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National Voluntary Consensus Standards for Patient Outcomes
Summary of the Cardiovascular Technical Advisory Panel Meeting
January 19, 2010

TAP members present: Edward Gibbons, MD (chair); Sana Al-Khatib, MD, MHS; Bojan Cercek, MD, PhD; Michael Crouch, MD; Stephen Ellis, MD, FACC; Irene Katzan, MD, MS; Richard Prager, MD; Michael Rich, MD, FACC, FAGS; Sarah Spinler, PharmD, FAHA, FCCP

NQF staff present: Reva Winkler, MD, MPH; Alexis Forman, MPH; Karen Pace, PhD, RN; Helen Burstin, MD, MPH; Emma Nochomovitz, MPH

Measure Steward Representatives and Audience Members present: Laura Blum, Lein Han, Shaheen Halim, Joel Harder, Sandra Lesikar, Wayne Powell, Christopher Tompkins, Bonnie Weiner, Jeptha P. Curtis, MD

Measure Steward Representatives and Audience Members participating via conference call: Susannah Bernheim, Kanchana Bhat, John Bott, John, Chapman, Elizabeth Drye, Joyce Dubow, Lori Geary, Jeffrey Geppert, Laura Grosso, Harlan Krumholz, Sue Lee, Issam Moussa, Chohreh Partovian, Grant Ritter, Patrick Romano, Marian Ryan

Introduction

A meeting of the National Voluntary Consensus Standards for Patient Outcomes Cardiovascular Technical Advisory Panel (TAP) was held on Tuesday, January 19, 2010 in Washington, DC.
TAP chair Dr. Edward Gibbons opened the meeting and requested introductions, including the disclosure of specific interests pertaining to the measures being evaluated.[1]

Orientation to NQF

Dr. Reva Winkler, NQF project consultant and the outcomes project advisor, outlined the meeting goals:

- Orientation to NQF and the patient outcomes project
- Discussion of NQF's criteria for measure evaluation
- Evaluate the sub-criteria for seven candidate pulmonary/ICU measures

The goal of the Patient Outcomes project was explained with regard to its efforts to expand NQF's portfolio of outcome measures focusing on the top 20 Medicare conditions, plus several others. The cardiovascular conditions of interest include CAD, AMI, HF, a-fibrillation and stroke/TIA. It was also explained that the project is being conducted in three phases and involves three Steering Committees and eight Technical Advisory Panels.

Dr. Winkler provided an orientation to NQF which emphasized the organization's structure, multi-stakeholder membership, mission, strategic goals, and measures portfolio. The current portfolio was described within the context of evolving thought surrounding the need for more composite and/or outcome measures that drive high performance, as well as measures that are harmonized and sensitive to disparities.

The following project goals were highlighted:

[1] Edward Gibbons –works in the same department with Larry Dean, incoming SCIA president; Sana Al-Khatib – funding from Medtronic; Stephen Ellis - receives consultancy fees from three organizations responsible for the development of stents-Boston Scientific, Cordis, and Abbott vascular

- To identify, evaluate and endorse additional measures suitable for public reporting and quality improvement that specifically address outcomes of healthcare. This project includes cross-cutting (not condition-specific) outcome measures as well as specific outcome measures for more than 20 common conditions
- To identify gaps in existing outcome measures and recommend potential outcome measures to fill those gaps.

Further context for the project was provided through an explanation of the NQF Consensus Development Process (CDP) with discussion of the role of project's Steering Committees, Technical Advisory Panels (TAPs) and NQF staff. Specifically, the role of the TAP was explained to be the preliminary evaluation of candidate measures, specifically the sub-criteria from NQF's standard measure evaluation criteria as revised August 2008. This preliminary evaluation will assist the main Steering Committee in evaluating the measures and making recommendations to the NQF membership as to which measures should go forward for endorsement.

In response to this orientation, one question was asked whether hypertension was included in the scope of the cardiovascular conditions. NQF staff replied that although hypertension is not one of the top 20 conditions identified by Medicare, outcome measures for hypertension would be in scope of this project.

