

**Measure Title** TREATMENT OF CORONARY ARTERY DISEASE: MONITORING LIPID LEVELS

**Disease State** Coronary Artery Disease      **Indicator Category<sup>1</sup>** 2<sup>o</sup> prevention

**Strength of Recommendation<sup>2</sup>** A      **Quality of Evidence<sup>3</sup>** Fair III

**Physician Specialties** Cardiovascular Disease, Family Practice, Internal Medicine

**Clinical Rationale**

**Disease Burden**

- Cardiovascular disease is the leading cause of death in the United States, and is the primary cause of death for persons age 65 and older.[1, 2]
- In 2002, 13 million adults in the United States (6.9% of the population) had coronary heart disease [CHD] [1], which accounts for more than half of all cardiovascular events in men and women under the age of 75.[3]
- One of every five deaths in the United States in 2002 (approximately 650,000 deaths) was attributed to CHD.[1]
- Within 6 years of a myocardial infarction, 18% of men and 35% of women will have a recurrent myocardial infarction (MI), and 7% of men and 6% of women will experience sudden death.[4]

**Reason for Indicated Intervention or Treatment**

- Increased blood cholesterol increases the risk for coronary heart disease. Lipid-lowering therapy can help decrease or reverse atherosclerotic lesion progression [5-8], decrease inflammation [9-12], and help with plaque stabilization, endothelial dysfunction reversal, and thrombogenicity reduction.[6, 13, 14]
- Clinically, lipid-lowering drug treatment is associated with decreased mortality and a lower incidence of cardiovascular events.[15-32]

**Evidence supporting Intervention or Treatment**

- Several large randomized controlled trials have shown that simvastatin or pravastatin use in patients with a history of cardiovascular disease reduces the risk of recurrent events and mortality, whether the patients have elevated [16, 17], normal or slightly elevated [18-24] cholesterol levels.
- Large scale meta-analyses focusing on studies in which cholesterol medications were used have shown that when used as secondary prevention, lipid-lowering therapy is associated with a decreased risk of coronary events, CHD mortality and all-cause mortality.[25-32]
- No well designed trials have directly evaluated whether routine monitoring of lipid levels in patients with coronary artery disease is associated with better clinical outcomes.

**Clinical Recommendations**

- The Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III, or ATP III), released in 2002, recommends that patients with CHD achieve a target LDL cholesterol < 100 mg/ dL.[33]

- The ATP III recommends initiating drug therapy (in addition to intensive lifestyle therapy) in patients with baseline cholesterol levels  $\geq 130$  mg/dL. For those with LDL levels between 100-129 mg/dL, therapeutic lifestyle changes should be initiated, and clinical judgment should be used to decide about lipid-lowering medication use.[33]
- In 2004, the Coordinating Committee of the National Cholesterol Education Program (NCEP) of the National Heart, Lung and Blood Institute proposed modifications to the ATP III guidelines, and endorsed optional treatment of patients at very high risk for a coronary event (including those with acute coronary syndromes) to achieve an LDL cholesterol level  $< 70$  mg/dL.[34]
- The American College of Cardiology (ACC) and American Heart Association (AHA) endorsed the above recommendations for patients with coronary artery disease [35-37], and recommended a target LDL level “substantially less than 100 mg/dL” for patients with a ST-elevation myocardial infarction.[35]

<b>Denominator</b>	Continuously enrolled members aged 19 to 76 years by the end of the reporting period, who were identified as having coronary artery disease.
<b>Denominator Exclusion</b>	Members who do not have pharmacy benefits or whose discharge status is 'expired'.
<b>Numerator</b>	Members who received a lipid panel during the reporting period.
<b>Interpretation of Score</b>	High score implies better performance.
<b>Physician Attribution</b>	Score all physicians (in the selected specialties) who saw the member during the reporting year.
<b>Source</b>	Health Benchmarks <sup>®</sup> , Inc

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<sup>1</sup> **Indicator Category** (Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications and U.S. Preventive Services Task Force (USPSTF) Methodology)

#### **Effectiveness**

**Primary Prevention Measures:** Those that are applicable to individuals who are asymptomatic and are designed to prevent the onset of the targeted condition (e.g. immunizations);

**Secondary Prevention Measures:** Those that are applicable to asymptomatic patients who have risk factors or pre-clinical disease but in whom the condition has not become clinically apparent (e.g. pap smears, screening for elevated blood pressure);

**Tertiary Prevention Measures:** Those that are applicable to individuals who are diagnosed with a condition and are part of the treatment or management of patients with that condition (e.g. cholesterol reduction in patients with diabetes).

<sup>2</sup> **Strength of Recommendation** (Based on U.S. Preventive Services Task Force (USPSTF), 3<sup>rd</sup> Edition Criteria)

- A** It is strongly recommended that clinicians provide the service to eligible patients. *There is good evidence that the service improves important health outcomes and that benefits substantially outweigh harms.*
- B** It is recommended that clinicians provide the service to eligible patients. *There is at least fair evidence that the service improves important health outcomes and that benefits outweigh harms.*
- C** There is no recommendation for or against the routine provision of this service. *There is fair evidence that the service can improve health outcomes but the balance of benefits and harms is too close to justify a general recommendation.*

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- D** It is recommended that clinicians DO NOT routinely provide the service to eligible patients.  
*There is at least fair evidence that the service is ineffective or that harms outweigh benefits.*
- I** The evidence is insufficient to recommend for or against routinely providing the service.  
*Evidence that the service is effective is lacking, or poor quality, or conflicting, and the balance of benefits and harms cannot be determined.*

<sup>3</sup> **Quality of Evidence** (Based on U.S. Preventive Services Task Force (USPSTF), 3<sup>rd</sup> Edition Criteria)

- Good:** Evidence includes consistent results from well-designed, well-conducted studies in representative populations that directly assess effects on health outcomes.
- Fair:** Evidence is sufficient to determine effects on health outcomes, but the strength of the evidence is limited by the number, quality, or consistency of individual studies, generalizability to routine practice, or indirect nature of the evidence on health outcomes.
- Poor:** Evidence is insufficient to assess the effects on health outcomes because of limited number or power of studies, important flaws in their design or conduct, gaps in the chain of evidence, or lack of information on important health outcomes.

**Quality of Evidence** (Based on U.S. Preventive Services Task Force (USPSTF), 3<sup>rd</sup> Edition Criteria)

- I:** Evidence obtained from at least one properly randomized controlled trial.
- II-1:** Evidence obtained from well-designed controlled trials without randomization.
- II-2:** Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than one center or research group.
- II-3:** Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of the introduction of penicillin treatment in the 1940s) could also be regarded as this type of evidence.
- III:** Opinions of respected authorities, based on clinical experience descriptive studies and case reports or reports of expert committees.