OBJECTIVE
The objective of this Clinical Practice Guideline (CPG) is to provide evidence-based practice recommendations for the treatment of Cardiovascular Disease, as well as Cerebrovascular Disease, Peripheral Artery and Aortic Atherosclerosis. The CPG discusses the progression of disease including symptomology, modifiable risks, co-morbid conditions (e.g., hypertension, obesity, diabetes mellitus), cholesterol management, the role of diet and physical activity. In addition, the CPG outlines the organizations that WellCare aligns with regarding CAD and Heart Disease as well as relevant Measurements of Compliance and Measureable Health Outcomes.

OVERVIEW
Heart and blood vessel disease (or cardiovascular disease) includes numerous problems, many of which are related to atherosclerosis (plaque build-up along artery walls). The narrowing of the arteries makes it harder for blood to flow through. If a blood clot forms, it can stop the blood flow. The reduction in blood flow can lead to damage of the heart muscle and in the case of complete blockage, death of heart muscles leading to heart stoppage. As hypertension (HTN) continues, the arteries thicken and become less flexible. Cholesterol deposits in the arteries further narrow the ability of blood flow easily. To compensate for the additional force needed to pump blood, the heart gets thicker and enlarges.

Risk factors that can lead to cardiovascular disease include:

- Smoking
- Diabetes
- Genetics
- Hypertension
- Congenital heart conditions
- Arterial stiffness and/or calcification
- Coronary artery calcification
- Abnormal electrocardiography (ECG) such as a finding of ST segment depression (a common sign of ischemia)
- Left ventricular hypertrophy (LVH)*
- Atherosclerotic vessels due to high lipids in the blood
- Collagen vascular disease (e.g., Lupus, Scleroderma)

* The heart uses electrical impulses to generate a heartbeat. This electrical activity can be measured using an electrocardiogram (ECG). When the heart is enlarged due to ventricular hypertrophy, the path that the electrical impulse takes is affected. This effect can be seen on an ECG.

For screening information related to CAD, visit the United States Preventive Services Task Force (USPSTF) website at https://www.uspreventiveservicestaskforce.org. In addition, refer to the following preventive CPGs: Adult Preventive Health: HS-1019, Pediatric Preventive Health: HS-1019, Adolescent Preventive Health: HS-1051, and Preventive Health for Older Adults: HS-1063.
• National Committee for Quality Assurance (NCQA);
• USPSTF, National Quality Strategy (NQS), Agency for Healthcare Research and Quality (AHRQ);
• Specialty associations, colleges, societies, etc. (e.g., American Academy of Family Physicians, American Congress of Obstetricians and Gynecologists, American Cancer Society, etc.).

Links to websites within the CPGs are provided for the convenience of Providers. Listings do not imply endorsement by WellCare of the information contained on these websites. NOTE: All links are current and accessible at the time of MPC approval.

WellCare aligns with the ACC, AHA, ACCF, and the ICSI on the topic of coronary artery and heart disease. The following are highlights from their recommendations and guidelines.

CARDIOLOGY BASED ORGANIZATIONS

In addition, WellCare adopts the following guidelines from cardiology based organizations:

• American College of Cardiology (ACC) and the American Heart Association (AHA)
  Available at http://circ.ahajournals.org/content/129/25_suppl_2/S49.short?rss=1&ssource=mfr

• AHA and ACC Task Force on Practice Guidelines
  AHA/ACC Guideline for the Management of Patients With Valvular Heart Disease: Executive Summary (2014)
  Available at http://circ.ahajournals.org/content/129/23/2440.full

• AHA and the American College of Cardiology Foundation (ACCF)
  Secondary Prevention and Risk Reduction Therapy for Patients With Coronary and Other Atherosclerotic Vascular Disease (AVD) (2011)
  Available at http://content.onlinejacc.org/article.aspx?articleid=1147807

INSTITUTE FOR CLINICAL SYSTEMS IMPROVEMENT (ICSI)

WellCare also adheres to the 2013 health care guideline set forth by the Institute for Clinical Systems Improvement (ICSI). The guideline addresses adults (age 18 or older) with stable coronary artery disease presenting with:

• Previously diagnosed coronary artery disease without angina, or symptom complex that has remained stable for at least 60 days;
• No change in frequency, duration, precipitating causes or ease of relief of angina for at least 60 days;
• No evidence of recent myocardial damage.

