NATIONAL QUALITY FORUM

National Voluntary Consensus Standards for Patient Outcomes
Measure Summary

Measure number: OT1-019-09

Measure name: Health-related quality of life in COPD patients before and after pulmonary rehabilitation

Description: The percentage of patients with COPD enrolled in pulmonary rehabilitation (PR) who are found to increase their health-related quality of life score (HRQOL).

Numerator statement: Number of patients with clinician diagnosed COPD who have participated in PR and have been found to increase their HRQOL score by 1.0 point, as measured by the Chronic Respiratory Disease Questionnaire (CRQ), or a similar tool, at the beginning and the end of PR.

Denominator statement: All patients with COPD, during the reporting period, who are enrolled in a PR program.

Level of Analysis: Population: regional/network, Clinicians: Group, Program: Other Pulmonary Rehabilitation Program

Type of Measure: Outcome

Data Source: External audit, Documentation of original self-assessment, Management data

Measure developer: American Association of Cardiovascular and Pulmonary Rehabilitation

Type of Endorsement (full or time-limited): Recommended for time-limited endorsement (Steering Committee vote—May 17, 2010 [Recommend—10, Do not recommend—7, Abstain—1])

Summary Table of TAP Ratings of Subcriteria and Comments:

IMPORTANCE TO MEASURE AND REPORT		
1a. Impact	Completely	It is estimated that there may currently be 16 million people in the United States currently diagnosed with COPD. Only 15-20 percent are referred for PR and PR is not widely available. A new Medicare benefit for PR begins in 2010—new PR facilities/programs anticipated. CMS benefit will define minimum criteria for PR. PR has been shown to improve QoL in multiple studies. There is limited data available on current performance. Does not address appropriate referral to PR or completion rates of PR—all affect outcomes.
1b. Gap	Partially	
1c. Relation to outcomes	Completely	
SCIENTIFIC ACCEPTABILTY		
2a. Specs	Completely	Specifications are precise—validated tool and structured interview technique for collecting data. CRQ instrument is well validated. Literature says that 0.5 is the "minimum clinical
2b. Reliability	Not at all	
2c. Validity	Not at all	

2d. Exclusions	Completely	difference"—why use 1.0 in the measure? Why age >20 years? Most measures for COPD is age 40—harmonization. Developer: "to include alpha-1-antitrypsin patient who are younger." No risk-adjustment—change in individual score used. No data on discrimination but expert opinion is that is does discriminate. CRQ tool has been well-tested but the measure has not been tested. Measure is not stratified to identify disparities.
2e. Risk adjustment	Not applicable	
2f. Meaningful differences	Minimally	
2g. Comparability	Minimally	
2h. Disparities	Not applicable	
USEABILITY		
3a. Distinctive	Completely	Participants in PR determined by selection criteria and benefit design. Measure captures patients who complete PR—currently a small number will be measured. Better quality PR programs will have higher completion rates. Has not been used in public reporting. Harmonization needed for age.
3b. Harmonization	Partially	
3c. Added value	Not applicable	
FEASIBILITY		
4a. Data a byproduct of care	Completely	Survey done as part of care—typically hand-scored, though no reason it cannot be embedded in an EHR. Use in certifications programs—unsure how available data will be. Many faculties currently use SGRQ instead of CRG tool. Does not include SGQR—also a well-validated and commonly used tool—will force many to change.
4b. Electronic	Not at all	
4c. Exclusions	Not applicable	
4d. Inaccuracies	Completely	
4e. Implementation	Completely	

Measure Developer Responses:

Topic, Measure # and Title	Follow-Up Issues
Topic Area: COPD **Measure#** OT1-019-09 **Title:** Health-related quality of life in COPD Patients before and after pulmonary	**Conditions** As an untested measure, your plans for testing and timeline for completing testing is a big concern. Specifically: • Testing the validity of the quality measure itself. Do clinicians believe that this measure distinguishes good vs. not good care? How many patients do not complete a program and get dropped from the measure? • need better determination of impact of measure to providers • testing required • need to have a two year period of study focusing on assessments at the provider level (pts clustered within provider)

Topic, Measure # and Title	Follow-Up Issues
rehabilitation	**Response from Measure Developer:** 1. The 1.0 was used as a more conservative MCID vs. 0.5. Modification to 0.5 is appropriate. Please see the Redelmeier, et al., 1996 article: Redelmeier DA, Guyatt GH, Goldstein RS. Assessing the minimal important difference in symptoms: a comparison of two techniques. *J Clin Epidemiol* 1996;49:1215-1219. 2. The age range was expanded to permit inclusion of persons who are diagnosed with COPD at a younger age (i.e., alpha-1 antitrypsin). An age range of greater than 40 years is acceptable. 3. The measure itself has not been tested; it will require testing.

Summary Table of SC Ratings of Subcriteria and Comments:

IMPORTANCE TO MEASURE AND REPORT	
	SC Vote on Importance Yes—16 No—1
SCIENTIFIC ACCEPTABILITY	
The measures are based on well-researched and published tools, but none of the measures have been tested as performance measures. Guidelines show that the 6-minute walk test is simple and easy to report accurately and has history to be used in CV testing. However, the translation to quality has not been shown, these measures have not been related to the quality of interventions, nor the quality of life.	SC Vote on Scientific Acceptability Completely—3 Partially—13 Minimally—1 Not at all—0
USABILITY	

	SC Vote on Usability Completely—5 Partially—9 Minimally—3 Not at all—0
FEASIBILITY	
Capturing the data may ultimately be available through a registry. The Steering Committee members did not feel 12 months was a realistic time frame for measure developers to send their testing results.	SC Vote on Feasibility Completely—4 Partially—12 Minimally—1 Not at all—0

Summary Table of Biostatistical Review: N/A

Attachments: Reference: Guyatt GH, Berman LB, Townsend M, et al. A measure of quality of life for clinical trials in chronic lung disease. *Thorax* 1987;42:773-778.

