



## Measure Information

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to sub criterion 1b).

### Brief Measure Information

**NQF #:** 0277

**Corresponding Measures:**

**De.2. Measure Title:** Congestive Heart Failure Rate (PQI 08)

**Co.1.1. Measure Steward:** Agency for Healthcare Research and Quality

**De.3. Brief Description of Measure:** Admissions with a principal diagnosis of heart failure per 100,000 population, ages 18 years and older. Excludes cardiac procedure admissions, obstetric admissions, and transfers from other institutions.

[NOTE: The software provides the rate per population. However, common practice reports the measure as per 100,000 population. The user must multiply the rate obtained from the software by 100,000 to report admissions per 100,000 population.]

**1b.1. Developer Rationale:** Congestive heart failure is a PQI that would be of most interest to comprehensive health care delivery systems. This indicator is measured with high precision, and most of the observed variance reflects true differences across areas. Risk adjustment for age and sex appears to affect the areas with the highest and lowest raw rates. Areas with high rates may wish to examine the clinical characteristics of their patients to check for a more complex case mix. Patient age, clinical measures such as heart function, and other management issues may affect admission rates.

As the causes for admissions may include poor quality care, lack of patient compliance, or problems accessing care, areas may wish to review CHF patient records to identify precipitating causes and potential targets for intervention.

**S.4. Numerator Statement:** Discharges, for patients ages 18 years and older, with a principal ICD-9-CM or ICD-10-CM diagnosis code for heart failure.

[NOTE: By definition, discharges with a principal diagnosis of heart failure are precluded from an assignment of MDC 14 by grouper software. Thus, obstetric discharges should not be considered in the PQI rate, though the AHRQ QITM software does not explicitly exclude obstetric cases.]

**S.6. Denominator Statement:** Population ages 18 years and older in metropolitan area<sup>†</sup> or county. Discharges in the numerator are assigned to the denominator based on the metropolitan area or county of the patient residence, not the metropolitan area or county of the hospital where the discharge occurred.

<sup>†</sup> The term "metropolitan area" (MA) was adopted by the U.S. Census in 1990 and referred collectively to metropolitan statistical areas (MSAs), consolidated metropolitan statistical areas (CMSAs) and primary metropolitan statistical areas (PMSAs). In addition, "area" could refer to either 1) FIPS county, 2) modified FIPS county, 3) 1999 OMB Metropolitan Statistical Area or 4) 2003 OMB Metropolitan Statistical Area. Micropolitan Statistical Areas are not used in the QI software.

**S.8. Denominator Exclusions:** Not applicable.

**De.1. Measure Type:** Process

**S.17. Data Source:** Claims, Electronic Health Records

**S.20. Level of Analysis:** Health Plan, Integrated Delivery System

**IF Endorsement Maintenance – Original Endorsement Date:** Nov 15, 2007 **Most Recent Endorsement Date:** Jan 18, 2012

**IF this measure is included in a composite, NQF Composite#/title:**

**IF this measure is paired/grouped, NQF#/title:**

**De.4. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret**

results? Prevention Quality Indicator (PQI) composite

**1. Evidence, Performance Gap, Priority – Importance to Measure and Report**

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance. **Measures must be judged to meet all sub criteria to pass this criterion and be evaluated against the remaining criteria.**

**1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form**

[0277\\_Evidence\\_MSF5.0\\_Data-635278482721527118-636426432376302192.doc](#)

**1a.1 For Maintenance of Endorsement: Is there new evidence about the measure since the last update/submission?**

Do not remove any existing information. If there have been any changes to evidence, the Committee will consider the new evidence. Please use the most current version of the evidence attachment (v7.1). Please use red font to indicate updated evidence.

**1b. Performance Gap**

Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:

- considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
- Disparities in care across population groups.

**1b.1. Briefly explain the rationale for this measure** (e.g., how the measure will improve the quality of care, the benefits or improvements in quality envisioned by use of this measure)

*If a COMPOSITE* (e.g., combination of component measure scores, all-or-none, any-or-none), *SKIP this question and answer the composite questions.*

Congestive heart failure is a PQI that would be of most interest to comprehensive health care delivery systems. This indicator is measured with high precision, and most of the observed variance reflects true differences across areas.

Risk adjustment for age and sex appears to affect the areas with the highest and lowest raw rates. Areas with high rates may wish to examine the clinical characteristics of their patients to check for a more complex case mix. Patient age, clinical measures such as heart function, and other management issues may affect admission rates.

As the causes for admissions may include poor quality care, lack of patient compliance, or problems accessing care, areas may wish to review CHF patient records to identify precipitating causes and potential targets for intervention.