The full guideline can be accessed at https://www.icsi.org/_asset/t6bh6a/SCAD.pdf

Evidence Based Practice

MEASUREMENT OF COMPLIANCE

NCQA has published the following measures related to coronary artery disease:

• Persistence of Beta-Blocker Therapy After a Heart Attack (PBH) (age 18+). Members 18 years of age and older who are hospitalized for acute myocardial infarction (AMI) should receive persistent beta-blocker treatment for six months post-discharge

The CPG’s supporting age-specific preventive health (Adult: HS-1018 and Older Adult: HS-1063), details information related to the following NCQA and/or CMS Star measures that apply to members with cardiovascular disease:

• Annual Monitoring for Patients on Persistent Medications (NCQA)
• Aspirin Use and Discussion (NCQA)
• Medication Adherence for Cholesterol (Statins) (from CMS)
• Persistence of Beta-Blocker Therapy After a Heart Attack (NCQA)
• Statin Therapy for Patients With Cardiovascular Disease (NCQA's title for same measure as above)
Care Management

The goals for Care Management is to support the member's ability to self-manage their disease, minimize risks of coronary artery disease, and remove barriers preventing the member from achieving those goals. Primary symptoms to educate member to seek emergency medical care for include:5

- Pain in chest
- Pain that radiates to jaw, neck, arms, left shoulder, back, or stomach
- Shortness of breath
- Sweating
- Nausea/vomiting
- Feelings of pressure, squeezing, fullness, indigestion, or choking feeling
- Lightheadedness, dizziness, or general weakness
- Sleep problems, fatigue (tiredness), or lack of energy
- Rapid, irregular heart beat

Additional emergency symptoms related to cerebrovascular issues:6

- Change in alertness (including sleepiness or unconsciousness)
- Changes in the senses (such as hearing, vision, taste, and touch)
- Mental changes (confusion, memory loss, difficulty writing or reading, speaking or understanding others)
- Muscle weakness, trouble swallowing, trouble walking
- Loss of balance and coordination
- Lack of control over the bladder or bowels
- Nerve problems (such as numbness or tingling on one side of the body)

Additional symptoms related to peripheral vascular issues to report to your doctor same day:7

- Weak or absent pulses in the legs or feet
- Sores or wounds on the toes, feet, or legs that heal slowly, poorly, or not at all
- A pale or bluish color to the skin
- A lower temperature in one leg compared to the other leg
- Poor nail growth on the toes and decreased hair growth on the legs
- Erectile dysfunction, especially among men who have diabetes

Integrated care management of cardiovascular disease involves:

- Coaching related to stress management skills
- Ensuring adherence to medications, refilling timely.
- Supporting the member’s tobacco cessation efforts
- Assess for risk of depression and share with appropriate provider(s) if risks identified

MEASURABLE HEALTH OUTCOMES

Targeted Health Outcomes (Extended Program Goals) result from successful member self-management (see Case Management Objectives).

- Improved LDL (target <70). Based on a Provider's goal for each Member, a Member’s individual goal may be set as low as <70. Compare cholesterol lab data pre- and post-engagement at 6-12 months. In absence of lab data, Provider and/or Member narrative and/or HRA data may be used.

- Improved blood pressure, systolic (target <140) and / or diastolic (target <90). Compare blood pressure documented in provider records, assessments and care plan, and monitoring data sources pre- and post-engagement at 6-12 months. In absence of these data sources, CM may use Provider and/or Member narrative and/or HRA data may be used.
• For overweight members, a 5% weight loss. Compare weight documented in provider records, assessments and care plan, and monitoring data sources pre- and post-engagement at 12-18 months. In absence of these data sources, CM may use Provider and/or Member narrative and/or HRA data may be used.

CASE MANAGEMENT GOALS

Case Goals should target specific care gaps and/or adherence issues, and measure the member's progress towards self-management and adherence which will lead to the targeted health outcomes above. Examples:
• Member’s prescription refills demonstrate at least an 80% adherence rate (verified by claims or member/provider narrative) for [statin, ASA, beta-blocker, other] over last 30 days.
• Member describes diet and exercise regime over the last 30 days that demonstrates improved adherence to guideline and/or physician recommendations.
• Member describes a routine that includes checking and logging blood pressure per physician recommendation over the last 30 days and shares log with physician.
• Specific for Members requiring hospitalization: The Member participates in provider follow-up visit within 7 days of hospital discharge.