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Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review**	**NQF Project:** Patient Outcomes Measures: Phases I and II
MEASURE DESCRIPTIVE INFORMATION	
De.1 **Measure Title:** Health-related Quality of Life in COPD patients before and after Pulmonary Rehabilitation	
De.2 **Brief description of measure***:* The percentage of patients with COPD enrolled in pulmonary rehabilitation (PR) who are found to increase their health-related quality of life score (HRQOL).	
1.1-2 **Type of Measure:** outcome De.3 **If included in a composite or paired with another measure, please identify composite or paired measure** Not included in a composite or paired measure.	
De.4 **National Priority Partners Priority Area:** care coordination De.5 **IOM Quality Domain**: effectiveness, patient-centered De.6 **Consumer Care Need:** Living With Illness	

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.*	

	NQF
B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement Accountability	**C** Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 12 months of endorsement. D.1**Testing:** Yes, fully developed and tested D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☐ N☐
(for NQF staff use**)** **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) **Specific NPP goal**:	
1a.1 Demonstrated High Impact Aspect of Healthcare: affects large numbers, severity of illness, a leading cause of morbidity/mortality, patient/societal consequences of poor quality, high resource use **1a.2** **1a.3 Summary of Evidence of High Impact:** Patients with COPD are commonly and significantly debilitated by their disease, resulting in reduced quality of life (QOL) for such individuals. Effective treatments are available, including those that are provided and reinforced in pulmonary rehabilitation (PR) programs. PR therapy, in fact, has been shown to significantly increase both COPD-specific and general health-related QOL (HRQOL). This increase in HRQOL is probably related, at least in part, to significant improvements in functional capacity and dyspnea control that occur with PR. These effects are relatively long lasting and not necessarily related to improvements in exercise ability. Multiple domains of health status usually show improvement, such as dyspnea, fatigue, emotional function and mastery components of the Chronic Respiratory Disease Questionnaire. Improvement in health status following rehabilitation usually exceeds the thresholds for minimum clinically	

Unfortunately, evidence suggests that effective treatments, like PR, are not being applied consistently and effectively to patients with COPD, resulting in unnecessary and excessive morbidity and, potentially, increased, early mortality from COPD.

1a.4 Citations for Evidence of High Impact: ATS/ERS Statement on Pulmonary Rehabilitation http://www.thoracic.org/sections/publications/statements/pages/respiratory-disease-adults/atserspr0606.html

ATS/ERS COPD Guidelines http://www.thoracic.org/sections/copd/for-health-professionals/index.html
State of the Art - Pulmonary Rehabilitation in Chronic Obstructive Pulmonary Disease by Thierry Troosters, Richard Casaburi, Rik Gosselink and Marc Decramer
http://ajrccm.atsjournals.org/cgi/content/full/172/1/19
ACCP/AACVPR PR Evidence based guidelines, ATS ERS PR position statement, State of the Art PR.

Bendstrup KE, Ingemann JJ, Holm S, Bengtsson B. Out-patient rehabilitation improves activities of daily living, quality of life and exercise tolerance in chronic obstructive pulmonary disease. Eur Respir J 1997;10:2801–2806.

Boueri FM, Bucher-Bartelson BL, Glenn KA, Make BJ. Quality of life measured with a generic instrument (Short Form-36) improves following pulmonary rehabilitation in patients with COPD. Chest. 2001 Jan;119(1):77-84.

Goldstein RS, Gort EH, Stubbing D, et al. Randomized controlled trial of respiratory rehabilitation. Lancet 1994; 344: 1394-1397.

Goldstein RS, Gort EH, Stubbing D, et al. Randomised controlled trial of respiratory rehabilitation. Lancet 1994; 344: 1394–1397.

Griffiths TL, Burr ML, Campbell IA, et al. Results at 1 year of outpatient multidisciplinary pulmonary rehabilitation: a randomized clinical trial. Lancet 2000; 355: 362–368.

Lacasse Y, Brosseau L, Milne S, Martin S, Wong E, Guyatt GH, Goldstein RS. Pulmonary rehabilitation for chronic obstructive pulmonary disease. Cochrane Database Syst Rev. 2002;(3):CD003793.

Lacasse Y, Wong E, Guyatt GH, King D, Cook DJ, Goldstein RS. Meta-analysis of respiratory rehabilitation in chronic obstructive pulmonary disease.
Lancet. 1996 Oct 26;348(9035):1115-9.

Ries AL, Kaplan RM, Limberg TM, Prewitt LM. Effects of pulmonary rehabilitation on physiologic and psychosocial outcomes in patients with chronic obstructive pulmonary disease. Ann Intern Med 1995; 122: 823–832.

Ståhl E, Lindberg A, Jansson SA, Rönmark E, Svensson K, Andersson F, Löfdahl CG, Lundbäck B. Health-related quality of life is related to COPD disease severity. Health Qual Life Outcomes. 2005 Sep 9;3:56.

Strijbos JH, Postma DS, van Altena R, Gimeno F, Koeter GH. A comparison between an outpatient hospital-based pulmonary rehabilitation program and a home-care pulmonary rehabilitation program in patients with COPD. A follow-up of 18 months. Chest 1996; 109: 366–372.

Troosters T, Gosselink R, Decramer M. Short- and long-term effects of outpatient rehabilitation in patients with chronic obstructive pulmonary disease: a randomized trial. Am J Med 2000; 109: 207-212.

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1b.1 Benefits (improvements in quality) envisioned by use of this measure:

P☐
M☐
N☐

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
The underdiagnosis of COPD and poor awareness / referral to PR are the performance gaps. These two gaps in care indirectly negatively impact HRQOL in COPD. The measure could stimulate more focus on QOL in COPD and PR.

