CORONARY ARTERY BYPASS GRAFT (CABG) MEASURES GROUP OVERVIEW

2014 PQRS OPTIONS FOR MEASURES GROUPS:

2014 PQRS MEASURES IN CORONARY ARTERY BYPASS GRAFT (CABG) MEASURES GROUP:
#43. Coronary Artery Bypass Graft (CABG): Use of Internal Mammary Artery (IMA) in Patients with Isolated CABG Surgery
#44. Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery
#164. Coronary Artery Bypass Graft (CABG): Prolonged Intubation
#165. Coronary Artery Bypass Graft (CABG): Deep Sternal Wound Infection Rate
#166. Coronary Artery Bypass Graft (CABG): Stroke
#167. Coronary Artery Bypass Graft (CABG): Postoperative Renal Failure
#168. Coronary Artery Bypass Graft (CABG): Surgical Re-Exploration
#169. Coronary Artery Bypass Graft (CABG): Anti-Platelet Medications at Discharge
#170. Coronary Artery Bypass Graft (CABG): Beta-Blockers Administered at Discharge
#171. Coronary Artery Bypass Graft (CABG): Anti-Lipid Treatment at Discharge

INSTRUCTIONS FOR REPORTING:
• It is not necessary to submit the measures group-specific intent G-code for registry-based submissions. However, the measures group-specific intent G-code has been created for registry only measures groups for use by registries that utilize claims data.

  G8544: I intend to report the Coronary Artery Bypass Graft (CABG) Measures Group

• Report the patient sample method:
  20 Patient Sample Method: 20 unique procedures (patients – a majority of which must be Medicare Part B FFS [fee for service] patients) meeting patient sample criteria for the measures group during the reporting period (January 1 through December 31, 2014 OR July 1 through December 31, 2014).

• Patient sample criteria for the CABG Measures Group are patients aged 18 years and older that have a specific procedure for isolated CABG performed:
  One of the following procedure codes indicating coronary artery bypass graft: 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536
  Measure #167 need only be reported when the patient does not have a documented history of renal failure or baseline serum creatinine ≥ 4.0 mg/dL. Measure #169, #170, and #171 need only be reported when the patient is not deceased prior to discharge. Therefore, these measures are only applicable to a patient when these additional criteria are indicated.

• Report a numerator option on all applicable measures within the CABG Measures Group for each procedure (patient) within the eligible professional’s patient sample.

• Instructions for qualifying numerator option reporting for each of the measures within the Coronary Artery Bypass Graft (CABG) Measures Group are displayed on the next several pages. The following composite Quality Data Code (QDC) has been created for registries that utilize claims data. This QDC may be reported in lieu of individual QDCs when all quality clinical actions for all applicable measures within the group have been performed.

  Composite QDC G8497: All quality actions for the applicable measures in the Coronary Artery Bypass Graft (CABG) Measures Group have been performed for this patient
This measures group contains one or more inverse measures. An inverse measure is a measure that represents a poor clinical quality action as meeting performance for the measure. For these measures, a lower performance rate indicates a higher quality of clinical care. Composite codes for measures groups that contain inverse measures are only utilized when the appropriate quality clinical care is given.

The composite code for this measures group may be reported when codes in the summary table below are applicable for reporting of each measure within the measures group.

<table>
<thead>
<tr>
<th>Measure</th>
<th>#43</th>
<th>#44</th>
<th>#164*</th>
<th>#165*</th>
<th>#166*</th>
<th>#167*</th>
<th>#168*</th>
<th>#169</th>
<th>#170</th>
<th>#171</th>
</tr>
</thead>
<tbody>
<tr>
<td>QDC options for acceptable use of the composite QDC</td>
<td>4110F</td>
<td>4115F</td>
<td>G8570</td>
<td>G8572</td>
<td>G8574</td>
<td>G8576</td>
<td>G8578</td>
<td>G8579</td>
<td>G8582</td>
<td>G8585</td>
</tr>
</tbody>
</table>

*Indicates an inverse measure.

- To report satisfactorily the CABG Measures Group it requires all applicable measures for each patient within the eligible professional’s patient sample to be reported each time an isolated CABG procedure is performed during the reporting period.