Measure developer comments

Measure developers provided general description and rationale for their measures, in addition to responding to questions or clarifying information in the measure submission.

OT1-008-09 Hospital risk-standardized readmission rates following percutaneous coronary intervention (PCI) - Jeptha P. Curtis, MD and Harlan Krumholz, MD, Yale University

- This measure, along with the previously endorsed PCI mortality measures, creates a portfolio of measures addressing coordination of care for the vulnerable population of patients undergoing PCI that are readmitted to the hospital.
- The measure is based on clinical data and is harmonized with the endorsed PCI mortality measures.
- A strong working group guided the development of the measure.
- The measure addresses system issues. Higher readmission rates indicate system failures. The lower c-statistic is driven by system factors rather than clinical factors.
- Two tensions in the development of the measure:
    - All cause vs. cause-specific readmissions, the cause-specific approach removes the "noise" but reduces the scope; developer chose the broader scope and accepted the noise , similar to the endorsed measures of readmission for AMI and heart failure
    - Risk-adjustment inclusion of socio-economic factors is controversial

OT1-002-09 30-Day post-hospital AMI discharge ED visit rate
OT1-003-09 30-Day post-hospital AMI evaluation and management (E&M) service
OT1-016-09 30-Day post hospital AMI discharge care transition composite
OT1-006-09 30-day post-hospital heart failure discharge ED visit rate
OT1-004-09 30-day post-hospital heart failure evaluation and management (E&M) service
OT1-017-09 30-day post hospital heart failure discharge care transition composite – Chris Tompkins, Brandeis University

- This group of measures is about the ability to influence the trajectory of patients who are coming out of an acute inpatient setting and asking the question whether those patients are being well treated in the aftermath of the hospitalization.
- The premise is that a hospital delivery system where the patient trajectory tends to show ambulatory follow-up and relatively fewer high acuity incidents, such as the ED and re-admissions, have better care coordination.

- The all-cause specification is built upon the already endorsed CMS measure of 30-day readmission rates for which the methodology is very much the same. These are high acuity, vulnerable, frail populations, leaving the hospital. Looking at care transitions and care coordination, is somebody intercepting these people and noticing and identifying and watching these people before there are adverse events of any sort?
- The model is constructed to show variation between what is seen versus what is expected. There are a certain number of events that occur to people that are not related to the hospitalization. They will occur in the denominator pretty much equally distributed across hospitals.
- The statistical performance of the new evaluation and management (E&M) and ED visit measures, are similar to the readmission measures.

Reviewing the Measures

Each Committee member was asked by NQF staff to review a number of measures in advance of the in-person meeting. The primary and secondary reviewers of each measure led the discussion of each measure's strengths and weaknesses for each of the sub-criteria. During the meeting the measure stewards/developers responded to questions from TAP members. The evaluation summary tables below provides the Committee's ratings of the sub-criteria and a summary of the major discussion points.

OT1-008-08 Hospital 30-day risk-standardized readmission rates following percutaneous coronary intervention (PCI)

The measure estimates hospital risk- standardized 30-day readmission rates following PCI in Medicare Fee for Service (FFS) patients at least 65 years of age. As PCI patients may be readmitted electively for staged revascularization procedures, we will exclude such elective readmission for this measure. The measure uses clinical data available in the National Cardiovascular Disease Registry (NCDR) CathPCI Registry for risk adjustment that has been linked with CMS administrative claims data used to identify readmissions.

IMPORTANCE TO MEASURE AND REPORT		
1a Impact	Completely	1a - high impact -commonly performed procedure; significant readmission rate - 15 percent; 1b. Opportunity for improvement — significant variation among hospitals; 1c. Important outcome measure, strategies exist to reduce readmissions
1b Gap	Completely	
1c Relation to Outcomes	Completely	
SCIENTIFIC ACCEPTABILTY		
2a Specs	Completely	2a. Specifications are precise; probabilistic matching questioned - specific matching better; is "staging" well defined? -- yes for ACC registry - but for others? 2b. reproducibility of the outliers has not been demonstrated; concerns about auditing of data quality - would like more information on NCDR auditing report; need for more transparency in auditing; concern subject to "gaming" (i.e., TAP members are aware of on-going "upcoding"), no demonstration that admission coding captures the true reason for admission; 2c. concerns about including "all causes" for
2b Reliability	Partially	
2c Validity	Partially	
2d Exclusions	Partially	
2e Risk Adjustment	Partially	
2f Meaningful Differences	Completely	
2g Comparability	Not Applicable	

