NATIONAL QUALITY FORUM

Measure Evaluation 4.1
December 2009

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 subcriteria and most of the footnotes from the evaluation criteria are provided in Word comments within the form and will appear if your cursor is over the highlighted area. 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 subcriterion 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 subcriteria (yellow highlighted areas).*

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the subcriteria, 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 subcriteria as indicated)

(for NQF staff use) **NQF Review #:** 0079 **NQF Project:** Cardiovascular Endorsement Maintenance 2010
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Heart Failure: Left Ventricular Ejection Fraction Assessment (Outpatient Setting)
De.2 **Brief description of measure***:* Percentage of patients aged 18 years and older with a diagnosis of heart failure for whom the quantitative or qualitative results of a recent or prior (any time in the past) LVEF assessment is documented within a 12 month period
1.1-2 **Type of Measure:** Process De.3 **If included in a composite or paired with another measure, please identify composite or paired measure**
De.4 **National Priority Partners Priority Area:** Population health De.5 **IOM Quality Domain**: Effectiveness, Equity 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.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** A.3 **Measure Steward Agreement:** Agreement will be signed and submitted prior to or at the time of measure submission A.4 **Measure Steward Agreement attached:**	**A** **Y**☐ **N**☐
B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and	**B**

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	Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** Public reporting, Internal 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, Leading cause of morbidity/mortality, High resource use, Severity of illness, Patient/societal consequences of poor quality 1a.2 1a.3 **Summary of Evidence of High Impact:** Heart failure is a chronic condition that poses a major and growing threat to the public's health. Improving the effectiveness of care and optimizing patient outcomes will become increasingly important as the population of the United States ages. •Currently, approximately 5.7 million Americans are living with heart failure. •Heart failure incidence approaches 10 per 1000 population after 65 years of age. •A person aged 40 years or older has a 1 in 5 chance of developing heart failure. •Hospital discharges for heart failure rose from 877,000 in 1996 to 1,106,000 in 2006. •80% percent of men and 70% of women less than 65 years of age who have heart failure will die within 8 years. •In 2005, 1 in 8 death certificates (292,214 deaths) in the United States mentioned heart failure. •For 2009, the estimated direct and indirect cost of heart failure in the United States is $37.2 billion, representing a portion of the estimated $475.3 billion for all cardiovascular diseases. 1a.4 **Citations for Evidence of High Impact:** Lloyd-Jones D, Adams RJ, Brown TM, et al., American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics–2010 update: a report from the American Heart Association. Circulation. 2010;126:e46-e215.	1a C☐ P☐ M☐ N☐

Comment [KP1]: 1a. The measure focus addresses:
•a specific national health goal/priority identified by NQF's National Priorities Partners; OR
•a demonstrated high impact aspect of healthcare (e.g., affects large numbers, leading cause of morbidity/mortality, high resource use (current and/or future), severity of illness, and patient/societal consequences of poor quality).

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: This measure is aimed at improving the number of patients with heart failure who receive an evaluation of their LVEF. Measurement of LVEF in heart failure patients is key to the implementation of therapeutic interventions demonstrated to slow disease progression and improve outcomes in patients with left ventricular systolic dysfunction.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
A 2003 study analyzing the quality of health care in the U.S. found that only 35.25% of participants with congestive heart failure who were beginning medical treatment received an evaluation of their LVEF within 1 month of the start of treatment.(1) For patients hospitalized with heart failure, a study analyzing data from 223 hospitals participating in the Acute Decompensated Heart Failure National Registry (ADHERE) between July 2002 and December 2003 found that left ventricular function assessment was documented in 84% of the 69,069 eligible admissions. Variability among participating hospitals was significant with rates at individual hospitals varying from 14 to 100%.(2)

(1)Appendix to McGlynn EA, Asch SM, Adams J, et al. The quality of health care delivered to adults in the United States. N Engl J Med. 2003;348:2635-2645.
(2)Fonarow GC, Yancy CW, Heywood JT. Adherence to heart failure quality-of-care indicators in US hospitals: analysis of the ADHERE Registry. Arch Intern Med. 2005; 165: 1469–1477.

Please see additional performance data in section 1 of the attached Measure Testing Summary.

1b.3 Citations for data on performance gap:
Please see additional performance data in section 1 and project descriptions at the end of the attached Measure Testing Summary.

1b.4 Summary of Data on disparities by population group:
The 2009 National Healthcare Disparities Report showed that disparities in care for heart failure exist across populations. Although the quality of hospital care for heart failure has improved overall, "care for Whites continues to improve at a higher rate than for minority populations. Thus, quality improvement has not necessarily translated to disparities reduction, which is critical for high-quality care."(1) Recommended hospital care for heart failure was characterized by evaluation of the patient's left ventricular ejection fraction and patient's receipt of an ACE inhibitor for left ventricular systolic dysfunction.
•In 2006, the proportion of Medicare patients with heart failure who received recommended hospital care was higher for Blacks than for Whites (91.4% compared with 90%).(1)
•In 2006, the proportion of Medicare patients with heart failure who received recommended hospital care was lower for American Indians (AI) or Alaska Natives (AN) (86.3%) and Hispanics (89.3%) compared with Whites (90%).(1)

(1) Agency for Healthcare Research and Quality. 2009 National Healthcare Disparities Report. http://www.ahrq.gov/qual/nhdr09/nhdr09.pdf. Published March 2010. Accessed May 25, 2010.

1b.5 Citations for data on Disparities:

1b C☐ P☐ M☐ N☐

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*)**:** Evaluation of LVEF in patients with heart failure provides important information that is required to appropriately direct treatment. Several pharmacologic therapies have demonstrated efficacy in slowing disease progression and improving outcomes in patients with left ventricular systolic dysfunction. LVEF assessed during the initial evaluation of patients presenting with heart failure can be considered valid unless the patient has demonstrated a major change in clinical status, experienced or recovered from a clinical event, or received therapy that might have a significant effect on cardiac function.

A comprehensive 2-dimensional echocardiogram with Doppler flow studies has been identified as the single

1c C☐ P☐ M☐ N☐

Comment [KP2]: 1b. Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating considerable variation, or overall poor performance, in the quality of care across providers and/or population groups (disparities in care).

Comment [k3]: 1 Examples of data on opportunity for improvement include, but are not limited to: prior studies, epidemiologic data, measure data from pilot testing or implementation. If data are not available, the measure focus is systematically assessed (e.g., expert panel rating) and judged to be a quality problem.

Comment [k4]: 1c. The measure focus is:
•an outcome (e.g., morbidity, mortality, function, health-related quality of life) that is relevant to, or associated with, a national health goal/priority, the condition, population, and/or care being addressed;
OR
•if an intermediate outcome, process, structure, etc., there is **evidence** that supports the specific measure focus as follows:
oIntermediate outcome – evidence that the measured intermediate outcome (e.g., blood pressure, Hba1c) leads to improved health/avoidance of harm or cost/benefit.
oProcess – evidence that the measured clinical or administrative process leads to improved health/avoidance of harm and
if the measure focus is on one step in a multi-step care process, it measures the step that has the greatest effect on improving the specified desired outcome(s).
oStructure – evidence that the measured structure supports the consistent delivery of effective processes or access that lead to improved health/avoidance of harm or cost/benefit.
oPatient experience – evidence that an association exists between the measure of patient experience of health care and the outcomes, values and preferences of individuals/ the public.
oAccess – evidence that an association exists between access to a health service and the outcomes of, or experience with, care.
oEfficiency – demonstration of an association between the measured resource use and level of performance with respect to one or more of the other five IOM aims of quality.