- Measures groups containing a measure with a 0% performance rate will not be counted as satisfactorily reporting the measures group. The recommended clinical quality action must be performed on at least one patient for each measure within the measures group reported by the eligible professional. Performance exclusion quality-data codes are not counted in the performance denominator. If the eligible professional submits all performance exclusion quality-data codes, the performance rate would be 0/0 and would be considered satisfactorily reporting. If a measure within a measures group is not applicable to a patient, the patient would not be counted in the performance denominator for that measure (e.g., Preventive Care Measures Group - Measure #39: Screening or Therapy for Osteoporosis for Women would not be applicable to male patients according to the patient sample criteria). If the measure is not applicable for all patients within the sample, the performance rate would be 0/0 and would be considered satisfactorily reporting. When a lower rate indicates better performance, such as Measure #164, a 0% performance rate will be counted as satisfactorily reporting (100% performance rate would not be considered satisfactorily reporting).

- **NOTE:** The detailed instructions in this specification apply exclusively to the reporting and analysis of the included measures under the measures groups option.
Measure #43 (NQF 0134): Coronary Artery Bypass Graft (CABG): Use of Internal Mammary Artery (IMA) in Patients with Isolated CABG Surgery

DESCRIPTION:
Percentage of patients aged 18 years and older undergoing isolated CABG surgery who received an IMA graft

NUMERATOR:
Patients undergoing isolated CABG who received an IMA graft

Numerator Options:
- Internal mammary artery graft performed for primary, isolated coronary artery bypass graft procedure (4110F)

OR
- Documentation of medical reason(s) for not performing an internal mammary artery graft for primary, isolated coronary artery bypass graft procedure. Acceptable medical reasons include: subclavian stenosis, previous cardiac or thoracic surgery, previous mediastinal radiation, emergent or salvage procedure, no left anterior descending artery disease (4110F with 1P)

OR
- Internal mammary artery graft not performed for primary, isolated coronary artery bypass graft procedure, reason not otherwise specified (4110F with 8P)
Measure #44 (NQF 0236): Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

**DESCRIPTION:**
Percentage of isolated Coronary Artery Bypass Graft (CABG) surgeries for patients aged 18 years and older who received a beta-blocker within 24 hours prior to surgical incision.

**NUMERATOR:**
Patients who received a beta-blocker within 24 hours prior to surgical incision of isolated CABG surgeries

**Definition:**
Medical Reason - Eligible professional must document specific reason(s) for not administering beta-blockers.

**Numerator Options:**
- Beta blocker administered within 24 hours prior to surgical incision (4115F)
- OR
  - Documentation of medical reason(s) for not administering beta blocker within 24 hours prior to surgical incision (eg, not indicated, contraindicated, other medical reasons) (4115F with 1P)
  - OR
    - Beta blocker not administered within 24 hours prior to surgical incision, reason not otherwise specified (4115F with 8P)
DESCRIPTION:
Percentage of patients aged 18 years and older undergoing isolated CABG surgery who require postoperative intubation > 24 hours

NUMERATOR:
Patients undergoing isolated CABG who require intubation > 24 hours following exit from the operating room

Numerator Instructions: A lower calculated performance rate for this measure indicates better clinical care or control.

Numerator Options:
Prolonged postoperative intubation (> 24 hrs) required (G8569)
OR
Prolonged postoperative intubation (> 24 hrs) not required (G8570)
**Measure #165 (NQF 0130): Coronary Artery Bypass Graft (CABG): Deep Sternal Wound Infection Rate**

**DESCRIPTION:**
Percentage of patients aged 18 years and older undergoing isolated CABG surgery who, within 30 days postoperatively, develop deep sternal wound infection involving muscle, bone, and/or mediastinum requiring operative intervention.

**NUMERATOR:**
Patients who, within 30 days postoperatively, develop deep sternal wound infection involving muscle, bone, and/or mediastinum requiring operative intervention. Patient must have **ALL** of the following conditions: 1.) wound opened with excision of tissue (incision and drainage) or re-exploration of mediastinum, 2.) positive culture unless patient is on antibiotics at time of culture or no culture obtained, and 3.) treatment with antibiotics beyond perioperative prophylaxis.

**Numerator Instructions:** A lower calculated performance rate for this measure indicates better clinical care or control.