Physicians and NPs/PAs working in primary care continue to report lack of awareness and use of COPD guidelines, as well as potential benefits of available treatments including pulmonary rehabilitation. It is unlikely that diagnosis and management of COPD will improve in primary care until these knowledge gaps and discrepancies with published efficacy of therapy issues are addressed. (Barbara P Yawn, Peter C Wollan) Knowledge and attitudes of family physicians coming to COPD continuing medical education. Int J Chron Obstruct Pulmon Dis. 2008 June; 3(2): 311–318.

1b.3 Citations for data on performance gap:
Fischer MJ, Scharloo M, Abbink JJ, van 't Hul AJ, van Ranst D, Rudolphus A, Weinman J, Rabe KF, Kaptein AA. Drop-out and attendance in pulmonary rehabilitation: the role of clinical and psychosocial variables. Respir Med. 2009 Oct;103(10):1564-71.

Garcia-Aymerich J, Barreiro E, Farrero E, Marrades RM, Morera J, Anto JM. Patients hospitalized for COPD have a high prevalence of modifiable risk factors for exacerbation (EFRAM study), 2001, Eur Respir J;16:1037–1042.

Phanareth K, Hansen LS, Christensen LK, Laursen LC, Hansen EF. Treatment of acute severe asthma and chronic obstructive pulmonary disease in Danish hospitals. Do national recommendations improve on the quality of the treatment?, 2002, Respir Med;96:653–658.

Ramsey SD. Suboptimal medical therapy in COPD. Exploring the causes and consequences, 2000, Chest;117:33S–37S.

1b.4 Summary of Data on disparities by population group:
There is published evidence that the treatment gaps, and negative impact on HRQOL noted above are even more prevalent for women with COPD than for men.

Haave and colleagues evaluated gender impact on the effects of PR at baseline (enrollment into PR, completion of inpatient PR program and 6 months post PR. There was no significant gender / time effect for perceived health status, perceived QOL, or anxiety over any period of time. For perceived health status and QOL, improvements immediately after PR and subsequent declines at follow-up were similar for women and men. Overall, the results indicated that the PR had similar effects for female and male patients.

1b.5 Citations for data on Disparities:
Haave E, Skumlien S, Hyland ME. Gender considerations in pulmonary rehabilitation. J Cardiopulm Rehabil Prev. 2008 May-Jun;28(3):215-9.

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** Health-related QOL has been studied, reported, and accepted as important and relevant outcome measure and marker for disability/health in patients with COPD. HRQOL is strongly associated with severity of COPD.

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
The following randomized, controlled trials of pulmonary rehabilitation have shown significant improvement in HRQoL as well as other outcomes.

First author Results

GRIFFITHS
Significant improvements in HRQOL 1 year after a 6-week pulmonary rehabilitation program (n > 200).

TROOSTERS Reported sustained improvement in HRQOL over 18 months after patients participated in a 6-month outpatient pulmonary rehabilitation program compared with the decline observed in the control group.

GREEN Reported improvement in HRQOL after pulmonary rehabilitation and found that improvements after a 7-week intervention were greater than those after 4 weeks of pulmonary rehabilitation.

STRIJBOS Strijbos and colleagues35 reported significant improvement in reported well-being after pulmonary rehabilitation that was maintained over 18 months in rehabilitation-treated subjects, while most patients in the control group felt unchanged or worse.

FOLGIO Reported sustained improvements in HRQOL up to 2 years after pulmonary rehabilitation.

MAN In a study of early pulmonary rehabilitation after hospital discharge for an exacerbation of COPD, reported significant improvements in HRQOL measures.

FINNERTY Reported marked improvements in HRQOL after pulmonary rehabilitation that persisted for 6 months.

WEDZICHA In the study which stratified patients according to baseline dyspnea, improvement in HRQOL after pulmonary rehabilitation was observed in patients with moderate dyspnea (Medical Research Council [MRC] score, 3 or 4) but not in control
subjects or patients with severe baseline dyspnea (MRC score, 5).

RIES Evaluated a maintenance program after pulmonary rehabilitation. However, observational results after pulmonary rehabilitation that had been administered to all
patients before randomization demonstrated consistent improvements in several different measures of both general and disease-specific measures of HRQOL.

GUELL Reported significant improvement in HRQOL that persisted, although diminished,
for up to 2 years of follow-up after the pulmonary rehabilitation intervention.
CRQ : Chronic Respiratory Questionnaire; TDI : transitional dyspnea index; SGRQ : St. George Respiratory Questionnaire.
Improvement in health-related quality of life (health status)
Pulmonary rehabilitation results in a significant improvement in disease-specific and general measures of health status (Ries AL, Kaplan RM, Limberg TM, et al, Strijbos JH, Postma DS, van Altena R, et al, Griffiths TL, Burr ML, Campbell IA, et al. Lacasse Y, Wong E, Guyatt GH, et al, Boueri FMV, Bucher-Bartelson BL, Glenn KA, et al). These effects are relatively long lasting and not necessarily related to improvements in exercise ability. Multiple domains of health status usually show improvement, such as dyspnea, fatigue, emotional function and mastery components of the Chronic Respiratory Disease Questionnaire.
Improvement in health status following rehabilitation usually exceeds the thresholds for minimum clinically important differences established for respiratory-specific health status questionnaires (Jones, P).