CASE MANAGEMENT OBJECTIVES

Case Management Objectives should focus on improving the Member’s self-management skills up including:
• Increasing physical activity to 150 minutes/week or as otherwise prescribed by physician per cardiac rehabilitation program
• Following a low-sodium, low-fat, low-cholesterol diet
• Taking medications as prescribed
• Adhering to Provider visit(s) as scheduled
• Checks blood pressure as directed by Provider
• Keeping a log of pulse and blood pressure readings to share with Provider(s)
• Tobacco cessation
• Avoiding second-hand smoke
• Early identification of oncoming symptoms to report to physician or call for emergency services
• Stress management skills

The care team should also conduct screening for and treatment of anxiety and/or depression, as appropriate.

OTHER CONSIDERATIONS

Therapies for CAD include:
• Stenting of affected arteries
• Bypass graft surgery
• Aspirin
• Blood pressure medication
• Exercise during rehabilitation
• Medications to lower cholesterol including beta-blockers and angiotensin-converting enzyme inhibitors
• Lifestyle changes including smoking cessation, stress management, diabetes control, and weight loss

Behavioral Health Aspects of Patients with CAD. Up to 15% of patients with cardiovascular disease and up to 20% of patients who have undergone coronary artery bypass graft (CABG) surgery experience major depression. Unmanaged stress can lead to high blood pressure, arterial damage, irregular heart rhythms and a weakened immune system. Patients with depression have been shown to have increased platelet reactivity, decreased heart variability and increased pro-inflammatory markers (such as C-reactive protein or CRP), which are all risk factors for cardiovascular disease. For people with heart disease, depression can increase the risk of an adverse cardiac event such as a heart attack or blood clots. For people who do not have heart disease, depression can also increase the risk of a heart attack and development of coronary artery disease.

• Recovery. During recovery from cardiac surgery, depression can intensify pain, worsen fatigue and sluggishness, or cause a person to withdraw into social isolation. Patients who have had CABG and have untreated depression after surgery also have increased morbidity and mortality.
• **Readmission.** Patients with heart failure and depression have an increased risk of being readmitted to the hospital, and also have an increased mortality risk.

• **Health Status.** Patients with heart disease and depression also perceive a poorer health status according to Quality of Life (QoL) studies. Furthermore, heart disease patients with depression have worse treadmill exercise and medication adherence than that of patients with heart disease who do not have depression.

• **Lifestyle Habits.** Negative habits are associated with depression such as smoking, excessive alcohol consumption, lack of exercise, poor diet and lack of social support. Each may interfere treatment.

### Risk Factors That Lead to Death Within Six Months of an Myocardial Infarction (MI)

Certain risk factors increase a patient’s risk of death within six months of an MI diagnosis. These include:

- 0.37 times more likely by being socially isolated
- 0.76 times more likely with less than eight years of education
- 2.16 times more likely by smoking daily
- 5.27 times more likely with a previous MI
- 5.47 times more likely if diagnosed with depression (more than twice the risk of continuing to smoke cigarettes)

### Depression in Cardiac Patients

The Glassman SADHEART Trial is designed primarily to evaluate the cardiovascular safety of sertraline in patients with major depressive disorder after hospitalization for MI or unstable angina. No evidence of harm was found; sertraline was indistinguishable from placebo across all surrogate measures of cardiovascular safety. Treatment was not associated with any change in LVEF, blood pressure, heart rate, arrhythmias, or SDNN on 24-hour ambulatory ECGs, with QTc prolongation, or with any other ECG parameters. Furthermore, though not statistically significant, the incidence of severe cardiac events, the gold standard for cardiac safety, was numerically lower among patients receiving sertraline than among those receiving placebo. Despite the limited number of these “more severe” patients, sertraline was found to be robustly superior to placebo using rating scales for depression, CGI-I and HAM-D. In short, patients benefited from treatment of their depression with sertraline (Zoloft®).

### Anxiety in Cardiac Patients

Approximately 20% of all patients who arrive at the emergency department with chest pain meet criteria for panic disorder. In ambulatory cardiology settings, the rates of panic disorder are even higher. This population has lower rates of panic disorder diagnosis and higher number of medical procedures and costs. Anxiety commonly occurs and may be associated with atypical chest pain and nervousness. Acute and chronic anxiety increases an individual’s risk of Sudden Coronary Death (SCD) and Coronary Artery Disease (CAD). About 50% of patients with an acute MI and 40% of those who undergo CABG or Cardiac Stent experience abnormally high anxiety. Anxiety peaks in the first 2 days then drops slowly, but if it does not drop within the first week, it will likely be persistent a year later. About 10%-15% of outpatients with pacemakers and Automatic Implantable Cardiac Defibrillators (AICD) have elevated levels of anxiety, and the rate goes up when the AICD discharges frequently. The GAD – 7 Anxiety Screening Tool is commonly used by Providers to screen members for anxiety. The tool is available on the Substance Abuse and Mental Health Services Administration (SAMHSA) website at [http://www.integration.samhsa.gov/clinical-practice/screening-tools](http://www.integration.samhsa.gov/clinical-practice/screening-tools).