Comment [k5]: 4 Clinical care processes typically include multiple steps: assess → identify problem/potential problem → choose/plan intervention (with patient input) → provide intervention → evaluate impact on health status. If the measure focus is one step in such a multi-step process, the step with the greatest effect on the desired outcome should be selected as the focus of measurement. For example, although assessment of immunization status and recommending immunization are necessary steps, they are not sufficient to achieve the desired impact on health status – patients must be vaccinated to achieve immunity. This does not preclude consideration of measures of preventive screening interventions where there is a strong link with desired outcomes (e.g., … [1]

most useful diagnostic test in the evaluation of patients with heart failure.(1)

(1)Jessup M, Abraham WT, Casey DE, et al., writing on behalf of the 2005 Guideline Update for the Diagnosis and Management of Chronic Heart Failure in the Adult Writing Committee. 2009 focused update: ACCF/AHA guidelines for the diagnosis and management of heart failure in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2009;53:1343–82.

1c.2-3. Type of Evidence: Evidence-based guideline

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
The single most useful diagnostic test in the evaluation of patients with HF is the comprehensive 2-dimensional echocardiogram coupled with Doppler flow studies to determine whether or not the LVEF is preserved or reduced. This measurement is essential to identify patients eligible for the implementation of therapeutic interventions demonstrated to slow disease progression and improve outcomes in patients with left ventricular systolic dysfunction.

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**
Level of Evidence: C (Only consensus opinion of experts, case studies, or standard-of-care as noted by the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines)

1c.6 Method for rating evidence: Levels of Evidence are classified as follows:
-Level of Evidence A: Data derived from multiple randomized clinical trials or meta-analyses
-Level of Evidence B: Data derived from a single randomized trial or nonrandomized studies
-Level of Evidence C: Only consensus opinion of experts, case studies, or standard-of-care

Methodologies and policies from the ACC/AHA Task Force on Practice Guidelines state that "assigning a Level of Evidence B or C should not be construed as implying that the recommendation is weak. Many important clinical questions addressed in the guidelines either do not lend themselves to experimentation or have not yet been addressed by high quality investigations. Even though randomized controlled trials may not be available, the clinical question may be so relevant that it would be delinquent to not include it in the guideline."

1c.7 Summary of Controversy/Contradictory Evidence:

1c.8 Citations for Evidence (*other than guidelines***):**

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**
Two-dimensional echocardiography with Doppler should be performed during initial evaluation of patients presenting with [heart failure] to assess LVEF, [left ventricular] size, wall thickness, and valve function. Radionuclide ventriculography can be performed to assess LVEF and volumes. (p. e9 in web publication)

Magnetic resonance imaging or computed tomography may be useful in evaluating chamber size and ventricular mass, detecting right ventricular dysplasia, or recognizing the presence of pericardial disease, as well as in assessing cardiac function and wall motion. (p. e11 in web publication)

1c.10 Clinical Practice Guideline Citation: Jessup M, Abraham WT, Casey DE, et al., writing on behalf of the 2005 Guideline Update for the Diagnosis and Management of Chronic Heart Failure in the Adult Writing Committee. 2009 focused update: ACCF/AHA guidelines for the diagnosis and management of heart failure in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2009;53:1343– 82.
1c.11 National Guideline Clearinghouse or other URL:
http://content.onlinejacc.org/cgi/reprint/53/15/e1.pdf

1c.12 Rating of strength of recommendation (*also provide narrative description of the rating and by whom***):**

Comment [k6]: 3 The strength of the body of evidence for the specific measure focus should be systematically assessed and rated (e.g., USPSTF grading system http://www.ahrq.gov/clinic/uspstf07/methods/benefit.htm). If the USPSTF grading system was not used, the grading system is explained including how it relates to the USPSTF grades or why it does not. However, evidence is not limited to quantitative studies and the best type of evidence depends upon the question being studied (e.g., randomized controlled trials appropriate for studying drug efficacy are not well suited for complex system changes). When qualitative studies are used, appropriate qualitative research criteria are used to judge the strength of the evidence.

Comment [k7]: USPSTF grading system **http://www.ahrq.gov/clinic/uspstf/grades.htm**: **A -** The USPSTF recommends the service. There is high certainty that the net benefit is substantial. **B -** The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial. **C -** The USPSTF recommends against routinely providing the service. There may be considerations that support providing the service in an individual patient. There is at least moderate certainty that the net benefit is small. Offer or provide this service only if other considerations support the offering or providing the service in an individual patient. **D -** The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits. **I -** The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.

Class I (Conditions for which there is evidence and/or general agreement that a given procedure or treatment is beneficial, useful, and effective by the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines) 1c.13 **Method for rating strength of recommendation** (*If different from USPSTF system, also describe rating and how it relates to USPSTF*)**:** Classifications of Recommendations are classified as follows: Class I: Conditions for which there is evidence and/or general agreement that a given procedure or treatment is beneficial, useful, and effective. Class II: Conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of a procedure or treatment. Class IIa: Weight of evidence/opinion is in favor of usefulness/efficacy. Class IIb: Usefulness/efficacy is less well established by evidence/opinion. Class III: Conditions for which there is evidence and/or general agreement that a procedure/treatment is not useful/effective and in some cases may be harmful. 1c.14 **Rationale for using this guideline over others:** It is the PCPI policy to use guidelines, which are evidence-based, applicable to physicians and other healthcare providers, and developed by a national specialty organization or government agency. In addition, the PCPI has now expanded what is acceptable as the evidence base for measures to included documented quality improvement (QI) initiatives or implementation projects that have demonstrated improvement in the quality of care.	
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria 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***):** Patients for whom the quantitative or qualitative results of a recent or prior (any time in the past) LVEF assessment is documented* within a 12 month period *Documentation must include documentation in a progress note of the results of an LVEF assessment, regardless of when the evaluation of ejection fraction was performed. Qualitative results correspond to numeric equivalents as follows: Hyperdynamic: corresponds to LVEF greater than 70% Normal: corresponds to LVEF 50% to 70% (midpoint 60%) Mild dysfunction: corresponds to LVEF 40% to 49% (midpoint 45%) Moderate dysfunction: corresponds to LVEF 30% to 39% (midpoint 35%) Severe dysfunction: corresponds to LVEF less than 30% 2a.2 **Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** Once during the measurement period	**2a-specs** **C☐** **P☐** **M☐** **N☐**

Comment [KP8]: 2a. The measure is well defined and precisely specified so that it can be implemented consistently within and across organizations and allow for comparability. The required data elements are of high quality as defined by NQF's Health Information Technology Expert Panel (HITEP) .

2a.3 Numerator Details (*All information required to collect/calculate the numerator, including all codes, logic, and definitions***):**
See attached for EHR Specifications.
For Claims/Administrative: Report CPT Category II Code 3021F- Left ventricular ejection fraction (LVEF) < 40% or documentation of moderately or severely depressed left ventricular systolic dysfunction

OR

CPT Category II Code 3022F- Left ventricular ejection fraction (LVEF) >= 40% or documentation as normal function or mildly depressed left ventricular systolic function

2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):**
All patients aged 18 years and older with a diagnosis of heart failure

2a.5 Target population gender: Female, Male
2a.6 Target population age range: 18 years of age and older

2a.7 Denominator Time Window (*The time period in which cases are eligible for inclusion in the denominator***):**
12 consecutive months

2a.8 Denominator Details (*All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
See attached for EHR Specifications.
For Claims/Administrative: See coding tables attached for coding (ICD-9-CM, ICD-10-CM, SNOMED, CPT)

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** None

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**

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***):**

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***):**
See attached for calculation algorithm.