**Numerator Options:**
Development of deep sternal wound infection within 30 days postoperatively (G8571)

**OR**

**No** deep sternal wound infection (G8572)
Measure #166 (NQF 0131): Coronary Artery Bypass Graft (CABG): Stroke

DESCRIPTION:
Percentage of patients aged 18 years and older undergoing isolated CABG surgery who have a postoperative stroke (i.e., any confirmed neurological deficit of abrupt onset caused by a disturbance in blood supply to the brain) that did not resolve within 24 hours.

NUMERATOR:
Patients who have a postoperative stroke (i.e., any confirmed neurological deficit of abrupt onset caused by a disturbance in blood supply to the brain) that did not resolve within 24 hours.

- **Numerator Instructions:** A lower calculated performance rate for this measure indicates better clinical care or control.

- **Numerator Options:**
  - Stroke following isolated CABG surgery (G8573)
  - No stroke following isolated CABG surgery (G8574)
Measure #167 (NQF 0114): Coronary Artery Bypass Graft (CABG): Postoperative Renal Failure

DESCRIPTION:
Percentage of patients aged 18 years and older undergoing isolated CABG surgery (without pre-existing renal failure) who develop postoperative renal failure or require dialysis.

NUMERATOR:
Patients who develop postoperative renal failure or require dialysis; (Definition of renal failure/dialysis requirement - patient had acute renal failure or worsening renal function resulting in one of the following: 1) increase of serum creatinine to ≥ 4.0 mg/dL or 3x most recent preoperative creatinine level, or 2) a new requirement for dialysis postoperatively)

Numerator Instructions: A lower calculated performance rate for this measure indicates better clinical care or control.

Numerator Options:
Developed postoperative renal failure or required dialysis (G8575)

OR

No postoperative renal failure/dialysis not required (G8576)
Measure #168 (NQF 0115): Coronary Artery Bypass Graft (CABG): Surgical Re-Exploration

DESCRIPTION:
Percentage of patients aged 18 years and older undergoing isolated CABG surgery who require a return to the operating room (OR) during the current hospitalization for mediastinal bleeding with or without tamponade, graft occlusion, valve dysfunction, or other cardiac reason

NUMERATOR:
Patients who require a return to the OR during the current hospitalization for mediastinal bleeding with or without tamponade, graft occlusion, valve dysfunction, or other cardiac reason

Numerator Instructions: A lower calculated performance rate for this measure indicates better clinical care or control.

Numerator Options:
Re-exploration required due to mediastinal bleeding with or without tamponade, graft occlusion, valve dysfunction, or other cardiac reason (G8577)

OR

Re-exploration not required due to mediastinal bleeding with or without tamponade, graft occlusion, valve dysfunction, or other cardiac reason (G8578)
Measure #169 (NQF 0116): Coronary Artery Bypass Graft (CABG): Antiplatelet Medications at Discharge

DESCRIPTION:
Percentage of patients aged 18 years and older undergoing isolated CABG surgery who were discharged on antiplatelet medication

NUMERATOR:
Patients who were discharged on antiplatelet medication

Numerator Options:
- Antiplatelet medication at discharge (G8579)
- Antiplatelet medication contraindicated (G8580)
- No antiplatelet medication at discharge (G8581)
**Measure #170 (NQF 0117): Coronary Artery Bypass Graft (CABG): Beta-Blockers Administered at Discharge**

**DESCRIPTION:**
Percentage of patients aged 18 years and older undergoing isolated CABG surgery who were discharged on beta-blockers.

**NUMERATOR:**
Patients who were discharged on beta-blockers

Numerator Options:
- Beta-blocker at discharge (G8582)
- Beta-blocker contraindicated (G8583)
- No beta-blocker at discharge (G8584)
Measure #171 (NQF 0118): Coronary Artery Bypass Graft (CABG): Anti-Lipid Treatment at Discharge

DESCRIPTION:
Percentage of patients aged 18 years and older undergoing isolated CABG surgery who were discharged on a statin or other lipid-lowering regimen

NUMERATOR:
Patients who were discharged on a statin or other lipid-lowering regimen

<table>
<thead>
<tr>
<th>Numerator Options:</th>
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<tbody>
<tr>
<td>Anti-lipid treatment at discharge (G8585)</td>
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<tr>
<td>OR</td>
<td></td>
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<tr>
<td>Anti-lipid treatment contraindicated (G8586)</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
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<tr>
<td>No anti-lipid treatment at discharge (G8587)</td>
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</tbody>
</table>
Measure #43 - Coronary Artery Bypass Graft (CABG): Use of Internal Mammary Artery (IMA) in Patients with Isolated CABG Surgery