2h Disparities	Not Applicable	readmission - as much as 10 percent for reasons not attributable to procedure though some TAP members noted that certain readmission such as pneumonia may be related to aspiration, etc; concern about time window - 7 or 15 days might be more appropriate to capture readmissions related to the PCI procedure; concerns about categorization and attribution; 2d. exclusions generally appropriate; 2e. Risk adjustment doesn't include factors such as social support or resource challenges - other TAP members noted that readmissions for heart failure are the same for critical access hospital; CMS advised that it cannot establish different standards or expectations based on social factors as a matter of public policy; C statistic of 0.66 is good but not very good/excellent; 2f. discrimination curve on p 44 of technical appendix using 2007 data; CMS has not determined how it would portray results for public reporting; 2g. only 40 percent PCIs are entered into ACC's NCDR registry --no details on comparability with data obtained through other vendors Several additional questions to the measure developer: Has there been any assessment of differences in readmission to the same hospital or to another hospital? Any evaluation of different admitting policies of EDs? TAP members note there can be an "ownership" issue between ED and proceduralist on determining readmission. TAP members note that 40 to 50 percent of PCIs are not associated with an AMI - what is the difference/impact? Are the PCIs asociated with AMI captured in the previously endorsed measures for AMI readmission? DEVELOPER comments: readmission plateau at 30-45 days; baseline Medicare readmission rate is 17 percent - consistent with the other readmission measures Significant Strength --based on clinical data
USEABILITY		
3a Distinctive	Completely	3a. developer used a multistakehodler TEP; consumer testing planned; 3b. harmonization -- aligned with previously endorsed PCI measures for mortality; 3c. readmission is an important non-mortality outcome some concern with potential increased length of stay for the index procedure
3b Harmonization	Completely	
3c Added Value	Completely	
FEASIBILITY		
4a Data a Byproduct of Care	Completely	4a. data requires abstraction to submit to registry; 4c. appropriate exclusions; 4d. concerns about adequacy of auditing of registry data, possible increased length of stay, "gaming" a concern; 4e. data collection anticipated through usual CMS vendors as with PCI mortality measure
4b Electronic	Partially	
4c Exclusions	Completely	
4d Inaccuracies/ Errors	Partially	
4e Implementation	Completely	

OT1-007-09 Hospital risk-standardized complication rate following implantation of implantable cardioverter-defibrillator (ICD)

The measure provides hospital specific risk-standardized rates of procedural complications following the implantation of ICD in Medicare Fee for Service (FFS) patients at least 65 years of age. The measure uses clinical data available in the National Cardiovascular Disease Registry (NCDR) ICD Registry for risk adjustment that has been linked with CMS administrative claims data used to identify procedural complications.

