolism (not covered for management of 5, 10-methylenetetrahydrofolate reductase [MTHFR] abnormalities)</td>
</tr>
<tr>
<td>I26.01 – I26.99</td>
<td>Pulmonary embolism</td>
</tr>
<tr>
<td>I81</td>
<td>Portal vein thrombosis</td>
</tr>
<tr>
<td>I82.0 – I82.91</td>
<td>Other venous embolism and thrombosis</td>
</tr>
<tr>
<td>T81.718D</td>
<td>Embolism of cardiac prosthetic devices, implants and grafts, sequelae</td>
</tr>
<tr>
<td>T82.818D</td>
<td>Embolism of vascular prosthetic devices, implants and grafts, subsequent encounter</td>
</tr>
<tr>
<td>T82.817A</td>
<td>Embolism of cardiac prosthetic devices, implants and grafts, initial encounter</td>
</tr>
<tr>
<td>I74.01</td>
<td>Saddle embolus of abdominal aorta</td>
</tr>
<tr>
<td>I74.19</td>
<td>Embolism and thrombosis of other parts of aorta</td>
</tr>
<tr>
<td>I74.10</td>
<td>Embolism and thrombosis of unspecified parts of aorta</td>
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<tr>
<td>I74.09</td>
<td>Other arterial embolism and thrombosis of abdominal aorta</td>
</tr>
<tr>
<td>I74.11</td>
<td>Embolism and thrombosis of thoracic aorta</td>
</tr>
<tr>
<td>I74.2</td>
<td>Embolism and thrombosis of arteries of the upper extremities</td>
</tr>
<tr>
<td>I74.4</td>
<td>Embolism and thrombosis of arteries of extremities, unspecified</td>
</tr>
<tr>
<td>I74.3</td>
<td>Embolism and thrombosis of arteries of the lower extremities</td>
</tr>
<tr>
<td>I74.5</td>
<td>Embolism and thrombosis of iliac artery</td>
</tr>
<tr>
<td>I74.8</td>
<td>Embolism and thrombosis of other arteries</td>
</tr>
<tr>
<td>I74.9</td>
<td>Embolism and thrombosis of unspecified artery</td>
</tr>
</tbody>
</table>
Appendix 2 – Centers for Medicare and Medicaid Services (CMS)

Medicare coverage for outpatient (Part B) drugs is outlined in the Medicare Benefit Policy Manual (Pub. 100-2), Chapter 15, §50 Drugs and Biologicals. In addition, National Coverage Determination (NCD) and Local Coverage Determinations (LCDs) may exist and compliance with these policies is required where applicable. They can be found at: http://www.cms.gov/medicare-coverage-database/search/advanced-search.aspx. Additional indications may be covered at the discretion of the health plan.

Medicare Part B Covered Diagnosis Codes (applicable to existing NCD/LCD):

<table>
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<tr>
<th>Jurisdiction(s): 5, 8</th>
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<th>Medicare Part B Administrative Contractor (MAC) Jurisdictions</th>
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