### Post-Traumatic Stress Disorder

Of those with an MI, 8%-16% will develop PTSD. Similar rates of PTSD occur in those patients who undergo a CABG procedure. Although patients admitted for other severely traumatic injuries also develop PTSD, the PTSD rates are even higher in the cardiac patients. Providers can utilize the PC-PTSD as a screening tool for members; the PC-PTSD is a four-item screen designed for use in primary care and other medical settings to screen for PTSD. The tool is available at [http://www.integration.samhsa.gov/clinical-practice/screening-tools](http://www.integration.samhsa.gov/clinical-practice/screening-tools).

### MEMBER EDUCATIONAL RESOURCES

WellCare contracts with Krames/StayWell for Member educational materials utilized by Case Managers. Items are available to review with Members to address knowledge gaps. Case Managers verbally educate Members on the topics below related to CAD. (Titles may also be sent to the member).

*NOTE: Links are internal for WellCare Care Management staff.*
• **Understanding Coronary Artery Disease (CAD)**
• **Your Heart is at Risk**
• **Identifying Your Heart Risks**
• **Coping with Your Chronic Diagnosis**
• **What Is a TIA**
• **Unstable Angina**
• **Fast-Acting Nitroglycerin**
• **Recognizing a Heart Attack or Angina**
• **Medications for Heart Disease**
• **Taking Aspirin for Atherosclerosis**

Providers may wish to research the titles above related to CAD that Case Managers utilize with Members.

### Related WellCare Guidelines

In addition to the information contained in this document, please reference the following CPGs: *Cholesterol Management (HS-1005), Congestive Heart Failure (HS-1003), and Hypertension (HS-1010).*

NOTE: Clinical Policies can be accessed by going to [www.wellcare.com](http://www.wellcare.com) – select the Provider tab, then “Tools” and “Clinical Guidelines”.

### References

8. WellCare. Internal Care Management Training. 2015.

### Disclaimer

Clinical Practice Guidelines (CPGs) made available by WellCare are informational in nature and are not a substitute for the professional medical judgment of treating physicians or other health care practitioners. CPGs are based on information available at the time and may not be updated with the most current information available at subsequent times. Individuals should consult with their physician(s) regarding the appropriateness of care or treatment options to meet their specific needs or medical condition. Disclosure of a CPG is not a guarantee of coverage. Members of WellCare health plans should consult their individual coverage documents for information regarding covered benefits. WellCare does not offer medical advice or provide medical care, and therefore cannot guarantee any results or outcomes. WellCare does not warrant or guarantee, and shall not be liable for any deficiencies in the information contained herein or for any inaccuracies or recommendations made by independent third parties from whom any of the information contained herein was obtained. All links are current at time of approval by the Medical Policy Committee (MPC). Lines of business (LOB) are subject to change without notice; current LOBs can be found at [www.wellcare.com](http://www.wellcare.com) – select the Provider tab, then “Tools” and “Clinical Guidelines”.

### Medical Policy Committee Approval History

<table>
<thead>
<tr>
<th>Date</th>
<th>Medical Policy Committee History and Revisions</th>
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<tr>
<td>4/6/2017</td>
<td>Approved by MPC. Changed LDL target to &lt;70 from &lt;100; revised CM objective to include referral to cardiac rehab.</td>
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<tr>
<td>12/8/2016</td>
<td>Approved by MPC. Enhanced Care Management and Measures of Compliance sections.</td>
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<tr>
<td>8/19/2016</td>
<td>Approved by MPC. Revisions per Georgia Regulatory.</td>
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<tr>
<td>12/11/2015</td>
<td>Approved by MPC. Addition of USPSTF and other cardiology related organizations.</td>
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<tr>
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<td>Approved by MPC. Additions from Heart Disease Care Management training.</td>
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<tr>
<td>12/5/2013</td>
<td>Approved by MPC. Updated with 2013 ICSI guideline.</td>
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<td>12/1/2011</td>
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