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**

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)*:

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Paper medical record/flow-sheet, Electronic administrative data/claims, Electronic clinical data, Electronic Health/Medical Record, Registry data

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection*

Comment [k9]: 11 Risk factors that influence outcomes should not be specified as exclusions.
12 Patient preference is not a clinical exception to eligibility and can be influenced by provider interventions.

instrument, e.g. name of database, clinical registry, collection instrument, etc.):
This measure, in its previous specifications, is currently being used in the ACCF PINNACLE registry for the outpatient office setting.

2a.26-28 **Data source/data collection instrument reference web page URL or attachment:** URL www.pinnacleregistry.org

2a.29-31 **Data dictionary/code table web page URL or attachment:** Attachment NQF 0079_PCPI_HF-1_LVEF Assessment.pdf

2a.32-35 **Level of Measurement/Analysis** (*Check the level(s) for which the measure is specified and tested)*
Clinicians: Individual, Clinicians: Group

2a.36-37 **Care Settings (***Check the setting(s) for which the measure is specified and tested)*
Home, Ambulatory Care: Office, Ambulatory Care: Clinic, Nursing home (NH) /Skilled Nursing Facility (SNF), Ambulatory Care: Hospital Outpatient, Assisted Living, Group homes

2a.38-41 **Clinical Services** (*Healthcare services being measured, check all that apply*)
Clinicians: PA/NP/Advanced Practice Nurse, Clinicians: Physicians (MD/DO)

TESTING/ANALYSIS

2b. Reliability testing

2b.1 **Data/sample** *(description of data/sample and size)*: Please see additional information in sections 2, 4, 6, 7, 8, 9, 10 of the attached Measure Testing Summary.

2b.2 **Analytic Method** *(type of reliability & rationale, method for testing)*:
Please see additional information in sections 2, 4, 6, 7, 8, 9, 10 of the attached Measure Testing Summary.

2b.3 **Testing Results** *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)*:
Please see additional information in sections 2, 4, 6, 7, 8, 9, 10 of the attached Measure Testing Summary.

2b C☐ P☐ M☐ N☐

2c. Validity testing

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

2c.2 **Analytic Method** *(type of validity & rationale, method for testing)*:
All PCPI performance measures are assessed for content validity by expert work group members during the development process. Additional input on the content validity of draft measures is obtained through a 30-day public comment period and by also soliciting comments from a panel of consumer, purchaser, and patient representatives convened by the PCPI specifically for this purpose. All comments received are reviewed by the expert work group and the measures adjusted as needed. Other external review groups (eg, focus groups) may be convened if there are any remaining concerns related to the content validity of the measures.

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

2c C☐ P☐ M☐ N☐

2d. Exclusions Justified

2d.1 **Summary of Evidence supporting exclusion(s):**
This measure has no exclusions.

2d.2 **Citations for Evidence:**

2d C☐ P☐ M☐ N☐ NA☐

Rating: C=Completely; P=Partially; M=Minimally; N=Not at all; NA=Not applicable

Comment [KP10]: 2b. Reliability testing demonstrates the measure results are repeatable, producing the same results a high proportion of the time when assessed in the same population in the same time period.

Comment [k11]: 8 Examples of reliability testing include, but are not limited to: inter-rater/abstractor or intra-rater/abstractor studies; internal consistency for multi-item scales; test-retest for survey items. Reliability testing may address the data items or final measure score.

Comment [KP12]: 2c. Validity testing demonstrates that the measure reflects the quality of care provided, adequately distinguishing good and poor quality. If face validity is the only validity addressed, it is systematically assessed.

Comment [k13]: 9 Examples of validity testing include, but are not limited to: determining if measure scores adequately distinguish between providers known to have good or poor quality assessed by another valid method; correlation of measure scores with another valid indicator of quality for the specific topic; ability of measure scores to predict scores on some other related valid measure; content validity for multi-item scales/tests. Face validity is a subjective assessment by experts of whether the measure reflects the quality of care (e.g., whether the proportion of patients with BP < 140/90 is a marker of quality). If face validity is the only validity addressed, it is systematically assessed (e.g., ratings by relevant stakeholders) and the measure is judged to represent quality care for the specific topic and that the measure focus is the most important aspect of quality for the specific topic.

Comment [KP14]: 2d. Clinically necessary measure exclusions are identified and must be:
•supported by evidence of sufficient frequency of occurrence so that results are distorted without the exclusion;
AND
•a clinically appropriate exception (e.g., contraindication) to eligibility for the measure focus;
AND
•precisely defined and specified:
–if there is substantial variability in exclusions across providers, the measure is specified so that exclusions are computable and the effect on the measure is transparent (i.e., impact clearly delineated, such as number of cases excluded, exclusion rates by type of exclusion);
if patient preference (e.g., informed decision-making) is a basis for exclusion, there must be evidence that it strongly impacts performance on the measure and the measure must be specified so that the information about patient preference and the effect on the measure is transparent (e.g., numerator category ... [2]

Comment [k15]: 10 Examples of evidence that an exclusion distorts measure results include, but are not limited to: frequency of occurrence, sensitivity analyses with and without the exclusion, and variability of exclusions across providers.

2d.3 Data/sample *(description of data/sample and size)*: Please see additional information in sections 1,3,5,7 of the attached Measure Testing Summary **2d.4 Analytic Method** *(type analysis & rationale)*: Please see additional information in sections 1,3,5,7 of the attached Measure Testing Summary **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)*: Please see additional information in sections 1,3,5,7 of the attached Measure Testing Summary	
2e. Risk Adjustment for Outcomes/ Resource Use Measures **2e.1 Data/sample** *(description of data/sample and size)*: **2e.2 Analytic Method** *(type of risk adjustment, analysis, & rationale)*: This is a process measure; risk adjustment is not indicated. **2e.3 Testing Results** *(risk model performance metrics)*: **2e.4 If outcome or resource use measure is not risk adjusted, provide rationale:**	**2e** C☐ P☐ M☐ N☐ NA☐
2f. Identification of Meaningful Differences in Performance **2f.1 Data/sample from Testing or Current Use** *(description of data/sample and size)*: Please see additional information in section 1 of the attached Measure Testing Summary. **2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*: Please see additional information in section 1 of the attached Measure Testing Summary. **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)*: Please see additional information in section 1 of the attached Measure Testing Summary.	**2f** C☐ P☐ M☐ N☐
2g. Comparability of Multiple Data Sources/Methods **2g.1 Data/sample** *(description of data/sample and size)*: Please see additional information in sections 6,7,8,9,10 of the attached Measure Testing Summary. **2g.2 Analytic Method** *(type of analysis & rationale)*: Please see additional information in sections 6,7,8,9,10 of the attached Measure Testing Summary. **2g.3 Testing Results** *(e.g., correlation statistics, comparison of rankings)*: Please see additional information in sections 6,7,8,9,10 of the attached Measure Testing Summary.	**2g** C☐ P☐ M☐ N☐ NA☐
2h. Disparities in Care **2h.1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: **2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:** The ACCF, AHA, and PCPI advocate that performance measure data should, where possible, be stratified by race, ethnicity, and primary language to assess disparities and initiate subsequent quality improvement activities addressing identified disparities, consistent with recent national efforts to standardize the collection of race and ethnicity data. A 2008 NQF report endorsed 45 practices including stratification by the aforementioned variables.(1) A 2009 IOM report "recommends collection of the existing Office of Management and Budget (OMB) race and Hispanic ethnicity categories as well as more fine-grained categories of ethnicity (referred to as granular ethnicity and based on one's ancestry) and language need (a rating of spoken English language proficiency of less than very well and one's preferred language for health-	**2h** C☐ P☐ M☐ N☐ NA☐