Improvement in Functional Capacity

E, Guyatt GH, et al, Swerts PM, Kretzers LM, Terpstra Lindeman E, et al, Cambach W, Chadwick-Straver RVM, Wagenaar RC, et al). Favorable outcomes include increases in maximal exercise tolerance, peak oxygen uptake, endurance time during submaximal testing, functional walking distance, and peripheral and respiratory muscle strength.
Prevention of Complications and Exacerbations
Outpatient pulmonary rehabilitation has resulted in reduction in hospital compared to a control group in the year following the intervention (10.4 versus 21.0 days) [Finnerty JP, Keeping I, Bullough I,]. The reduction in hospital days for both respiratory illness and all causes was noted. In a subsequent cost/utility analysis, these authors demonstrated that outpatient rehabilitation produces cost-per-quality adjusted life-year ratios within bounds considered to be cost effective and resulted in financial benefits to the health service [Griffiths TL, Phillips CJ, Davies S,].
Decramer M, De Benedetto F, Del Ponte A, Marinari S. Systemic effects of COPD. Respir Med 2005;99:Suppl B:S3-S10.
Finnerty JP, Keeping I, Bullough I, Jones J. The effectiveness of outpatient pulmonary rehabilitation in chronic lung disease. A randomized controlled trial. Chest 2001; 119: 1705-1710

Foglio K, Bianchi L, Ambrosino N. Is it really useful to repeat outpatient pulmonary rehabilitation programs in patients with chronic airway obstruction? A 2-year controlled
study. Chest 2001; 119:1696–1704

Green RH, Singh SJ, Williams J, et al. A randomized controlled trial of four weeks versus seven weeks of pulmonary rehabilitation in chronic obstructive pulmonary disease. Thorax 2001; 56:143–145
Griffiths TL, Burr ML, Campbell IA, et al. Results at 1 year of outpatient multidisciplinary pulmonary rehabilitation: a randomized clinical trial. Lancet 2000; 355: 362-368.
Griffiths TL, Phillips CJ, Davies S, Burr ML, Campbell IA. Cost effectiveness of an outpatient multidisciplinary pulmonary rehabilitation programme. Thorax 2001; 56: 779-784.
Goldstein RS, Gort EH, Stubbing D, et al. Randomized controlled trial of respiratory rehabilitation. Lancet 1994; 344: 1394-1397.
Guell R, Casan P, Belda J, et al. Long-term effects of outpatient rehabilitation of COPD: a randomized trial. Chest 2000; 117:976–983
Lacasse Y, Wong E, Guyatt GH, et al. Meta-analysis of respiratory rehabilitation in chronic obstructive pulmonary disease. Lancet 1996; 348: 1115-1119.
Mannino DM, Homa DM, Akinbami LJ, Ford ES, Redd SC. Chronic obstructive pulmonary disease surveillance -- United States, 1971-2000. MMWR Surveill Summ 2002;51:1-16. [Medline]
Pulmonary rehabilitation: official statement of the American Thoracic Society. Am J Respir Crit Care Med 1999; 159: 1666-1682.
Ries AL, Kaplan RM, Myers R, et al. Maintenance after pulmonary rehabilitation in chronic lung disease: a randomized trial. Am J Respir Crit Care Med 2003; 167:880–888
Strijbos JH, Postma DS, van Altena R, Gimeno F, Koeter GH. A comparison between an outpatient hospital-based pulmonary rehabilitation program and a home-care pulmonary rehabilitation program in patients with COPD. A follow-up of 18 months. Chest 1996; 109: 366-372.
Troosters T, Gosselink R, Decramer M. Short- and long-term effects of outpatient rehabilitation in patients with chronic obstructive pulmonary disease: a randomized trial. Am J Med 2000; 109: 207-212.
Wedzicha JA, Bestall JC, Garrod R, Garnham R, Paul EA, Jones PW. Randomized controlled trial of pulmonary rehabilitation in severe chronic obstructive pulmonary disease patients, stratified with the MRC dyspnea scale. Eur Respir J 1998; 12: 363-369.

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**
Recommendation level 1, strength of evidence A (highest possible rating in the ACCP rating system)

1c.6 Method for rating evidence: Based on expert panel review and consensus on the relationship

recognized pulmonary rehabilitation as a CMS covered service, which is anticipated to help stimulate additional growth of PR programs throughout the United States.

Nici L, Raskin J, Rochester CL, Bourbeau JC, Carlin BW, Casaburi R, Celli BR, Cote C, Crouch RH, Diez-Morales LF, Donner CF, Fahy BF, Garvey C, Goldstein R, Lane-Reticker A, Lareau SC, Make B, Maltais F, McCormick J, Morgan MD, Ries A, Troosters T, ZuWallack R. Pulmonary rehabilitation: WHAT WE KNOW AND WHAT WE NEED TO KNOW. J Cardiopulm Rehabil Prev. 2009 May-Jun;29(3):141-51.

1c.8 Citations for Evidence (*other than guidelines***):** American College of Chest Physicians/American Association of Cardiovascular and Pulmonary Rehabilitation (ACCP/AACVPR). Pulmonary rehabilitation: joint ACCP/AACVPR evidence-based clinical practice guidelines. Chest 2007 May;131(5 Suppl):4S-42S.

ATS/ERS Statement on Pulmonary Rehabilitation
http://www.thoracic.org/sections/publications/statements/pages/respiratory-disease-adults/atserspr0606.html

ATS/ERS COPD Guidelines http://www.thoracic.org/sections/copd/for-health-professionals/index.html

Boueri FM, Bucher-Bartelson BL, Glenn KA, Make BJ. Quality of life measured with a generic instrument (Short Form-36) improves following pulmonary rehabilitation in patients with COPD. Chest. 2001 Jan;119(1):77-84.

Lacasse Y, Wong E, Guyatt GH, King D, Cook DJ, Goldstein RS. Meta-analysis of respiratory rehabilitation in chronic obstructive pulmonary disease.
Lancet. 1996 Oct 26;348(9035):1115-9.

Lacasse Y, Brosseau L, Milne S, Martin S, Wong E, Guyatt GH, Goldstein RS. Pulmonary rehabilitation for chronic obstructive pulmonary disease. Cochrane Database Syst Rev. 2002;(3):CD003793.