IMPORTANCE TO MEASURE AND REPORT		
1a Impact	Completely	1a. high cost procedure; 11 percent complications increase costs; 1b. variation in complications has been demonstrated; 1c. significant complications are an important outcome in terms of both human and financial costs; four publications using administrative data report complications rates of 8-16 percent
1b Gap	Completely	
1c Relation to Outcomes	Completely	
SCIENTIFIC ACCEPTABILTY		
2a Specs	Completely	2a. precise specifications; does not capture non-Fee For Service (FFS) Medicare patients (about 15 percent) because data is not available; 2b. 10 percent auditing of registry data -- would like more information on results of audits; 2c. separate cohorts validation, codes compared to charts done in a small set -- plan to do more, "cause specific" complications, time frames: 30 days - serious complications, 90 days - mechanical/malfunctions -- make sense; 2d - appropriate exclusions; 2e - risk model c statistic = 0.61 ROC = .65 calibration curve in the supplemental materials, does not include social or economic factors; 2f - distribution curve on p 40 of supplemental report - not much spread; low volumes - may need to bundle several years; 2g. all Medicare patients required to be reported to registry - more than 70 percent of hospitals report all patients to registry; 2h. disparities not addressed in measure -- disparities are known -- women have higher complication rate, stratification likely to have low numbers problem
2b Reliability	Partially	
2c Validity	Partially	
2d Exclusions	Completely	
2e Risk Adjustment	Completely	
2f Meaningful Differences	Partially	
2g Comparability	Not Applicable	
2h Disparities	Not Applicable	
USEABILITY		
3a Distinctive	Completely	3a. Diverse representation on working group for measure development, consumer testing pending; 3b. harmonization not an issue; 3c - new topic area for a high cost procedure
3b Harmonization	Not Applicable	
3c Added Value	Completely	
FEASIBILITY		
4a Data a Byproduct of Care	Completely	Data abstraction still the norm 4b. registry is electronic; 4c. exclusions - same data source; 4d. would like to see auditing results; 4e. data collection through a single registry
4b Electronic	Completely	
4c Exclusions	Completely	
4d Inaccuracies/ Errors	Partially	
4e Implementation	Completely	

OT1-002-09 30-day post-hospital acute myocardial infarction (AMI) discharge emergency department visit

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This measure estimates the percentage of eligible Medicare hospital discharges with a diagnosis of Acute Myocardial Infarction (AMI) and evidence of an Emergency Department (ED) visit within 30-days of discharge and prior to a readmission.

IMPORTANCE TO MEASURE AND REPORT		
1a Impact	Partially	1a. Post-AMI ED visits occur about eight percent of the time. Currently the diagnosis of AMI is "fluid" and evolving clinical definitions for AMI may not match the claims coding; reasons for ED visit are not specifically related to the AMI or coronary artery disease; 1b. The opportunity is substantial; 1c - the non-specific nature of the visits may be unrelated to the AMI; confounded by relationships between the private physicians and hospital staffs on use of the ED versus other venues; NQF has already endorsed the 30-day readmission rate — Will the ED visit add anything? The measure will capture colds and other minor ailments particularly in locations where the ED is used as a primary care source.
1b Gap	Completely	
1c Relation to Outcomes	Partially	
SCIENTIFIC ACCEPTABILTY		
2a Specs	Completely	2a.the measure is well-specified using administrative data; question of how patients who dies within the 30-day window are handled? 2b. reliability testing - only variability testing included - no real reliability information; 2c. validity testing - the c-statistic of the model is low at 0.53 - low c-stat suggests there is much variability not accounted for in the model; 2d. exclusions are justified but incomplete; 2e. - low c-statistic; [measure developers comment - the risk model and the statistics are similar to the endorsed 30-day Post-AMI Readmission measure] 2f. five to seven percent differences among hospitals - not much variation to identify meaningful differences
2b Reliability	Minimally	
2c Validity	Minimally	
2d Exclusions	Partially	
2e Risk Adjustment	Partially	
2f Meaningful Differences	Partially	
2g Comparability	Not Applicable	
2h Disparities	Not Applicable	
USEABILITY		
3a Distinctive	Partially	3a. meaning may be obscured by lack of specific relationship to the antecedent AMI and variation in use of ED in different locations; 3b. measure is harmonized with endorsed 30-day readmission and mortality measures; 3c. no data to support adding meaningful information distinct from the readmission or E&M measures
3b Harmonization	Completely	
3c Added Value	Minimally	
FEASIBILITY		
4a Data a Byproduct of Care	Completely	4a. measures constructed with administrative data -- expect high feasibility; 4d. however as AMI diagnostic criteria are changing, the coding may not reflect current clinical definitions
4b Electronic	Completely	
4c Exclusions	Completely	
4d Inaccuracies/ Errors	Partially	
4e Implementation	Completely	

OT1-003-09 30-day post-hospital AMI discharge evaluation and management service

This measure estimates the percentage of eligible Medicare hospital discharges with a diagnosis of Acute Myocardial Infarction (AMI) for which beneficiaries receive an Evaluation and Management (E&M) service within 30 days of discharge and prior to a readmission or ED visit.