**1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis.** *(This is required for maintenance of endorsement. Include mean, std dev, min, max, interquartile range, scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.)* This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.

Adjusted per 100,000 rates by patient and hospital characteristics, 2007

Mean	Standard error	Location	P-value: Relative to Northeast
402.605	22.318	Northeast	1.000
446.773	21.686	Midwest	0.156
474.166	17.900	South	0.012
293.022	11.579	West	0.000

**1b.3. If no or limited performance data on the measure as specified is reported in 1b2, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement.**

See the following report for a complete treatment of the methodology: "Methods: Applying AHRQ Quality Indicators to Healthcare Cost and Utilization Project (HCUP) Data for the National Healthcare Quality Report" [URL: <http://hcupnet.ahrq.gov/QI%20Methods.pdf?JS=Y>]

**1b.4. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability.** *(This is required for maintenance of endorsement. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities*

included.) For measures that show high levels of performance, i.e., “topped out”, disparities data may demonstrate an opportunity for improvement/gap in care for certain sub-populations. This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.

Adjusted per 100,000 rates by patient characteristics, 2007

Estimate	Standard error	Age: for conditions affecting any age
38.527	1.828	18-44
298.394	10.627	45-64
1912.391	43.139	65 and over
Estimate	Standard error	Age: for conditions affecting elderly
835.456	22.964	65-69
1243.6	30.172	70-74
1845.486	43.594	75-79
2841.152	69.354	80-84
4453.902	114.115	85 and over
Estimate	Standard error	Gender
474.842	11.383	Male
370.707	8.504	Female
Estimate	Standard error	Median income of patient's ZIP code
561.781	25.3	First quartile (lowest income)
420.838	16.952	Second quartile
361.98	14.697	Third quartile
319.623	20.016	Fourth quartile (highest income)
Estimate	Standard error	Location of patient residence (NCHS)
442.037	34.923	Large central metropolitan
413.407	31.738	Large fringe metropolitan
380.89	36.494	Medium metropolitan
398.905	45.931	Small metropolitan
417.946	23.022	Micropolitan
430.314	20.094	Not metropolitan or micropolitan

**1b.5. If no or limited data on disparities from the measure as specified is reported in 1b.4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations. Not necessary if performance data provided in 1b.4**

See the following report for a complete treatment of the methodology: “Methods: Applying AHRQ Quality Indicators to Healthcare Cost and Utilization Project (HCUP) Data for the National Healthcare Quality Report” [URL: <http://hcupnet.ahrq.gov/QI%20Methods.pdf?JS=Y> ]

## 2. Reliability and Validity—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. **Measures must be judged to meet the sub criteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.**

**2a.1. Specifications** The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

**De.5. Subject/Topic Area** (check all the areas that apply):

Cardiovascular, Cardiovascular : Congestive Heart Failure

**De.6. Non-Condition Specific**(check all the areas that apply):

Primary Prevention

**De.7. Target Population Category** (Check all the populations for which the measure is specified and tested if any):

Elderly, Populations at Risk, Populations at Risk : Individuals with multiple chronic conditions

**S.1. Measure-specific Web Page** (Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)

[http://www.qualityindicators.ahrq.gov/Modules/pqi\\_resources.aspx](http://www.qualityindicators.ahrq.gov/Modules/pqi_resources.aspx)

**S.2a. If this is an eMeasure**, HQMF specifications must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications)

**This is not an eMeasure Attachment:**

**S.2b. Data Dictionary, Code Table, or Value Sets** (and risk model codes and coefficients when applicable) must be attached. (Excel or csv file in the suggested format preferred - if not, contact staff)

**Attachment Attachment:** [PQI\\_08\\_Heart\\_Failure\\_Admission\\_Rate-636167187571436000-636426432372395942.xlsx](#)

**S.2c.** Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

**Attachment:**

**S.2d.** Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

**S.3.1. For maintenance of endorsement:** Are there changes to the specifications since the last updates/submission. If yes, update the specifications for S1-2 and S4-22 and explain reasons for the changes in S3.2.

Yes

**S.3.2. For maintenance of endorsement,** please briefly describe any important changes to the measure specifications since last measure update and explain the reasons.

As standard protocol, the AHRQ QI program annually updates all measures with Fiscal Year coding changes, refinements based on stakeholder input, refinements to improve specificity and sensitivity based on additional analyses, and necessary software changes. In addition, approximately every two years, AHRQ updates the risk adjustment parameter estimates and composite weights based on the most recent year of data (i.e., the most current reference population possible). The refined measures are tested and confirmed to be valid and reliable prior to release of the updated software.