State of the Art - Pulmonary Rehabilitation in Chronic Obstructive Pulmonary Disease by Thierry Troosters, Richard Casaburi, Rik Gosselink and Marc Decramer
http://ajrccm.atsjournals.org/cgi/content/full/172/1/19
ACCP/AACVPR PR Evidence based guidelines, ATS ERS PR position statement, State of the Art PR.

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**

1c.10 Clinical Practice Guideline Citation: American College of Chest Physicians/American Association of Cardiovascular and Pulmonary Rehabilitation (ACCP/AACVPR). Pulmonary rehabilitation: joint ACCP/AACVPR evidence-based clinical practice guidelines. Chest 2007 May;131(5 Suppl):4S-42S.

Ries AL, Bauldoff GS, Carlin BW, Casaburi R, Emery CF, Mahler DA, Make B, Rochester CL, Zuwallack R, Herrerias C. Pulmonary Rehabilitation: Joint ACCP/AACVPR Evidence-Based Clinical Practice Guidelines. Chest. 2007 May;131(5 Suppl):4S-42S.

ATS/ERS Statement on Pulmonary Rehabilitation
http://www.thoracic.org/sections/publications/statements/pages/respiratory-disease-adults/atserspr0606.html
ATS/ERS COPD Guidelines http://www.thoracic.org/sections/copd/for-health-professionals/index.html
State of the Art - Pulmonary Rehabilitation in Chronic Obstructive Pulmonary Disease by Thierry Troosters, Richard Casaburi, Rik Gosselink and Marc Decramer
http://ajrccm.atsjournals.org/cgi/content/full/172/1/19

1c.12 Rating of strength of recommendation (*also provide narrative description of the rating and by whom***):** Recommendation level 1, strength of evidence A (highest possible rating in the ACCP rating system) **1c.13 Method for rating strength of recommendation** (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)***:** Based on expert panel review and consensus on the relationship between the strength of the evidence and the balance of benefits to risk and burden. **1c.14 Rationale for using this guideline over others:** The joint AACVPR/ACCP Pulmonary Rehabilitation Guidelines were selected for reference in this application due to their multidisciplinary development, general acceptance, and growing implementation in the management of patients with COPD.	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report***, met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 Do you have a web page where current detailed measure specifications can be obtained? **S.2 If yes, provide web page URL:** **2a. Precisely Specified**	
2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** Number of patients with clinician diagnosed COPD who have participated in PR and have been found to increase their HRQOL score by 1.0 points, as measured by the Chronic Respiratory Disease Questionnare (CRQ), or a similar tool, at the beginning and the end of PR. **2a.2 Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** Assessments of HRQOL are to be performed within one week of PR program entry and again within one week of PR program completion. The time period between tests should be no more than 3 months. **2a.3 Numerator Details (***All information required to collect/calculate the numerator, including all codes, logic, and definitions***):** To perform the HRQOL assessment, a CRQ is administered by PR staff to each COPD patient enrolled in PR, in a private interview space. The numerator is calculated as follows: A patient is counted as having increased his/her HRQOL score (measured by CRQ) if the HRQOL score at PR program completion is at least 1.0 points higher than the HRQOL score at PR program entry. The Chronic Respiratory Disease Questionnaire provides a composite score of the patient's perception of their current health status and impact on daily life.	**2a-**

and validity have been reported in multiple studies (Martin, 1994; Guyatt, et al. 1987).

Martin LL. Validity and reliability of a quality-of-life instrument. The chronic respiratory disease questionnaire. Clin Nurs Res 1994;3:146-156.

Guyatt GH, Berman LB, Townsend M, Puglsey SO, Chambers LW. A measure of quality of life for clinical trials in chronic lung disease. Thorax 1987;42:773-778.

Redelmeier DA, Guyatt GH, Goldstein RS. Assessing the minimal important difference in symptoms: a comparison of two techniques. J Clin Epidemiol 1996;49:1215-1219.

Jaeschke R, Singer J, Guyatt GH. Measurement of health status ascertaining the minimal clinically important difference. Controlled Clin Trials 1989;10:407-415.

2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):**
All patients with COPD, during the reporting period, who are enrolled in a PR program.

2a.5 Target population gender: Female, Male
2a.6 Target population age range: Persons greater than 20 years of age

2a.7 Denominator Time Window (*The time period in which cases are eligible for inclusion in the denominator***):**
Up to 3 months from time of PR program entry.

2a.8 Denominator Details (*All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
All patients with a clinician diagnosis of COPD who are able to complete a CRQ (or similar tool) to assess HRQOL at PR program entry and PR program completion, who have completed at least 10 PR sessions within a 3 month period.

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** Inability to read and/or write in order to complete the self-administered CRQ, or presence of cognitive or neuropsychiatric impairment that impairs the patient's ability to answer the CRQ (or similar tool).

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**
Patients enrolled in PR are to be excluded if he/she is unable to read and/or write, or who have significant cognitive or neuropsychiatric impairment that would preclude ability to answer the CRQ (or similar tool).

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**
Data are to be assessed by individual and group outcomes, can be reported as aggregate group data, and can also be stratified and reported for the group by age (by decade of life) and gender (male, female).

2a.12-13 Risk Adjustment Type: no risk adjustment necessary

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**
Not applicable

2a.15-17 Detailed risk model available Web page URL or attachment:

2a.18-19 Type of Score: rate/proportion
2a.20 Interpretation of Score: better quality = higher score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**

2a.22 Describe the method for discriminating performance *(e.g., significance testing)*:
For COPD patients, an increase in CRQ score of 1.0 or greater is considered to be a clinically important, moderate increase in HRQOL.

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
The CRQ is an interview-based questionnaire conducted by a PR staff person trained in the CRQ administration. The interview is conducted in a private area.