RATIONALE:
A major innovation has been the introduction of off-bypass CABG, which has reduced the post-procedure length of stay in some centers to between 2 and 3 days. In some centers, this has led to a total 3-month cost for single-vessel coronary bypass that is not significantly different from the total 3-month cost for angioplasty of single-vessel disease. Considering the favorable long-term patency of an internal mammary artery (IMA) graft to the LAD, the cost reductions possible with off-bypass CABG may improve the relative cost-effectiveness of coronary bypass compared with either medical therapy or percutaneous techniques, particularly for symptomatic, proximal LAD disease.

CLINICAL RECOMMENDATION STATEMENTS:

Class I
In every patient undergoing CABG, the left internal mammary artery (IMA) should be given primary consideration for revascularization of the left anterior descending (LAD) artery. (Level of Evidence: B)

Measure #44 - Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

RATIONALE:
Postoperative atrial fibrillation (POAF) is a common complication following cardiac surgery, occurring in 25-40% of patients (Crystal, 2004, Burgess, 2006).

POAF has been associated with increased rates of post-operative morbidity and mortality and consequently, increased costs (Mariscalco, 2008, Crystal, 2004, Bramer, 2010).

Prophylactic administration of beta-blockers have been shown to reduce the risk of POAF and mortality following isolated coronary artery bypass graft surgery (Connolly, 2003, Mariscalco, 2008, Ferguson, 2002).

Khan’s meta-analysis of RCTs found that “Preoperative BB initiation resulted in 52% reduction in the incidence of AF as compared to controls, however these results were not statistically significant.” ElBardissi (2012) showed a 19.5% increase in preoperative use of beta-blockers from 2000-2009.

Coronary revascularization, comprising coronary artery bypass graft (CABG) surgery and percutaneous coronary intervention (PCI), is among the most common major medical procedures provided by the US health care system, with more than 1 million procedures performed annually. It is also among the most costly (Medicare inpatient payments to hospitals for coronary revascularizations exceeded $6.7 billion in fiscal year 2006, an amount larger than the reimbursement for any other medical or surgical procedure) (Epstein, 2011).

CLINICAL RECOMMENDATION STATEMENTS:

Preoperative Beta-blockers

Class I
1. Beta-blockers should be administered for at least 24 hours before CABG to all patients without contraindications to reduce the incidence or clinical sequelae of postoperative AF. (Level of Evidence: B), (ACCF/AHA, 2011)

Class IIa
1. Preoperative use of beta-blockers in patients without contraindications, particularly in those with an LV ejection fraction (LVEF) greater than 30%, can be effective in reducing the risk of in-hospital mortality. (Level of Evidence: B), (ACCF/AHA, 2011)
2. Beta-blockers can be effective in reducing the incidence of perioperative myocardial ischemia. *(Level of Evidence: B)*, (ACCF/AHA, 2011)

Class IIIb

1. The effectiveness of preoperative beta-blockers in reducing in-hospital mortality rate in patients with LVEF less than 30% is uncertain. *(Level of Evidence: B)*, (ACCF/AHA, 2011)

**Measure #164 - Coronary Artery Bypass Graft (CABG): Prolonged Intubation**

**Rationale:**
Based on the STS coronary artery bypass graft (CABG) study population, the morbidity rate associated with prolonged intubation following CABG is 5.96%. Also, prolonged ventilation (defined as > 24 hours) was an independent predictor for readmission to the ICU following CABG surgery (OR=10.53; CI: 6.18 to 17.91). Shorter ventilation times are linked to high quality of care (i.e., reduced in-hospital and operative mortality, as well as better long-term outcomes as compared to prolonged ventilation).

**Clinical Recommendation Statements:**
Extubation greater than (> 24 hours) is considered a "pulmonary complication." Patients who were extubated after 24 hours had a longer duration of hospital stay and a greater incidence of postoperative complications.

