Performance Measurement

Coronary Artery Bypass Graft Surgery: Review of the Performance Measures by the Performance Measurement Committee of the American College of Physicians

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Recommendation
ACP supports NQF 0119: "Risk-Adjusted Operative Mortality for CABG."

Rationale
ACP supports this measure. The balance of evidence shows that implementation of risk-adjusted CABG mortality measures can improve outcomes for patients undergoing CABG surgery. Transparent reporting for risk-adjusted mortality rates may drive poor performers to retire and save more lives as a result. Furthermore, this measure addresses informed patient consent by advising patients of their risk for operative mortality.

Measure Specifications

NQF 0119: Risk-Adjusted Operative Mortality for CABG	
Status:	NQF Endorsed, Last Updated Jul 14, 2015 **(Public Reporting, Quality Improvement)**
Measure Steward:	The Society of Thoracic Surgeons
Description:	Percent of patients aged 18 years and older undergoing isolated CABG who die, including both 1) all deaths occurring during the hospitalization in which the CABG was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure
Numerator Statement:	Number of patients undergoing isolated CABG who die, including both 1) all deaths occurring during the hospitalization in which the operation was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure
Denominator Statement:	All patients undergoing isolated CABG
Exclusions:	N/A
Type of Measure:	Outcome
Level of Analysis:	Clinician: Group/Practice, Facility
Care Setting:	Hospital/Acute Care Facility
Data Source:	Electronic Clinical Data: Registry

Recommendation
ACP does not support NQF 2514: "Risk-Adjusted CABG Readmission Rate."

Rationale
ACP supports this measure because it captures a targeted denominator (fee-for-service Medicare patients, ages 65 and older) and uses the Society of Thoracic Surgeons risk-adjustment, which has a strong base of clinical data.

Measure Specifications

NQF 2514: Risk-Adjusted CABG Readmission Rate	
Status:	NQF Endorsed, Last Updated Nov 03, 2015 **(Public Reporting, Quality Improvement)**
Measure Steward:	The Society for Thoracic Surgeons
Description:	Risk-adjusted percentage of Medicare fee-for-service beneficiaries aged 65 and older who undergo isolated coronary artery bypass grafting (CABG) and are discharged alive but have a subsequent acute care hospital inpatient admission within 30 days of the date of discharge from the CABG hospitalization.
Numerator Statement:	Number of Medicare fee-for-service beneficiaries aged 65 and older who undergo isolated coronary artery bypass grafting (CABG) and are discharged alive but have a subsequent acute care hospital inpatient admission within 30 days of the date of discharge from the CABG hospitalization.
Denominator Statement:	Number of Medicare fee-for-service beneficiaries aged 65 and older who undergo isolated coronary artery bypass grafting (CABG) during the designated 3-year measurement period and are discharged alive.
Exclusions:	Exclusion – Rationale • The patient is age <65 years on date of discharge according to CMS or STS data – Patients younger than 65 in the Medicare dataset represent a distinct population that qualifies for Medicare due to disability. The characteristics and outcomes of these patients may be less representative of the larger population of CABG patients. • There is a CMS record but no matching STS record – STS data elements are required for identifying the cohort and for risk adjustment. • There is an STS record but not matching CMS record – Medicare data are required for ascertaining 30-day readmission status, especially readmissions to a hospital other than the CABG hospital • CABG is not a stand-alone procedure – Inclusion of combination procedures complicates risk adjustment by adding multiple relatively rare cohorts with potentially distinct characteristics and outcomes. • The patient died prior to discharge from acute care setting – Patient is not at risk of subsequent readmission.