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
external audit, Documentation of original self-assessment, Management data

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
The Chronic Respiratory Disease Questionnaire (preferred tool, but other similar tools developed in the future with similar or superior accuracy and feasibility of use could be considered).

2a.26-28 Data source/data collection instrument reference web page URL or attachment: Attachment Data Source or Collection Instrument Reference.doc

2a.29-31 Data dictionary/code table web page URL or attachment:

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Population: regional/network, Clinicians: Group, Program: Other Pulmonary Rehabilitation Program

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Ambulatory Care: Hospital Outpatient, Ambulatory Care: Clinic

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Clinicians: Respiratory Therapy, Clinicians: Nurses, Clinicians: PT/OT/Speech, Clinicians: Other, Clinicians: Physicians (MD/DO) Exercise Physiologist

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample *(description of data/sample and size)*: The Chronic Respiratory Disease Questionnaire (CRQ) is a well-established, tested and utilized instrument to measure components of health-related quality of life in persons with COPD.

The instrument uses a 20-question interview that requires 15 to 25 minutes to complete. The CRQ measures 4 categories: dyspnea, fatigue, emotional function and mastery.

The instrument uses a numerical, 7-point modified Likert-type scale. Total score and category subscores are provided with higher scores indicating better HRQoL. Test-retest/reproducibility has been reported in 4 studies (Larson, et al 1993; Martin, 1994; Guyatt et al., 1987, Lacasse, et al. 1997) and internal consistency has been reported in 4 studies (Wijkstra, 1994; Harper 1997; Guell, 1995; Moran, 2001).

References:

Bradley J, Dempster M, Wallace E, Elborn S. The adaptations of a quality of life questionnaire for routine use in clinical practice: the Chronic Respiratory Disease Questionnaire in cystic fibrosis. Qual Life Res 1999;8:65-71.

a randomised controlled trial. Lancet 2000;355:362-8.

Guell R, Casan P, Sangenis M, Morante F, Belda J, Guyatt GH. Quality of life in patients with chronic respiratory disease: the Spanish version of the Chronic Respiratory Questionnaire (CRQ). Eur Respir J 1998;11(1):55-60.

Guell R, Casan P, Sangenis M, Morante F, Belda J, Guyatt GH. The Spanish translation and evaluation of a quality of life questionnaire in patients with chronic obstructive pulmonary disease. Arch Bronchoneumol 1995;31:202-210.

Guyatt GH, King DR, Feeny DH, Stubbing D, Goldstein RS. Generic and specific measurement of health-related quality of life in a clinical trial of respiratory rehabilitation. J Clin Epidemiol 1999;52:187-92.

Guyatt G.H., Townsend M., Keller JL, Singer J. Should study subjects see their previous responses: data from a randomized control trial. J Clin Epidemiol 1989 42:913-20.

Guyatt GH, Berman LB, Townsend M, Puglsey SO, Chambers LW. A measure of quality of life for clinical trials in chronic lung disease. Thorax 1987;42:773-778.

Harper R, Brazier JE, Waterhouse JC, Walters SJ, Jones NM, Howard P. Comparison of outcome measures for patients with chronic obstructive pulmonary disease (COPD) in an outpatient setting. Thorax 1997;52(10):879-87.

Jaeschke R, Singer J, Guyatt GH. Measurement of health status ascertaining the minimal clinically important difference. Controlled Clin Trials 1989;10:407-415.

Lacasse Y, Wong E, Guyatt G. A systematic overview of the measurement properties of the Chronic Respiratory Questionnaire. Canadian Respiratory Journal 1997;4(3):131-9.

Larson JL, Covey MK, Berry JK, Wirtz S, Kim MJ. Reliability and validity of the Chronic Respiratory Disease Questionnaire. Am J Crit Care Med 1993;147:A350.

Moran LA, Guyatt GH, et al. Establishing the minimal number of items for a responsive, valid, health-related quality of life instrument. J Clin Epidemiol 2001;54(6): 571-9.

Martin LL. Validity and reliability of a quality-of-life instrument. The chronic respiratory disease questionnaire. Clin Nurs Res 1994;3:146-156.

Redelmeier DA, Guyatt GH, Goldstein RS. Assessing the minimal important difference in symptoms: a comparison of two techniques. J Clin Epidemiol 1996;49:1215-1219.

Wijkstra PJ, Van Altena R, Draan J, Otten V, Postma DS, Katter GH. Quality of life in patients with chronic obstructive pulmonary disease improves after rehabilitation at home. Eur Respir J 1994;7:269-273.

Wijkstra PJ, Tenvergert EM, VanAltena R, Otten V, Postma D,Kraan J, et al. Reliability and validity of the Chronic Respiratory Questionnaire (CRQ). Thorax 1994;49:465-7.

2b.2 Analytic Method *(type of reliability & rationale, method for testing)***:**
See above.

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)***:**
See above.

NQF

Responsiveness to change in condition has also been reported in multiple studies (Martin 1994; Guyatt et al. 1987; Redelmeier et al 1996; Jaeschke et al 1989; Goldstein et al. 1994 with a change in the score of 0.5 on the 7 point scale reflecting the minimally important difference (Redelmeier et al. 1996; Jaeschke et al 1989; Moran et al. 2001). The instrument has been used in both clinical practice and research. The instrument was developed in English.	N☐

References:

Bradley J, Dempster M, Wallace E, Elborn S. The adaptations of a quality of life questionnaire for routine use in clinical practice: the Chronic Respiratory Disease Questionnaire in cystic fibrosis. Qual Life Res 1999;8:65-71.

Goldstein RS, Gort EH, Stubbing D, Avendano MA, Guyatt GH. Randomised controlled trial of respiratory rehabilitation. Lancet 1994;344:1394-7.