Comment [KP16]: 2e. For outcome measures and other measures (e.g., resource use) when indicated:
•an evidence-based risk-adjustment strategy (e.g., risk models, risk stratification) is specified and is based on patient clinical factors that influence the measured outcome (but not disparities in care) and are present at start of care;[Error! Bookmark not defined.] OR rationale/data support no risk adjustment.

Comment [k17]: 13 Risk models should not obscure disparities in care for populations by including factors that are associated with differences/inequalities in care such as race, socioeconomic status, gender (e.g., poorer treatment outcomes of African American men with prostate cancer, inequalities in treatment for CVD risk factors between men and women). It is preferable to stratify measures by race and socioeconomic status rather than adjusting out differences.

Comment [KP18]: 2f. Data analysis demonstrates that methods for scoring and analysis of the specified measure allow for identification of statistically significant and practically/clinically meaningful differences in performance.

Comment [k19]: 14 With large enough sample sizes, small differences that are statistically significant may or may not be practically or clinically meaningful. The substantive question may be, for example, whether a statistically significant difference of one percentage point in the percentage of patients who received smoking cessation counseling (e.g., 74% v. 75%) is clinically meaningful; or whether a statistically significant difference of $25 in cost for an episode of care (e.g., $5,000 v. $5,025) is practically meaningful. Measures with overall poor performance may not demonstrate much variability across providers.

Comment [KP20]: 2g. If multiple data sources/methods are allowed, there is demonstration they produce comparable results.

Comment [KP21]: 2h. If disparities in care have been identified, measure specifications, scoring, and analysis allow for identification of disparities through stratification of results (e.g., by race, ethnicity, socioeconomic status, gender);OR rationale/data justifies why stratification is not necessary or not feasible.

related encounters)."(2)

References
(1)National Quality Forum Issue Brief (No.10). Closing the Disparities Gap in Healthcare Quality with Performance Measurement and Public Reporting. Washington, DC: NQF, August 2008.

(2)Race, Ethnicity, and Language Data: Standardization for Health Care Quality Improvement. March 2010. AHRQ Publication No. 10-0058-EF. Agency for Healthcare Research and Quality, Rockville, MD. Available at: http://www.ahrq.gov/research/iomracereport. Accessed May 25, 2010.

TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria 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

Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)

Eval Rating

3a. Meaningful, Understandable, and Useful Information

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*)**:**
This measure is not yet used in any public reporting initiative. The measure will, however, be eligible for inclusion in the CMS PQRS and other government programs in 2012 and would thus provide information about clinician participation to the public. The ACCF, AHA, and PCPI believe that the reporting of such participation information is a beneficial first step on a trajectory toward the public reporting of performance results, which is most appropriate after the measures are thoroughly tested and the reliability of the performance data has been validated. Continued NQF endorsement will facilitate our ongoing progress toward this public reporting objective.

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***):**
All PCPI measures are suitable for use in quality improvement initiatives and are made freely available on the PCPI website and through the implementation efforts of medical specialty societies and other PCPI members. The PCPI strongly encourages the use of its measures in QI initiatives and seeks to provide information on such initiatives to PCPI members.

The American Heart Association's Get With The Guidelines®-Outpatient (GWTG-O) is a virtual performance improvement program that will improve adherence to evidence-based care in the outpatient setting, including specialist practices, general healthcare practices and health clinics. GWTG-Outpatient has had a long history of quality improvement for cardiovascular care. They have published 65 publications over the past 10 years. This program is designed to assist healthcare professionals in the outpatient setting to provide the best possible care to patients. This program collects a number of clinical measures for primary and secondary prevention. Clinical measure sets include those developed by American Heart Association, including those co-developed with other organizations, such as the American College of Cardiology Foundation and the American Medical Association, as well as other National Quality Forum endorsed measures.

Through this program, data is collected on clinical measures affecting a number of cardiovascular related conditions including, atrial fibrillation, coronary artery disease, heart failure, hypertension, diabetes, and preventative care. The primary analytical system used is Duke Clinical Research Institute. Get With The Guidelines®-Outpatient is a quality improvement program that can be utilized for Maintenance of

3a
C☐
P☐
M☐
N☐

Comment [KP22]: 3a. Demonstration that information produced by the measure is meaningful, understandable, and useful to the intended audience(s) for both public reporting (e.g., focus group, cognitive testing) and informing quality improvement (e.g., quality improvement initiatives). An important outcome that may not have an identified improvement strategy still can be useful for informing quality improvement by identifying the need for and stimulating new approaches to improvement.

Certification (MOC) with groups like American Board of Internal Medicine (ABIM) and American Board of Family Medicine (ABFM). ABIM has confirmed that the reports received from Get With The Guidelines-Outpatient can be utilized in completion of their Self-Directed Practice Improvement Module (PIM). The Self-Directed PIM provides one pathway for earning practice performance credit in ABIM's MOC program. This program includes several integral components: A preliminary Continuing Education (CE) course for the care team, data submission and reporting that is integrated with existing Electronic Health Records (EHRs)/health technology platforms, corresponding professional and provider education including webinars, online tools and resources, digital access to reference materials and videos through the Get With The Guidelines®-Outpatient website (http://outpatient.heart.org). The free continuing education activity titled, Outpatient Quality Improvement Focus, addresses the quality chasm and treatment gap, presents the benefits of quality improvement and identifies the steps necessary for implementation in the practice setting. This continuing education activity is certified for physicians, nurses and pharmacists.

The American College of Cardiology Foundation's Cardiology Practice Improvement Pathway (CPIP) uses clinical measure sets that are developed and specified by the American College of Cardiology Foundation with the American Heart Association and the American Medical Association's Physician Consortium for Performance Improvement for Hypertension, Stable Coronary Artery Disease, Heart Failure, and Atrial Fibrillation/Atrial Flutter. This program is intended as an approved quality improvement product that can be applied toward ABIM's Part IV practice performance requirement for Maintenance of Certification (ABIM AQI application submitted). They are in the process of creating a homepage on the Cardiosource.org homepage. The URL will be cardiosource.org/cpip. The web-based tool will be available after spring 2011. Through an online webinar hosted in November 2010, CPIP anticipates enrolling 50 - 100 practices during 2011 which will provide data from about 500-1,000 cardiologists. This ACCF initiative has contracted with the NY QIO: IPRO to analyze and scores based on thresholds. Of the 100 points needed to achieve recognition in the program, 70 come directly from clinical points such as the Heart Failure measures that are being submitted to NQF for consideration. IPRO will audit 5% of practices who submit their data for recognition evaluation.