	• The patient leaves against medical advice (AMA). – Physicians and hospitals do not have the opportunity to deliver the highest quality care. • The patient does not retain Medicare fee-for-service (FFS) A and B for at least two months after discharge – Beneficiaries who switch to a Medicare advantage plan are unlikely to file inpatient claims which are required for ascertaining 30-day readmission status. • The index CABG episode is >365 days. – These patients were excluded for consistency with previous CMS readmission measures. These records may inaccurate admission and discharge dates. If not, including them would complicate risk adjustment by adding a relatively rare cohort with potentially distinct characteristics and outcomes. • Not the first eligible CABG admission per patient per measurement period. – Simplifies statistical analysis. Also, repeat CABG procedures are very rare and so loss of information is minimal.
Type of Measure:	Outcome
Level of Analysis:	Facility
Care Setting:	Hospital/Acute Care Facility
Data Source:	Administrative claims, Electronic Clinical Data: Registry

Recommendation

ACP does not support NQF 2515: "Hospital 30-Day, All-Cause, Unplanned, Risk-Standardized Readmission Rate Following Coronary Artery Bypass Graft Surgery."

Rationale

ACP does not support this measure because it could lead to cherry picking of patients and would require careful risk-adjustment, more so than what is currently included in the measure. The measure may act as a proxy for complications and care coordination. Furthermore, there is evidence indicating CMS' current risk-adjustment factors are inadequate.

Measure Specifications

NQF 2515: Hospital 30-Day, All-Cause, Unplanned, Risk-Standardized Readmission Rate Following CABG	
Status:	NQF Endorsed, Last Updated Nov 03, 2015 **(Value Based Purchasing)**
Measure Steward:	Centers for Medicare and Medicaid Services
Description:	This measure estimates a hospital-level 30-day risk-standardized readmission rate (RSRR) for patients discharged from the hospital after undergoing isolated coronary artery bypass graft (CABG) surgery. The outcome is defined as unplanned readmission for any cause within 30 days

	of the discharge date for the index admission. The Centers for Medicare & Medicaid Services (CMS) annually reports the measure for individuals who are 65 years and over and are Medicare Fee-for-Service (FFS) beneficiaries hospitalized in non-federal hospitals.
Numerator Statement:	This measure assesses unplanned readmissions to any acute care hospital within a 30-day period from the date of discharge of the index coronary artery bypass graft (CABG) admission. The hospital-specific risk-standardized readmission rate (RSRR) is calculated as the ratio of the number of "predicted" readmissions to the number of "expected" readmissions, multiplied by the national unadjusted readmission rate. The "numerator" of the ratio is the number of readmissions within 30 days predicted on the basis of the hospital's performance with its observed case-mix. See the related "Numerator Inclusions/Exclusions" field. **Note**: This outcome measure does not have a traditional numerator and denominator like a core process measure; thus, this field is used to define the outcome.
Denominator Statement:	This claims-based measure can be used in either of two patient cohorts: (1) patients aged 65 years or older or (2) patients aged 18 years or older. The cohort includes admissions for patients who receive a qualifying isolated coronary artery bypass graft (CABG) procedure and with a complete claims history for the 12 months prior to admission. For simplicity of implementation and as testing demonstrated closely correlated patient-level and hospital-level results using models with or without age interaction terms, the only recommended modification to the measure for application to all-payer data sets is replacement of the "Age 65" variable with a fully continuous age variable. The risk-standardized readmission rate (RSRR) is calculated as the ratio of the number of "predicted" readmissions to the number of "expected" readmissions, multiplied by the national unadjusted readmission rate. The "denominator" is the number of readmissions expected on the basis of the nation's performance with that hospital's case-mix. See the related "Denominator Inclusions/Exclusions" field. **Note**: This outcome measure does not have a traditional numerator and denominator like a core process measure; thus, this field is used to define the measure cohort.
Exclusions:	In order to create a clinically coherent population for risk adjustment and