Griffiths TL, Burr ML, Campbell IA, Lewis-Jenkins V, Mullins J, Shiels K, Turner-Lawlor PJ, Payne N, Newcombe RG, Ionescu AA, et al. Results at 1 year of outpatient multidisciplinary pulmonary rehabilitation: a randomised controlled trial. Lancet 2000;355:362-8.

Guell R, Casan P, Sangenis M, Morante F, Belda J, Guyatt GH. Quality of life in patients with chronic respiratory disease: the Spanish version of the Chronic Respiratory Questionnaire (CRQ). Eur Respir J 1998;11(1):55-60.

Guell R, Casan P, Sangenis M, Morante F, Belda J, Guyatt GH. The Spanish translation and evaluation of a quality of life questionnaire in patients with chronic obstructive pulmonary disease. Arch Bronchoneumol 1995;31:202-210.

Guyatt GH, King DR, Feeny DH, Stubbing D, Goldstein RS. Generic and specific measurement of health-related quality of life in a clinical trial of respiratory rehabilitation. J Clin Epidemiol 1999;52:187-92.

Guyatt G.H., Townsend M., Keller JL, Singer J. Should study subjects see their previous responses: data from a randomized control trial. J Clin Epidemiol 1989 42:913-20.

Guyatt GH, Berman LB, Townsend M, Puglsey SO, Chambers LW. A measure of quality of life for clinical trials in chronic lung disease. Thorax 1987;42:773-778.

Harper R, Brazier JE, Waterhouse JC, Walters SJ, Jones NM, Howard P. Comparison of outcome measures for patients with chronic obstructive pulmonary disease (COPD) in an outpatient setting. Thorax 1997;52(10):879-87.

Jaeschke R, Singer J, Guyatt GH. Measurement of health status ascertaining the minimal clinically important difference. Controlled Clin Trials 1989;10:407-415.

Lacasse Y, Wong E, Guyatt G. A systematic overview of the measurement properties of the Chronic Respiratory Questionnaire. Canadian Respiratory Journal 1997;4(3):131-9.

Larson JL, Covey MK, Berry JK, Wirtz S, Kim MJ. Reliability and validity of the Chronic Respiratory Disease Questionnaire. Am J Crit Care Med 1993;147:A350.

Moran LA, Guyatt GH, et al. Establishing the minimal number of items for a responsive, valid, health-related quality of life instrument. J Clin Epidemiol 2001;54(6): 571-9.

Martin LL. Validity and reliability of a quality-of-life instrument. The chronic respiratory disease

Wijkstra PJ, Van Altena R, Draan J, Otten V, Postma DS, Katter GH. Quality of life in patients with chronic obstructive pulmonary disease improves after rehabilitation at home. Eur Respir J 1994;7:269-273.

Wijkstra PJ, Tenvergert EM, VanAltena R, Otten V, Postma D,Kraan J, et al. Reliability and validity of the Chronic Respiratory Questionnaire (CRQ). Thorax 1994;49:465-7.

2c.2 Analytic Method *(type of validity & rationale, method for testing)***:**
See above.

2c.3 Testing Results *(statistical results, assessment of adequacy in the context of norms for the test conducted)***:**
See above.

2d. Exclusions Justified

2d.1 Summary of Evidence supporting exclusion(s):
Patients who are unable to read or write, and those who have neurocognitive and psychiatric conditions that restrict their ability to read and complete a HRQOL questionnaire cannot be expected to do so. Furthermore, given the personal nature of a QOL self-assessment, the self-administered questionnaire cannot be completed by a legal guardian or caregiver.

2d.2 Citations for Evidence:
Santiveri C, Espinalt M, Díaz Carrasco FX, Marín A, Miguel E, Jones PW. Evaluation of male COPD patients' health status by proxies. Respir Med. 2007 Mar;101(3):439-45. Epub 2006 Sep 1.

2d.3 Data/sample *(description of data/sample and size)***:** Forty-six male patients with COPD were studied.

2d.4 Analytic Method *(type analysis & rationale)***:**
Correlation between proxy-derived quality of life scores and disease severity, as measured by FEV1 measures.

2d.5 Testing Results *(e.g., frequency, variability, sensitivity analyses)***:**
Patients' mean age was 72.1+/-7.3 years. Internal consistency (Cronbach's alpha) was over 0.73 for all domains and >0.9 for the total score. Their scores correlated with dyspnoea (r=0.30-0.45) and FEV(1) (r=0.4-0.61). The proxies could distinguish between levels of disease severity, but with a weaker discriminant power compared to patients. Seventy-two per cent of proxies over-reported the degree of the patient's overall health status impairment, especially at mild-moderate scores. Proxies showed weaker correlations at the more severe scores.

2d
C☐
P☐
M☐
N☐
NA☐

2e. Risk Adjustment for Outcomes/ Resource Use Measures

2e.1 Data/sample *(description of data/sample and size)***:** NA

2e.2 Analytic Method *(type of risk adjustment, analysis, & rationale)***:**
NA

2e.3 Testing Results *(risk model performance metrics)***:**
NA

2e.4 If outcome or resource use measure is not risk adjusted, provide rationale: Patients of all levels of COPD severity will be included in PR. Change in HRQOL scores will be based on individual assessments of