The American College of Cardiology Foundation's has an Performance Improvement program entitled "A New Era" which is an educational format approved for credit by the American Medical Association (AMA) and the American Nursing Credentialing Center. This continuing medical education program blends both quality improvement and educational methodologies to provide a high quality learning experience that impacts changes to practice. These activities are structured, long-term processes in which a healthcare professional learns about the heart failure specific performance metrics, uses metrics to retrospectively assess his practice, applies these metrics prospectively over a useful interval, and reevaluates his performance. As part of this process, clinicians set goals for change and engage in structured learning activities to improve their performance. As of December 6th, 2010:
- 425 clinicians have enrolled in A New ERA
- The data is generated from all but four states (Montana, New Hampshire, South Dakota, and Wyoming)
- 82% are physicians
- 90% agreed or strongly agreed that performance metric data were valuable
- 80% agreed or strongly agreed that performance metric data review would help them improve their practice
- No one has finished the program, as it takes several months to do so

In 2008, the American College of Cardiology Foundation launched the PINNACLE program (formerly known as the Improving Continuous Cardiac Care or IC3). This was the first, national, prospective, outpatient based cardiac QI registry in the US. While participation is voluntary, this registry collects a variety of longituditional patient data at the point of service, including patients' symptoms, vital signs, medication, and recent hospitalizations. Jointly developed ACCF/AHA/PCPI measures for Coronary Artery Disease, Heart Failure, and Atrial Fibrillation. Data collection is achieved in 2 ways for the practices: paper forms or practice's electronic medical record data collection systems. The primary analytical system used is St. Luke's Mid America Heart Institute. The ACCF registry, PINNACLE, pulls data from outpatient facilities via paper flowsheets or 14 EHR vendors. As of December 10, 2010, there are 47 practices collecting data at 200 sites with 276,000 unique patients representing 1 million documented encounters.

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)*: **3a.5 Methods** *(e.g., focus group, survey, QI project)*: **3a.6 Results** *(qualitative and/or quantitative results and conclusions)*:	
3b/3c. Relation to other NQF-endorsed measures **3b.1 NQF # and Title of similar or related measures:** NQF # 0135: Evaluation of Left ventricular systolic function (LVS)	
(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?** The ICD-9 codes to determine patient eligibility are harmonized with NQF# 0135. There are slight differences in the measure language as a result of the different care settings specified for each measure.	**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:** NQF#0135 focuses on the inpatient setting with the facility as the level of measurement/analysis. This measure is specific to the outpatient setting with the individual clinician as the defined level of measurement/analysis. **5.1 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☐ NA☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Usability*?	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability*, **met?** **Rationale:**	**3** C☐ P☐ 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 care delivery (Data are generated and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition), Coding/abstraction performed by someone other than person obtaining original information (E.g., DRG, ICD-9 codes on claims, chart abstraction for quality measure or registry)	**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☐

Comment [KP23]: 3b. The measure specifications are harmonized with other measures, and are applicable to multiple levels and settings.

Comment [k24]: 16 Measure harmonization refers to the standardization of specifications for similar measures on the same topic (e.g., *influenza immunization* of patients in hospitals or nursing homes), or related measures for the same target population (e.g., eye exam and HbA1c for *patients with diabetes*), or definitions applicable to many measures (e.g., age designation for children) so that they are uniform or compatible, unless differences are dictated by the evidence. The dimensions of harmonization can include numerator, denominator, exclusions, and data source and collection instructions. The extent of harmonization depends on the relationship of the measures, the evidence for the specific measure focus, and differences in data sources.

Comment [KP25]: 3c. Review of existing endorsed measures and measure sets demonstrates that the measure provides a distinctive or additive value to existing NQF-endorsed measures (e.g., provides a more complete picture of quality for a particular condition or aspect of healthcare, is a more valid or efficient way to measure).

Comment [KP26]: 4a. For clinical measures, required data elements are routinely generated concurrent with and as a byproduct of care processes during care delivery. (e.g., BP recorded in the electronic record, not abstracted from the record later by other personnel; patient self-assessment tools, e.g., depression scale; lab values, meds, etc.)

Comment [KP27]: 4b. The required data elements are available in electronic sources. If the required data are not in existing electronic sources, a credible, near-term path to electronic collection by most providers is specified and clinical data elements are specified for transition to the electronic health record.

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.** Although we are not currently aware of any unintended consequences related to this measure, we plan through an active redesign of the PCPI website to facilitate the collection of information on unintended consequences from the users of PCPI measures.	**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:** Please see additional information in section 3 of the attached Measure Testing Summary. 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** Costs to implement the measure have not been calculated. 4e.3 **Evidence for costs:** 4e.4 **Business case documentation:**	**4e** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Feasibility*?	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, **met?** **Rationale:**	**4** 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 Medical Association, 515 N State St, Chicago, Illinois, 60654 Co.2 **Point of Contact** Mark, Antman, DDS, MBA, mark.antman@ama-assn.org, 312-464-5056-	
Measure Developer If different from Measure Steward	

Comment [KP28]: 4c. Exclusions should not require additional data sources beyond what is required for scoring the measure (e.g., numerator and denominator) unless justified as supporting measure validity.

Comment [KP29]: 4d. Susceptibility to inaccuracies, errors, or unintended consequences and the ability to audit the data items to detect such problems are identified.

Comment [KP30]: 4e. Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, etc.) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use).

Co.3 Organization
American Medical Association, 515 N State St, Chicago, Illinois, 60654

Co.4 Point of Contact
Mark, Antman, DDS, MBA, mark.antman@ama-assn.org, 312-464-4469-

Co.5 Submitter If different from Measure Steward POC
Mark, Antman, DDS, MBA, mark.antman@ama-assn.org, 312-464-5056-, American Medical Association

Co.6 Additional organizations that sponsored/participated in measure development
American College of Cardiology Foundation/American Heart Association

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.
Robert O. Bonow, MD, MACC, FAHA, FACP (Co-Chair) (cardiology)
Theodore G. Ganiats, MD (Co-Chair) (family medicine; measure methodology)
Craig T. Beam, CRE (patient representative)
Kathleen Blake, MD (cardiac electrophysiology)
Donald E. Casey, Jr., MD, MPH, MBA, FACP (internal medicine)
Sarah J. Goodlin, MD (geriatrics, palliative medicine)
Kathleen L. Grady, PhD, APN, FAAN, FAHA (cardiac surgery)
Randal F. Hundley, MD, FACC (cardiology, health plan representative)
Mariell Jessup, MD, FACC, FAHA, FESC (cardiology, heart failure)
Thomas E. Lynn, MD (family medicine, measure implementation)
Frederick A. Masoudi, MD, MSPH (cardiology)
David Nilasena MD, MSPH, MS (general preventive medicine, public health, measure implementation)
Paul D. Rockswold, MD, MPH (family medicine)
Ileana L. Piña, MD, FACC (cardiology, heart failure)
Lawrence B. Sadwin (patient representative)
Joanna D. Sikkema, MSN, ANP-BC, FAHA (cardiology)
Carrie A. Sincak, PharmD, BCPS (pharmacy)
John Spertus, MD, MPH (cardiology)
Patrick J. Torcson, MD, FACP, MMM (hospital medicine)
Elizabeth Torres, MD (internal medicine)
Mark V. Williams, MD, FHM (hospital medicine)
John B Wong, MD (internal medicine)

PCPI measures are developed through cross-specialty, multi-disciplinary work groups. All medical specialties and other health care professional disciplines participating in patient care for the clinical condition or topic under study must be equal contributors to the measure development process. In addition, the PCPI strives to include on its work groups individuals representing the perspectives of patients, consumers, private health plans, and employers. This broad-based approach to measure development ensures buy-in on the measures from all stakeholders and minimizes bias toward any individual specialty or stakeholder group. All work groups have at least two co-chairs who have relevant clinical and/or measure development expertise and who are responsible for ensuring that consensus is achieved and that all perspectives are voiced.