IMPORTANCE TO MEASURE AND REPORT		
1a Impact	Completely	1a. high volume/ high cost 1b. developer says it is a "bidirectional" measure - perhaps as a sign of deteriorating condition or a potential preventive for ED or readmission 1c. no evidence of effect of visit on patient outcomes; E&M visit from RNP or PA, nurse also included, any billable visit eligible; Process or outcome measure? - outcome compared to "expected"
1b Gap	Completely	
1c Relation to Outcomes	Partially	
SCIENTIFIC ACCEPTABILTY		
2a Specs	Completely	2a.adminstrative data; 2b.and 2c - similar data as with the ED visit measure; low c-statistic 2d.exclusions -good; 2f. distribution narrow -- 10-11 percent difference between high and low; potential for lots of effort for minimal gain; 2h. known disparities not addressed
2b Reliability	Minimally	
2c Validity	Minimally	
2d Exclusions	Completely	
2e Risk Adjustment	Completely	
2f Meaningful Differences	Partially	
2g Comparability	Not Applicable	
2h Disparities	Not at All	
USEABILITY		
3a Distinctive	Completely	E&M visit and ED visit are inherently different concepts
3b Harmonization	Completely	
3c Added Value	Completely	
FEASIBILITY		
4a Data a Byproduct of Care	Completely	Feasible with administrative data; subject to coding inaccuracies typical of admin data
4b Electronic	Completely	
4c Exclusions	Completely	
4d Inaccuracies/ Errors	Completely	
4e Implementation	Completely	

OT1-016-09 30-day post hospital AMI discharge care transition (composite measure)

This measure scores a hospital on the incidence among its patients during the month following discharge from an inpatient stay having a primary diagnosis of AMI for three types of events: readmissions, ED visits, and evaluation and management (E&M) services.

IMPORTANCE TO MEASURE AND REPORT		
1d Quality Construct	High	no direct method for measuring transitions - idea of a composite

1e Conceptual Construct	Medium	is appealing; Are all three components needed? What is the contribution of each component to the overall score? Including the E&M measure that is "bidirectional", i.e., both positive and negative, is conceptually difficult; Measure developer clarification - for a hospital/system to do better on the composite they could either reduce readmissions or increase E&M visits
SCIENTIFIC ACCEPTABILTY		
2a Specs	High	2a. specifications - complete; 2b. and 2.c - reliability testing good; validity of the composite - would be nice to compare to another data set like the NCDR; 2f. meaningful differences - testing data shows a reasonable spread in results 2h. disparities known but not addressed; 2i. - component justification -- correlations: ED and readmission negatively correlated to E&M visit; 2k. weightings are arbitrary- it seems empirically reasonable and with experience can be adjusted
2b Reliability	High	
2c Validity	High	
2d Exclusions	High	
2e Risk Adjustment	High	
2f Meaningful Differences	High	
2g Comparability	High	
2h Disparities	Not at All	
2i Component Justification	High	
2j Component Variability	High	
2k Differential Weighting	Medium/Low	
2l Missing Scores	High	
USEABILITY		
3a Distinctive	Low	Unsure how to interpret results? 3a. How would you assign quintiles or stars? Is this structured in the best manner? 3c. distinctive from individual measures but does it convey meaningful summary information? Would need much "merchandizing". Concept has good potential -- not sure it was realized. Would the results provide important information for patient choice?
3b Harmonization	High	
3c Added Value	Medium	
3d Decomposition	High	
3e State Purpose	High	
FEASIBILITY		
4a Data a Byproduct of care	High	Scores high on feasibility.
4b Electronic	High	
4c Exclusions	High	
4d Inaccuracies/ Errors	High	
4e Implementation	High	

OT1-006-09 30-day post-hospital heart failure discharge emergency department visit

This measure estimates the percentage of eligible Medicare hospital discharges with a diagnosis of Heart Failure and evidence of an Emergency Department (ED) visit within 30 days of discharge and prior to a readmission.