2e
C☐
P☐
M☐
N☐

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Reference: Jaeschke R, Singer J, Guyatt GH. Measurement of health status. Ascertaining the minimal clinically important difference. Control Clin Trials. 1989 Dec;10(4):407-15. **2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)***:** Correlation between measured severity of disease and patient perception of meaningful difference in various measures of disease symptoms and severity, as well as overall quality of life. **2f.3 Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)***:** Based on Meta-analysis of Lacasse (2007), mean effect for PR on HRQOL is approximately 1.0 (95% CI, 0.70-1.20).	**N☐**
2g. Comparability of Multiple Data Sources/Methods **2g.1 Data/sample** *(description of data/sample and size)***:** Other measurement tools are available for assessment of HRQOL for patients with COPD. However, the CRQ is the questionnaire that is felt to have the most reliability, validity, and feasibility of use in patients with COPD in PR programs. **2g.2 Analytic Method** *(type of analysis & rationale)***:** A systematic review, looking at minimal clinical difference in outcome, was completed by Jaeschke et al (1989). This, along with other studies have shown the CRQ to be a meaningful, feasible, and accurate way to assess HRQOL in patients with COPD. Sample size will include 150 patients. **2g.3 Testing Results** *(e.g., correlation statistics, comparison of rankings)***:** See above.	**2g** **C☐** **P☐** **M☐** **N☐** **NA☐**
2h. Disparities in Care **2h.1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)***:** As mentioned above, in Importance section, the gap in identification and treatment of COPD is even more marked in women than it is in men. As also mentioned above (Haave E, Skumlien S, Hyland ME. Gender considerations in pulmonary rehabilitation. J Cardiopulm Rehabil Prev. 2008 May-Jun;28(3):215-9.), HRQOL improvement is similar for both men and women with COPD who are enrolled in PR. **2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:** NA	**2h** **C☐** **P☐** **M☐** **N☐** **NA☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific Acceptability of Measure Properties*?	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties***, met?** **Rationale:**	*2* **C☐** **P☐** **M☐** **N☐**
3. USABILITY	

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3a.1 Current Use: in use **3a.2 Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*)**:** NA **3a.3 If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** CRQ has been used as a measure of HRQoL at the beginning and end of PR in multiple clinical trials. Examples can be found via the American Thoracic Society's web site at www.ATSQOL.org. **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) **3a.4 Data/sample** *(description of data/sample and size)***:** A study by Schünemann and colleagues found that the CRQ was not only accurate in assessing HRQOL but also easily interpreted, using a likert scale of 1-7, and with a difference of 1.0 on the scale signifying a meaningful difference in HRQOL. Reference: Schünemann HJ, Puhan M, Goldstein R, Jaeschke R, Guyatt GH. Measurement properties and interpretability of the Chronic respiratory disease questionnaire (CRQ). COPD. 2005 Mar;2(1):81-9. **3a.5 Methods** *(e.g., focus group, survey, QI project)***:** As above **3a.6 Results** *(qualitative and/or quantitative results and conclusions)***:** As above.	**P**☐ **M**☐ **N**☐
3b/3c. Relation to other NQF-endorsed measures **3b.1 NQF # and Title of similar or related measures:**	
(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): **3b.2 Are the measure specifications harmonized? If not, why?**	**3b** **C**☐ **P**☐ **M**☐ **N**☐ **NA**☐
3c. Distinctive or Additive Value **3c.1 Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** **5.1 Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:**	**3c** **C**☐ **P**☐ **M**☐ **N**☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability*?	

	M☐ N☐
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes 4a.1-2 **How are the data elements that are needed to compute measure scores generated?** data generated as byproduct of care processes during delivery, Survey, coding/abstraction performed by someone other than person obtaining original information,	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources 4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) Yes 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.**	**4b** C☐ P☐ M☐ N☐
4c. Exclusions 4c.1 **Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No 4c.2 **If yes, provide justification.**	**4c** C☐ P☐ M☐ N☐ NA☐
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences 4d.1 **Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.** To help reduce provider variability in the administration of the CRQ, a standardized interview protocol is followed in each program, and audits of inter- and intra-observer variability should be performed on a regular basis.	**4d** C☐ P☐ M☐ N☐
4e. Data Collection Strategy/Implementation 4e.1 **Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** The CRQ is a test that is straightforward to perform, interpret and report, and is used in a large percentage of PR programs. 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** TBD 4e.3 **Evidence for costs:** TBD	**4e** C☐ P☐ M☐

Rationale:	**C☐ P☐ M☐ N☐**
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited ☐**
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y☐ N☐ A☐**

CONTACT INFORMATION

Co.1 **Measure Steward (Intellectual Property Owner)**
Co.1 **Organization**
American Association of Cardiovascular and Pulmonary Rehabilitation | 401 N. Michigan Avenue, Suite 2200 | Chicago | Illinois | 60611

Co.2 **Point of Contact**
P. Joanne | Ray | jray@aacvpr.org | 312-673-4746

Measure Developer If different from Measure Steward
Co.3 **Organization**
American Association of Cardiovascular and Pulmonary Rehabilitation | 401 N. Michigan Avenue, Suite 2200 | Chicago | Illinois | 60611

Co.4 **Point of Contact**
P. Joanne | Ray | jray@aacvpr.org | 312-673-4746

Co.5 **Submitter If different from Measure Steward POC**
P. Joanne | Ray | jray@aacvpr.org | 312-673-4746- |American Association of Cardiovascular and Pulmonary Rehabilitation

Co.6 **Additional organizations that sponsored/participated in measure development**

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 **Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.**
Chris Garvey, FNP, MSN, MPA, Daughters of Charity Health System - Workgroup chair. Other members include: Gerene Bauldoff, PhD, RN, Ohio State School of Nursing, Karen Lui, RN, AACVPR, Marjorie King, MD, Helen Hayes Hospital, and Randal Thomas, MD, MS, Mayo Clinic.

Ad.2 **If adapted, provide name of original measure:**
Ad.3-5 **If adapted, provide original specifications URL or attachment**

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 **Year the measure was first released:** 2009
Ad.7 **Month and Year of most recent revision:**
Ad.8 **What is your frequency for review/update of this measure?** 3 years
Ad.9 **When is the next scheduled review/update for this measure?** 2012-10

Ad.10 **Copyright statement/disclaimers:**