Ad.2 If adapted, provide name of original measure: Heart Failure(HF): Left Ventricular Function Assessment
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: 2003
Ad.7 Month and Year of most recent revision: 12, 2010
Ad.8 What is your frequency for review/update of this measure? Every 3 years or as new evidence becomes available that materially affects the measures
Ad.9 When is the next scheduled review/update for this measure? 12, 2013

Ad.10 Copyright statement/disclaimers: This Physician Performance Measurement Set (PPMS) and related data specifications were developed by the Physician Consortium for Performance Improvement® (the Consortium)

including the American College of Cardiology (ACC), the American Heart Association (AHA) and the American Medical Association (AMA) to facilitate quality improvement activities by physicians. The performance measures contained in this PPMS are not clinical guidelines and do not establish a standard of medical care, and have not been tested for all potential applications. While copyrighted, they can be reproduced and distributed, without modification, for noncommercial purposes, e.g., use by health care providers in connection with their practices. Commercial use is defined as the sale, license, or distribution of the performance measures for commercial gain, or incorporation of the performance measures into a product or service that is sold, licensed or distributed for commercial gain. Commercial uses of the PPMS require a license agreement between the user and the AMA, (on behalf of the Consortium) or the ACC or the AHA. Neither the AMA, ACC, AHA, the Consortium nor its members shall be responsible for any use of this PPMS.

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Limited proprietary coding is contained in the measure specifications for convenience. Users of the proprietary code sets should obtain all necessary licenses from the owners of these code sets. The AMA, the ACC, the AHA, the Consortium and its members disclaim all liability for use or accuracy of any Current Procedural Terminology (CPT®) or other coding contained in the specifications.

Ad.11 -13 Additional Information web page URL or attachment: Attachment Testing Summary HF NQF Final_2_10_2011-634329406371279685.pdf

Date of Submission (*MM/DD/YY*)**:** 03/16/2011

Page 3: [1] Comment [k5] **Karen Pace** **10/5/2009 8:59:00 AM**

4 Clinical care processes typically include multiple steps: assess → identify problem/potential problem → choose/plan intervention (with patient input) → provide intervention → evaluate impact on health status. If the measure focus is one step in such a multi-step process, the step with the greatest effect on the desired outcome should be selected as the focus of measurement. For example, although assessment of immunization status and recommending immunization are necessary steps, they are not sufficient to achieve the desired impact on health status – patients must be vaccinated to achieve immunity. This does not preclude consideration of measures of preventive screening interventions where there is a strong link with desired outcomes (e.g., mammography) or measures for multiple care processes that affect a single outcome.

Page 7: [2] Comment [KP14] **Karen Pace** **10/5/2009 8:59:00 AM**

2d. Clinically necessary measure exclusions are identified and must be:

- supported by evidence of sufficient frequency of occurrence so that results are distorted without the exclusion;

AND

- a clinically appropriate exception (e.g., contraindication) to eligibility for the measure focus;

AND

- precisely defined and specified:
  - if there is substantial variability in exclusions across providers, the measure is specified so that exclusions are computable and the effect on the measure is transparent (i.e., impact clearly delineated, such as number of cases excluded, exclusion rates by type of exclusion);

if patient preference (e.g., informed decision-making) is a basis for exclusion, there must be evidence that it strongly impacts performance on the measure and the measure must be specified so that the information about patient preference and the effect on the measure is transparent (e.g., numerator category computed separately, denominator exclusion category computed separately).

AMA-PCPI Level I EHR Specifications

Clinical Topic	Heart Failure
Measure Title	**Left Ventricular Ejection Fraction (LVEF) Assessment**
Measure #	**PCPI HF-1 / NQF 0079 / PQRI 198**
Measure Description	Percentage of patients aged 18 years and older with a diagnosis of heart failure for whom the quantitative or qualitative results of a recent or prior (any time in the past) LVEF assessment is documented within a 12 month period
Measurement Period	Twelve consecutive months
Initial Patient Population	Patient Age: Patients aged 18 years and older before the start of the measurement period Diagnosis Active: Patient has a diagnosis of Heart Failure before or simultaneously to encounter date Encounter: At least two visits with the physician, physician's assistant, or nurse practitioner during the measurement period
Denominator Statement	All patients aged 18 years and older with a diagnosis of heart failure
Numerator Statement	Patients for whom the quantitative or qualitative* results of a recent or prior (any time in the past) LVEF assessment is documented** within a 12 month period *Qualitative results correspond to numeric equivalents as follows: • Hyperdynamic: corresponds to LVEF greater than 70% • Normal: corresponds to LVEF 50% to 70% (midpoint 60%) • Mild dysfunction: corresponds to LVEF 40% to 49% (midpoint 45%) • Moderate dysfunction: corresponds to LVEF 30% to 39% (midpoint 35%) • Severe dysfunction: corresponds to LVEF less than 30% **Documentation must include documentation in a progress note of the results of an LVEF assessment, regardless of when the evaluation of ejection fraction was performed.
Denominator Exceptions	None