	in accordance with existing NQF-approved CABG measures and clinical expert opinion, the measure is intended to capture isolated CABG patients (i.e., patients undergoing CABG procedures without concomitant valve or other major cardiac or vascular procedures). For all cohorts, hospitalizations are excluded if they meet any of the following criteria. Hospitalizations for: 1) Patients who leave the hospital against medical advice (AMA) Rationale: We exclude hospitalizations for patients who are discharged AMA because providers did not have the opportunity to deliver full care and prepare the patient for discharge. 2) Patients with qualifying CABG procedures subsequent to another qualifying CABG procedure during the measurement period. Rationale: CABG procedures are expected to last for several years without the need for revision or repeat revascularization. A repeat CABG procedure during the measurement period very likely represents a complication of the original CABG procedure and is a clinically more complex and higher risk surgery. We, therefore, select the first CABG admission for inclusion in the measure and exclude subsequent CABG admissions from the cohort. For Medicare FFS patients, the measure additionally excludes: 3) Patients without at least 30 days post-discharge enrollment in FFS Medicare. Rationale: We exclude these hospitalizations because the 30-day readmission outcome cannot be assessed in this group
Type of Measure:	Outcome
Level of Analysis:	Facility
Care Setting:	Hospital/Acute Care Facility
Data Source:	Administrative claims

Recommendation
ACP does not support NQF 2558: "Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate Following Coronary Artery Bypass Graft Surgery."

Rationale
ACP does not support this measure because it does not have adequate risk-adjustment. NQF #0119, developed by the Society of Thoracic Surgeons, is a similar measure that is based on more robust clinical data.

Measure Specifications

NQF 2558: Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate Following Coronary Artery Bypass Graft Surgery	
Status:	NQF Endorsed, Last Updated Nov 12, 2014
Measure Steward:	Centers for Medicare and Medicaid Services
Description:	The measure estimates a hospital-level, risk-standardized mortality rate (RSMR) for patients 18 years and older discharged from the hospital following a qualifying isolated CABG procedure. Mortality is defined as death from any cause within 30 days of the procedure date of an index CABG admission. The measure was developed using Medicare Fee-for-Service (FFS) patients 65 years and older and was tested in all-payer patients 18 years and older. An index admission is the hospitalization for a qualifying isolated CABG procedure considered for the mortality outcome.
Numerator Statement:	The outcome for this measure is 30-day all-cause mortality. Mortality is defined as death for any reason within 30 days of the procedure date from the index admission for patients 18 and older discharged from the hospital after undergoing isolated CABG surgery.
Denominator Statement:	This claims-based measure can be used in either of two patient cohorts: (1) patients aged 65 years or older or (2) patients aged 18 years or older. We have tested the measure in both age groups. The cohort includes admissions for patients who receive a qualifying isolated CABG procedure (see codes below) and with a complete claims history for the 12 months prior to admission. For simplicity of implementation and as testing demonstrated closely correlated patient-level and hospital-level results using models with or without age interaction terms, the only recommended modification to the measure for application to all-payer data sets is replacement of the "Age-65" variable with a fully continuous age variable. If a patient has more than one qualifying isolated CABG admission in a year, one hospitalization is randomly selected for inclusion in the measure.
Exclusions:	Hospitalizations are excluded if they meet any of the following criteria.

	Hospitalizations for: 1) Patients with inconsistent or unknown vital status or other unreliable data. Rationale: We exclude these because the outcome cannot be adequately measured in these patients. 2) Patients who leave the hospital against medical advice (AMA) Rationale: We exclude hospitalizations for patients who are discharged AMA because providers did not have the opportunity to deliver full care and prepare the patient for discharge. 3) Patients with qualifying CABG procedures subsequent to another qualifying CABG procedure during the measurement period Rationale: CABG procedures are expected to last for several years without the need for revision or repeat revascularization. A repeat CABG procedure during the measurement period very likely represents a complication of the original CABG procedure and is a clinically more complex and higher risk surgery. We, therefore, select the first CABG admission for inclusion in the measure and exclude subsequent CABG admissions from the cohort.
Type of Measure:	Outcome
Level of Analysis:	Facility
Care Setting:	Hospital/Acute Care Facility
Data Source:	Administrative claims

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