**Measure #165 - Coronary Artery Bypass Graft (CABG): Deep Sternal Wound Infection Rate**

**Rationale:**
The most serious hospital-acquired infection associated with coronary artery bypass graft (CABG) surgery is deep sternal wound or deep surgical site infection. The most common bacteria involved are *S. aureus* including increasingly more common methicillin resistant *Staph* (MRS). For CABG only outcomes 1997-1999 the STS dataset reported 0.63% deep sternal wound infection rate in 503,478 records. A report from an academic hospital reported 1.9% deep surgical site infections (Centers for Disease Control and Prevention National Nosocomial Infection Surveillance [CDC NNIS] criteria) in 1,980 patients undergoing isolated CABG or CABG+ procedures from 1996-1999. The Northern New England Cardiovascular Disease Study Group reported an incidence rate for mediastinitis of 1.25% and noted a marked increase in mortality during the first year post-CABG and a threefold increase during a 4-year follow-up period.

**Clinical Recommendation Statements:**
Several risk factors for sternal wound infection have been identified that can be optimized with good care practices: prophylactic antibiotics within 1 hour before incision time (odds ratio 5.3) [see antibiotic timing process measure] and avoiding elevated blood glucose levels (odds ratio 10.2). Surveillance for surgical site infections is a critical hospital function to monitor infection control practices and direct improvement activity.

**Measure #166 - Coronary Artery Bypass Graft (CABG): Stroke**

**Rationale:**
Stroke is a devastating complication after coronary bypass surgery. The 1999 American College of Cardiology/American Heart Association (ACC/AHA) guidelines indicate that adverse cerebral outcomes are observed in ~6% of patients after bypass surgery equally divided between 2 types:

1) associated with major, focal neurological defects, stupor or coma and
2) evidence of deterioration in intellectual function. Type 1 deficits occur in ~3% of patients and are responsible for 21% mortality.

Reports in the literature on postoperative stroke incidence are difficult to compare because the conditions included in the term "stroke" vary. A standardized definition of stoke will provide common language to compare stroke incidence and evaluate management strategies for reducing this devastating complication.
Reported rates of postoperative cerebral dysfunction range from 0.4% to 13.8% following coronary operations. Complications for patients undergoing emergent CABG or valve surgery were greater than the complication rate for patients undergoing elective CABG or valve surgery. As bypass times increased, so did the incidence of stroke. When bypass time was 90 to 113 minutes, OR = 1.59, p=0.022 and when bypass time was > 114 minutes, the OR = 2.59, p < 0.001. Outcomes are better when patient age is younger and with beating-heart surgery rather than on-pump surgery.

**CLINICAL RECOMMENDATION STATEMENTS:**
The 1999 ACC/AHA guidelines describe strategies for reducing the risk of postoperative stroke such as an aggressive approach to the management of patients with severely diseased ascending aortas identified by intraoperative echocardiographic imaging, prevention or aggressive management of postoperative atrial fibrillation, delay of bypass surgery in the case of a left ventricular mural thrombus or a recent, preoperative CVA and preoperative carotid screening. Patients should carefully be screened for cerebrovascular disease to help prevent stroke and its associated morbidities.

Use of beta-adrenergic antagonists was associated with a lower incidence of stroke in patients undergoing elective CABG (OR=0.45; 95% CI 0.23 to 0.83; p=0.016). Use of antiplatelet agents within 48 hours of surgery is associated with a decreased risk of stroke (OR=0.51, p=0.01). Increased use of beating-heart surgery without cardiopulmonary bypass may lead to a lower prevalence of stroke following cardiac surgery and thus improve patient outcomes.

**Measure #167 - Coronary Artery Bypass Graft (CABG): Postoperative Renal Failure**

**RATIONALE:**
In 2000, coronary artery bypass graft (CABG) surgery was performed on more than 350,000 patients at a cost of close to $20 billion. Some degree of Acute Renal Dysfunction (ARD) occurs in about 8% of patients following CABG, and dialysis-dependent renal failure occurs in 0.7% to 3.5% of patients receiving CABG. The latter is associated with substantial increases in morbidity, length of stay, and mortality (odds ratios for mortality range from 15 to 27). ARD is associated with increased morbidity, mortality and length of stay in an ICU following surgery. In addition, Acute Renal Failure occurs in 1.5% of patients undergoing any type of cardiac surgery. There has been a substantial increase in postoperative morbidity, mortality, and cost associated with this relatively common complication, regardless of whether or not this incidence varies much between providers, and there are implications of even a modest decrease in its incidence.

**CLINICAL RECOMMENDATION STATEMENTS:**
Acute renal failure following CABG is an intermediate outcome measure for mortality since this complication is independently associated (OR=27) with early mortality following cardiac surgery, even after adjustment for comorbidity and postoperative complications.