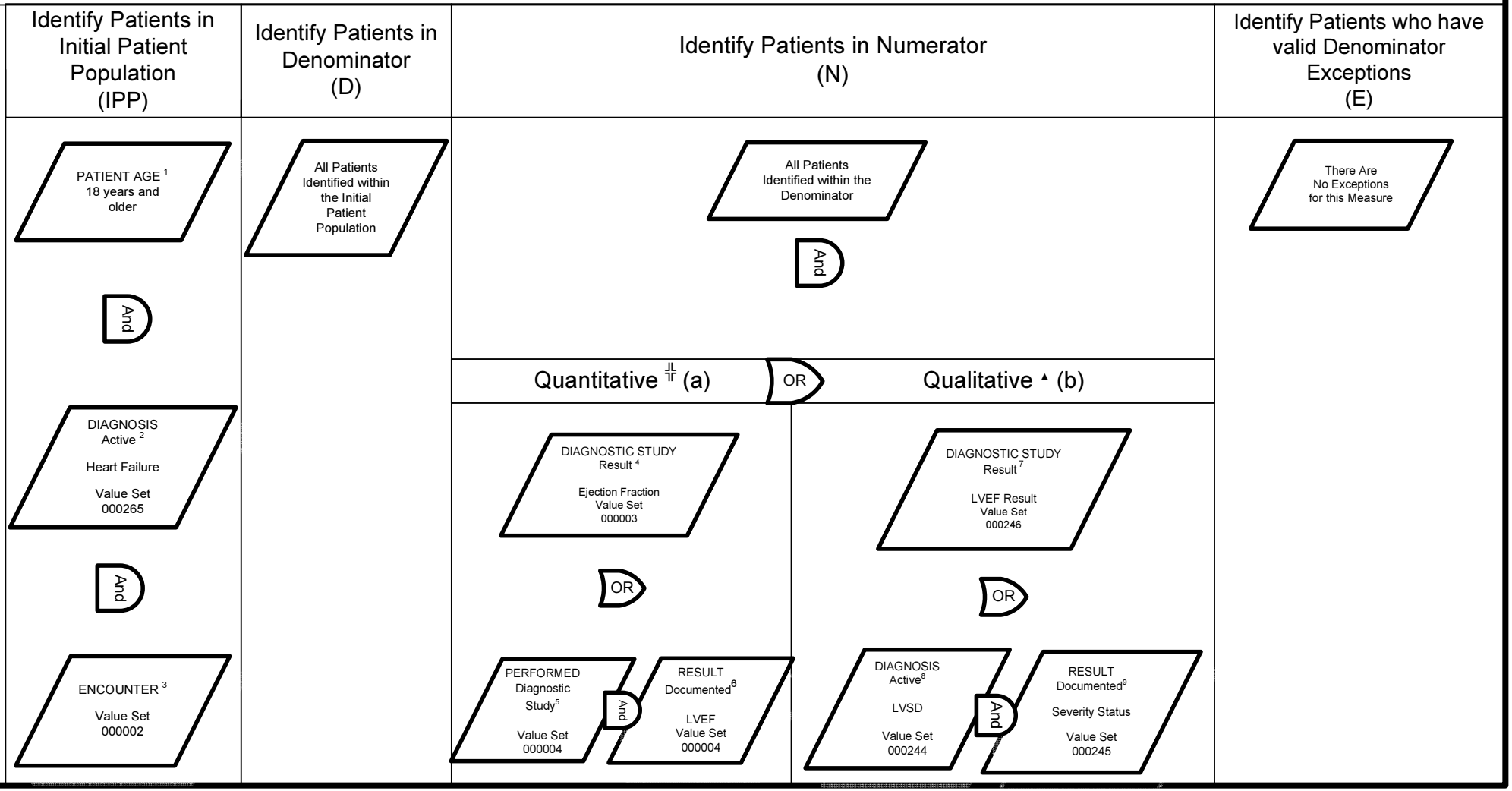
AMA - PCPI Level I EHR Specifications

Measure Logic for Heart Failure: Left Ventricular Ejection Fraction (LVEF) Assessment

Measure Description: Percentage of patients aged 18 years and older with a diagnosis of heart failure for whom the quantitative or qualitative results of a recent or prior (any time in the past) LVEF assessment is documented within a 12 month period

Measurement Period: 12 Consecutive Months

PCPI Measure #: HF-1



PARAMETER SPECIFICATIONS (Value Sets are found in the Coding Appendices):

IPP: [1] Patient Age: 18 years and older before the start of measurement period; [2] Diagnosis, Active: before or simultaneously to encounter date; [3] Encounter: ≥ to 2 visits during measurement period.

N: All Results, [4, 6, 9], in (N) 'Not Empty'; [4] Diagnostic Study, Result-documented during measurement period; [5] Performed, Diagnostic Study- before or simultaneously to measurement period; [6] Result, Documented-during measurement period; [7] Diagnostic Study, Result-documented during measurement period; [8] Diagnosis, Active- before or simultaneously to measurement period; [9] Result, Documented-during measurement period; Notes-Diagnostic Study (all) may be performed before or during measurement period; Results (all) should be 'documented' (reviewed) annually;

╬The results will be documented as numerical values represented as a percentage

▲ Qualitative results correspond to numeric equivalents as follows (Crosswalk):
Hyperdynamic: corresponds to LVEF greater than 70%
Normal: corresponds to LVEF 50% to 70% (midpoint 60%)
Mild dysfunction: corresponds to LVEF 40% to 49% (midpoint 45%)
Moderate dysfunction: corresponds to LVEF 30% to 39% (midpoint 35%)
Severe dysfunction: corresponds to LVEF less than 30%

Version 2.0

Basic Measure Calculation:

$$\frac{(N)}{(D) - (E)} = \%$$

The PCPI strongly recommends that exception rates also be computed and reported alongside performance rates as follows:

Exception Calculation:

$$\frac{(E)}{(D)} = \%$$

Exception Types:
E= E1 (Medical Exceptions) + E2 (Patient Exceptions) + E3 (System Exceptions)
For patients who have more than one valid exception, only one exception should be be counted when calculating the exception rate

Initial Patient Population (IPP)	Denominator (D)	Numerator (N)	Denominator Exceptions (E)
Definition: The initial patient population identifies the general group of patients that the performance measureis designed to address; usually focused on a specific clinical condition (e.g., coronary artery disease, asthma). For example, a patient aged 18 years and older with a diagnosis of CADwho has at least 2 Visits during the measurement period.	**Definition:** The denominator defines the specific group of patients for inclusion in a specific performance measure based on specific criteria (e.g., patient's age, diagnosis, prior MI). In some cases, the denominator may be I dentical to the initial patient population.	**Definition:** The numerator defines the group of patients in the denominator for whom a process or outcome of care occurs (e.g., flu vaccine received).	**Definition:** Denominator exceptions are the valid reasons why patients who are included in the denominator population did not receive a process or outcome of care (described in the numerator). Patients may have Denominator Exceptions for medical reasons (e.g., patient has an egg allergy so they did not receive flu vaccine); patient reasons (e.g., patient declined flu vaccine); or system reasons (e.g., patient did not receive flu Vaccine due to vaccine shortage). These cases are removed from the denominator population for the performance calculation, however the number of patients with valid exceptions should be calculated and reported. This group of patients constitutes the Denominator Exception reporting population – patients for whom the numerator was not achieved and a there is a valid Denominator Exception.
Find the patients who meet the Initial Patient Population criteria (IPP)	Find the patients who qualify for the denominator (D): ○ From the patients within the Patient Population criteria (IPP) select those people who meet Denominator selection criteria. (In some cases the IPP and D are identical).	Find the patients who qualify for the Numerator (N): ○ From the patients within the Denominator (D) criteria, select those people who meet Numerator selection criteria. ○ Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator	From the patients who did not meet the Numerator criteria, determine if the patient meets any criteria for the Denominator Exception (E1 + E2+E3). If they meet any criteria, they should be removed from the Denominator for performance calculation. As a point of reference, these cases are removed from the denominator population for the performance calculation, however the number of patients with valid exceptions should be calculated and reported.