IMPORTANCE TO MEASURE AND REPORT		
1a Impact	Completely	1a. high impact 1b. opportunity for unrelated visits unclear

1b Gap	Partially	1c.the non-specific nature of the visits may be unrelated to the AMI; confounded by relationships between the private physicians and hospital staffs on use of the ED versus other venues; NQF has already endorsed the 30-day readmission rate -- will the ED visit add anything? The measure will capture colds and other minor ailments particularly in locations where the ED is used as a primary care source. Would like to see data on reasons for ED visits. Validity is reduced in areas where the ED is used in place of a primary care.
1c Relation to Outcomes	Partially/ Minimally	
SCIENTIFIC ACCEPTABILTY		
2a Specs	Completely	2a. the measure is well-specified using administrative data; question of how patients who dies within the 30-day window are handled? 2b. reliability testing - correlation coefficient satisfactory; 2c. validity testing - no date; 2d.exclusion OK; 2e. the c-statistic of the model is low at 0.53 - low c-stat suggests there is much variability not accounted for in the model [measure developers comment - the risk model and the statistics are similar to the endorsed 30-day Post-AMI Readmission measure]; 2f. narrow spread of differences among hospitals - not much variation to identify meaningful differences; What about Palliative care ?-- included in the denominator
2b Reliability	Completely	
2c Validity	Minimally	
2d Exclusions	Partially	
2e Risk Adjustment	Partially	
2f Meaningful Differences	Partially	
2g Comparability	Not Applicable	
2h Disparities	Not Applicable	
USEABILITY		
3a Distinctive	Not at All	3a.no testing 3b. measure is harmonized with endorsed 30-day readmission and mortality measures; 3c.no data to support adding meaningful information distinct from the readmission or E&M measures ; some concerns about actionability; concerns as an isolated measures - may need others for context
3b Harmonization	Completely	
3c Added Value	Minimally	
FEASIBILITY		
4a Data a Byproduct of care	Completely	4a.measures constructed with administrative data, expect high feasibility
4b Electronic	Completely	
4c Exclusions	Completely	
4d Inaccuracies/ Errors	Completely	
4e Implementation	Completely	

OT1-004-09 30-day post-hospital heart failure discharge evaluation and management service

This measure estimates the percentage of eligible Medicare hospital discharges with a diagnosis of heart failure for which beneficiaries receive an Evaluation and Management (E&M) service within 30 days of discharge and prior to a readmission or ED visit.

IMPORTANCE TO MEASURE AND REPORT		
1a Impact	Completely	1a. high volume, high cost; will visit address the heart failure and
1b Gap	Completely	

1c Relation to Outcomes	Completely/ Partially	other co-morbidities? 1b. developer says it is a "bidirectional" measure, perhaps as a sign of deteriorating condition or a potential preventive for ED or readmission, lack of follow-up has been demonstrated; 1c. no evidence of effect of visit on patient outcomes —guidelines do not have a consensus on timeframe for follow-up; also doesn't capture alternative methods of follow-up such as calls or telemonitoring systems (forward thinking systems may be penalized)
SCIENTIFIC ACCEPTABILTY		
2a Specs	Completely	2a.adminstrative data; doesn't capture alternative follow-up methods; 2b.and 2c. similar data as with the ED visit measure; E&M visit doesn't guarantee content - could become a checkbox; low c-statistic though reliability of model is probably "best available"; 2d.exclusions -good; 2h. known disparities — not addressed
2b Reliability	Completely	
2c Validity	Partially/ Minimally	
2d Exclusions	Completely	
2e Risk Adjustment	Partially	
2f Meaningful Differences	Completely	
2g Comparability	Not applicable	
2h Disparities	Not at All	
USEABILITY		
3a Distinctive	Partially	need more information on utility
3b Harmonization	Not Applicable	
3c Added Value	Completely	
FEASIBILITY		
4a Data a Byproduct of Care	Completely/ Partially	Feasible with administrative data; subject to coding inaccuracies typical of admin data; need to capture alternative follow-up
4b Electronic	Completely	
4c Exclusions	Completely	
4d Inaccuracies/ errors	Completely/ Partially	
4e Implementation	Completely	

OT1-016-09 30-day post hospital heart failure discharge care transition (composite measure)

This measure scores a hospital on the incidence among its patients during the month following discharge from an inpatient stay having a primary diagnosis of Heart Failure for three types of events: readmissions, ED visits and evaluation and management (E&M) services.