**Measure #168 - Coronary Artery Bypass Graft (CABG): Surgical Re-Exploration**

**RATIONALE:**
In 2000, coronary artery bypass graft (CABG) surgery was performed on more than 350,000 patients at a cost of close to $20 billion. Re-exploration after surgery is a serious complication that impacts length of stay, efficient use of resources, and increases risk for additional complications and death. As one of several major complications of cardiac surgery, repeat surgery is particularly worrisome for consumers and is an inefficient use of resources.

**CLINICAL RECOMMENDATION STATEMENTS:**
Re-exploration after surgery is a serious complication that impacts length of stay, efficient use of resources, and increases risk for additional complications and death. This measure is currently in use by approximately 65% of providers in the United States who perform cardiac surgery and report data to the STS National Database.

**Measure #169 - Coronary Artery Bypass Graft (CABG): Antiplatelet Medications at Discharge**
RATIONALE:
Use of aspirin soon after coronary artery bypass graft (CABG) is associated with reduced risk of death and ischemic complications involving the heart, brain, kidneys, and gastrointestinal tract. High-risk patients now represent the majority of patients who undergo bypass surgery, giving rise to rates of 15% or higher for complications affecting heart, brain, kidneys, and intestines.

Guidelines from the American College of Chest Physicians recommend the administration of aspirin soon after CABG, specifically 325 mg per day starting six hours after surgery.

CLINICAL RECOMMENDATION STATEMENTS:
Evidence-based discharge therapies are underutilized in older patients who underwent CABG during hospitalization for acute myocardial infarction.

Measure #170 - Coronary Artery Bypass Graft (CABG): Beta-Blockers Administered at Discharge

RATIONALE:
Upwards of 70% of patients who undergo revascularization procedures have had a myocardial infarction (MI). Cumulative evidence and randomized trials indicate that patients with a previous MI live longer if they are on beta blockers. For many years, patients were taken off beta-blocker medications in preparation for surgery. Evidence from the STS National Database demonstrated that beta blocker use is safe and effective in many CABG patients previously thought to be at high risk for adverse events of beta blocker therapy (women, elderly, diabetes, congestive heart failure). In addition, the use of post-operative b-blockers is now known to protect patients both at one year and long term (greater than 5 years) from death following cardiac surgery. This effect is associated with a 46 % risk reduction in death at one year and 35% risk reduction in mortality during long-term follow-up (Chan et al., 2012).

CLINICAL RECOMMENDATION STATEMENTS:
Beta blockade reduces atrial fibrillation complications following CABG. At four to five years, survival was approximately 13% worse in patients who developed postoperative atrial fibrillation (p < 0.001).

Measure #171 - Coronary Artery Bypass Graft (CABG): Anti-Lipid Treatment at Discharge

RATIONALE:
Atherosclerosis is a chronic disease. Events such as acute myocardial infarction (AMI) and coronary artery bypass graft (CABG) surgery identify patients with the disease, but acute therapy is not sufficient for optimal long-term outcomes. In post-bypass patients, atherosclerosis continues to progress in the native circulation and develops at an accelerated rate in saphenous vein bypass grafts. Management of the chronic disease is critically important in patients with atherosclerosis, such as those undergoing CABG.

The advantages of adherence to the American College of Cardiology/American Heart Association “Get with the Guidelines” program are discussed in a recent article, which also demonstrates both variation in quality and opportunity for improvement (38% compliance with guidelines before program implementation, 98.4% compliance thereafter). The article also discusses educational and process measures used by a major medical center to achieve compliance.

CLINICAL RECOMMENDATION STATEMENTS:
Compliance rates for patients receiving personalized follow-up for lipid management over two years were significantly better than in the control group. Lipid lowering in coronary heart disease has been demonstrated distinctively through three trials (CLAS, post-CABG, and CARE) to delay the progression of atherosclerosis and/or reduce deaths, and non-fatal MI following bypass surgery. Aggressive (low-density lipoprotein [LDL]) cholesterol-lowering treatment (target < 85 mg/dL) was correlated to a slower rate of disease progression (31%) after 4-5 years in comparison to the control group, which was comprised of patients receiving moderate lipid-lowering treatment (target < 130 to 140 mg/dL).