AMA-PCPI Level I EHR Specifications
Heart Failure - LVEF Assessment (HF-1)

value_set_id	clinical_topic	topic_ indicator	measure_component	standard_concept	standard_category	standard_ taxonomy	code	code_description
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	402.01	MAL HYP HRT DIS W HF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	402.11	BEN HYP HRT DIS W HF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	402.91	HYP HRT DIS NOS W HF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	404.01	MAL HYP HRT/REN DIS W HF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	404.03	MAL HYP HRT/REN DIS W HF&RF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	404.11	BEN HYP HRT/REN DIS W HF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	404.13	BEN HYP HRT/REN DIS W HF&RF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	404.91	HYP HRT/REN DIS W HF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	404.93	MAL HYP HRT/REN DIS W HF&RF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.0	CHF NOS
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.1	LEFT HEART FAILURE
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.20	SYSTOLIC HRT FAILURE NOS
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.21	AC SYSTOLIC HRT FAILURE
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.22	CHR SYSTOLIC HRT FAILURE
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.23	AC ON CHR SYSTOLIC HF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.30	DIASTOLC HRT FAILURE NOS
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.31	AC DIASTOLIC HRT FAILURE
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.32	CHR DIASTOLIC HRT FAIL
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.33	AC ON CHR DIASTOLIC HF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.40	SYSTOLIC/DIASTOLIC HF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.41	AC SYSTOLIC/DIASTOLIC HF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.42	CHR SYSTOLIC/DIASTOLIC HF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.43	AC/CHR SYSTOLIC/DIASTOLIC HF
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I9	428.9	HEART FAILURE NOS
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I11.0	Hypertensive heart disease with heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I13.0	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I13.2	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I50.1	Left ventricular failure/Cardiac asthma
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I50.20	Unspecified systolic (congestive) heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I50.21	Acute systolic (congestive) heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I50.22	Chronic systolic (congestive) heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I50.23	Acute on chronic systolic (congestive) heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I50.30	Unspecified diastolic (congestive) heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I50.31	Acute diastolic (congestive) heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I50.32	Chronic diastolic (congestive) heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I50.33	Acute on chronic diastolic (congestive) heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I50.40	Unspecified combined systolic (congestive) and diastolic (congestive) heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I50.41	Acute combined systolic (congestive) and diastolic (congestive) heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I50.42	Chronic combined systolic (congestive) and diastolic (congestive) heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I50.43	Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	I10	I50.9	Heart failure, unspecified / Biventricular (heart) failure NOS

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value_set_id	clinical_topic	topic_ indicator	measure_component	standard_concept	standard_category	standard_ taxonomy	code	code_description
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	364006	acute left-sided heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	5053004	cardiac insufficiency due to prosthesis (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	5148006	hypertensive heart disease with congestive heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	5375005	chronic left-sided congestive heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	10091002	high output heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	10335000	chronic right-sided heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	10633002	acute congestive heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	13839000	Bernheim's syndrome (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	25544003	low output heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	33644002	postvalvulotomy syndrome (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	42343007	congestive heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	43736008	rheumatic left ventricular failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	44313006	right heart failure secondary to left heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	46113002	hypertensive heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	48447003	chronic heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	56675007	acute heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	60856006	cardiac insufficiency following cardiac surgery (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	66989003	chronic right-sided congestive heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	74960003	acute left-sided congestive heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	77737007	benign hypertensive heart disease with congestive heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	80479009	acute right-sided congestive heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	82523003	congestive rheumatic heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	83105008	malignant hypertensive heart disease with congestive heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	84114007	heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	85232009	left heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	88805009	chronic congestive heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	92506005	biventricular congestive heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	90727007	pleural effusion due to congestive heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	111283005	chronic left-sided heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	128404006	right heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	194767001	benign hypertensive heart disease with congestive cardiac failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	194779001	hypertensive heart and renal disease with (congestive) heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	194781004	hypertensive heart and renal disease with both (congestive) heart failure and renal failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	195111005	Decompensated cardiac failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	195112003	compensated cardiac failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	195114002	acute left ventricular failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	206586007	congenital cardiac failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	233924009	heart failure as a complication of care (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	277639002	sepsis-associated right ventricular failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	314206003	refractory heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	359617009	acute right-sided heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	359620001	acute right heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	367363000	right ventricular failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	410431009	cardiorespiratory failure (disorder)

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value_set_id	clinical_topic	topic_ indicator	measure_component	standard_concept	standard_category	standard_ taxonomy	code	code_description
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	417996009	systolic heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	418304008	diastolic heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	424404003	decompensated chronic heart failure (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	426012001	right heart failure due to pulmonary hypertension (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	426263006	congestive heart failure due to left ventricular systolic dysfunction (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	426611007	congestive heart failure due to valvular disease (disorder)
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	441481004	chronic systolic heart failure
000265	HF	1	IPP	Heart Failure	Diagnosis/Condition/Problem	SNM	441530006	chronic diastolic heart failure
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99201	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99202	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99203	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99204	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99205	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99212	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99213	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99214	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99215	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99241	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99242	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99243	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99244	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99245	
000002	HF	1	IPP	Encounter -Nursing Facility	Encounter	CPT	99304	
000002	HF	1	IPP	Encounter -Nursing Facility	Encounter	CPT	99305	
000002	HF	1	IPP	Encounter -Nursing Facility	Encounter	CPT	99306	
000002	HF	1	IPP	Encounter -Nursing Facility	Encounter	CPT	99307	
000002	HF	1	IPP	Encounter -Nursing Facility	Encounter	CPT	99308	
000002	HF	1	IPP	Encounter -Nursing Facility	Encounter	CPT	99309	
000002	HF	1	IPP	Encounter -Nursing Facility	Encounter	CPT	99310	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99324	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99325	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99326	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99327	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99328	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99334	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99335	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99336	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99337	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99341	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99342	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99343	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99344	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99345	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99347	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99348	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99349	
000002	HF	1	IPP	Encounter-Outpatient	Encounter	CPT	99350	
000003	HF	1	N (a)	Ejection Fraction	Diagnostic Study	SNM	70822001	CARDIAC EJECTION FRACTION
000003	HF	1	N (a)	Ejection Fraction	Diagnostic Study	SNM	250908004	LEFT VENTRICULAR EJECTION FRACTION
000003	HF	1	N (a)	Ejection Fraction	Diagnostic Study	SNM	250907009	LEFT VENTRICULAR FUNCTION
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	78414	

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value_set_id	clinical_topic	topic_ indicator	measure_component	standard_concept	standard_category	standard_ taxonomy	code	code_description
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	78451	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	78452	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	78453	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	78454	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	78468	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	78472	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	78473	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	78481	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	78483	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	78494	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	78496	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93303	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93304	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93306	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93307	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93308	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93312	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93313	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93314	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93315	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93316	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93317	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93350	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93351	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93352	
000004	HF	1	N (a)	LVF Assmt	Diagnostic Study	CPT	93543	
000244	HF	1	N (b)	LVSD	Diagnosis/Condition/Problem	SNM	134401001	
000245	HF	1	N (b)	Severity Status	Result	SNM	255604002	Mild (severity)
000245	HF	1	N (b)	Severity Status	Result	SNM	6736007	Moderate (severity)
000245	HF	1	N (b)	Severity Status	Result	SNM	24484000	Severe (Severity)
000245	HF	1	N (b)	Severity Status	Result	SNM	41647002	no evidence of (qualifier)
000246	HF	1	N (b)	LVEF Result	Diagnostic Study	SNM	438933007	Hyperdynamic Circulation
000246	HF	1	N (b)	LVEF Result	Diagnostic Study	SNM	10189761000046100	Normal left ventricular systolic function (finding)
000246	HF	1	N (b)	LVEF Result	Diagnostic Study	SNM	10189731000046100	Mild left ventricular systolic dysfunction (disorder)
000246	HF	1	N (b)	LVEF Result	Diagnostic Study	SNM	10189741000046100	Moderate left ventricular systolic dysfunction (disorder)
000246	HF	1	N (b)	LVEF Result	Diagnostic Study	SNM	10189751000046100	Severe left ventricular systolic dysfunction (disorder)
000246	HF	1	N (b)	LVEF Result	Diagnostic Study	SNM	395172009	No Evidence of Left Ventricular Systolic Dysfunction