IMPORTANCE TO MEASURE AND REPORT		
1d Quality Construct	High/Medium	1d. Parallel to AMI composite measure, weighted measure; 1e.

1e Conceptual Construct	Medium	Difficult to understand results, Composite is a good concept — not sure these are the right components, would like to see a composite of readmission and E&M only, difficulties again in interpreting the components of the composite and understanding how each of them contribute to the overall quality construct, but the conceptual process is clear enough.
SCIENTIFIC ACCEPTABILTY		
2a Specs	High	2a. specifications - complete; 2b. and 2c. - internal consistency testing of correlation of the components though relatively low kappa values; 2f. - meaningful differences - testing data shows a reasonable spread in results; 2h. disparities known but not addressed; 2i. component justification — correlations presented; 2k. weightings are arbitrary and not validated, if somebody has an ED visit 10 days post-discharge and they are not admitted and then they come back two weeks after that and they end up getting admitted. Only one ED visit and readmission count in the composite score; 2l.disparities not addressed
2b Reliability	Medium	
2c Validity	Medium	
2d Exclusions	Medium	
2e Risk Adjustment	Low	
2f Meaningful Differences	Medium	
2g Comparability	Medium	
2h Disparities	Low	
2i Component Justification	Medium	
2j Component Variability	Medium	
2k Differential Weighting	Medium	
2l Missing Scores	Medium	
USEABILITY		
3a Distinctive	Medium	Unclear what the score means; need to understand the relationship among the components; What is the value above the individual measures? Would argue for parsimony among the group of related measures. Want to understand how it could be used nationally as well as in individual institutions, how it translates is really dependent on how the information is presented.
3b Harmonization	High	
3c Added Value	Medium	
3d Decomposition	High	
3e State Purpose	Medium	
FEASIBILITY		
4a Data a Byproduct of care	High	Scores high on feasibility
4b Electronic	High	
4c Exclusions	High	
4d Inaccuracies/ Errors	High	
4e Implementation	High	

Public Comment

Public comment was solicited after the discussion of each measure. The only comments offered pertained to measure OT1-008-09 Hospital risk-standardized readmission rates following percutaneous coronary intervention (PCI):

- A 15-day time window is more meaningful. Is there data on the causes for readmission between 15 to 30 days?
- How is readmission actionable? What are the benchmarks?

- A procedure is different than a condition such as AMI or heart failure.
- What is the influence of cardiac rehabilitation?
- What about comparability among different vendors?
- What will be done to "game" the system?
- PCI is moving to the outpatient arena – regional variation in settings. [Measure developer noted that the measure includes all PCI regardless of setting.

Next steps

The following dates and times have been scheduled to continue the review of cardiovascular measures submitted to this project.

- **Friday, February 5, 2010 from 12:00PM-2:00PM EST**
  - *Measures to be Reviewed on this Call:*
    1. **OT1-012-09**: Coronary artery bypass graft (CABG) procedure and postoperative stroke during the hospitalization or within seven days of discharge
    2. **OT1-013-09**: The STS CABG composite score

- **Tuesday, February 16, 2010 from 1:00PM-3:00PM EST**
  - *Measures to be reviewed on this call:*
    1. **OT1-011-09**: Post-operative stroke or death in asymptomatic patients undergoing carotid endarterectomy
    2. **OT1-010-09**: Acute myocardial infarction (AMI) mortality rate

- **Thursday, March 11, 2010 from 1:00PM-3:00PM EST**
  - *Measures to be Reviewed on this Call:*
    1. **OT1-030-09**: Proportion of AMI patients that have potentially avoidable complications (PACs)
    2. **OT1-031-09**: Proportion of stroke patients that have potentially avoidable complications (PACs)