**S.4. Numerator Statement** (Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome) DO NOT include the rationale for the measure.

**IF an OUTCOME MEASURE**, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

Discharges, for patients ages 18 years and older, with a principal ICD-9-CM or ICD-10-CM diagnosis code for heart failure.

[NOTE: By definition, discharges with a principal diagnosis of heart failure are precluded from an assignment of MDC 14 by grouper software. Thus, obstetric discharges should not be considered in the PQI rate, though the AHRQ QITM software does not explicitly exclude obstetric cases.]

**S.5. Numerator Details** (All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in

required format at S.2b)

IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

**ICD-10-CM Description**

- I0981 Rheumatic heart failure
- I110 Hypertensive heart disease with heart failure
- I130 Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
- I132 Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease
- I501 Left ventricular failure
- I5020 Unspecified systolic (congestive) heart failure
- I5021 Acute systolic (congestive) heart failure
- I5030 Unspecified diastolic (congestive) heart failure
- I5031 Acute diastolic (congestive) heart failure
- I5032 Chronic diastolic (congestive) heart failure
- I5033 Acute on chronic diastolic (congestive) heart failure
- I5040 Unspecified combined systolic (congestive) and diastolic (congestive) heart failure
- I5041 Acute combined systolic (congestive) and diastolic (congestive) heart failure
- I5042 Chronic combined systolic (congestive) and diastolic (congestive) heart failure
- I5043 Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure
- I509 Heart failure, unspecified

**S.6. Denominator Statement** (Brief, narrative description of the target population being measured)

Population ages 18 years and older in metropolitan area† or county. Discharges in the numerator are assigned to the denominator based on the metropolitan area or county of the patient residence, not the metropolitan area or county of the hospital where the discharge occurred.

† The term “metropolitan area” (MA) was adopted by the U.S. Census in 1990 and referred collectively to metropolitan statistical areas (MSAs), consolidated metropolitan statistical areas (CMSAs) and primary metropolitan statistical areas (PMSAs). In addition, “area” could refer to either 1) FIPS county, 2) modified FIPS county, 3) 1999 OMB Metropolitan Statistical Area or 4) 2003 OMB Metropolitan Statistical Area. Micropolitan Statistical Areas are not used in the QI software.

**S.7. Denominator Details** (All information required to identify and calculate the target population/denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)

IF an OUTCOME MEASURE, describe how the target population is identified. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

Not applicable.

**S.8. Denominator Exclusions** (Brief narrative description of exclusions from the target population)

Not applicable.

**S.9. Denominator Exclusion Details** (All information required to identify and calculate exclusions from the denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)

Not applicable.

**S.10. Stratification Information** (Provide all information required to stratify the measure results, if necessary, including the stratification variables, definitions, specific data collection items/responses, code/value sets, and the risk-model covariates and coefficients for the clinically-adjusted version of the measure when appropriate – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b.)

Not applicable.

<p><b>S.11. Risk Adjustment Type</b> (Select type. Provide specifications for risk stratification in measure testing attachment)  <a href="#">No risk adjustment or risk stratification</a>          If other:</p>
<p><b>S.12. Type of score:</b>  <a href="#">Rate/proportion</a>          If other:</p> <p><b>S.13. Interpretation of Score</b> (Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)  <a href="#">Better quality = Lower score</a></p> <p><b>S.14. Calculation Algorithm/Measure Logic</b> (Diagram or describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; time period for data, aggregating data; risk adjustment; etc.)          Each indicator is expressed as a rate, is defined as outcome of interest / population at risk or numerator / denominator. The AHRQ Quality Indicators (AHRQ QI) software performs five steps to produce the rates. 1) Discharge-level data is used to mark inpatient records containing the outcome of interest and 2) the population at risk. For provider indicators, the population at risk is also derived from hospital discharge records; for area indicators, the population at risk is derived from U.S. Census data. 3) Calculate observed rates. Using output from steps 1 and 2, rates are calculated for user-specified combinations of stratifiers. 4) Calculate expected rates. Regression coefficients from a reference population database are applied to the discharge records and aggregated to the provider or area level. 5) Calculate risk-adjusted rate. Use the indirect standardization to account for case-mix. 6) Calculate smoothed rate. A Univariate shrinkage factor is applied to the risk-adjusted rates. The shrinkage estimate reflects a reliability adjustment unique to each indicator. Full information on calculation algorithms and specifications can be found at <a href="http://qualityindicators.ahrq.gov/PQI_download.htm">http://qualityindicators.ahrq.gov/PQI_download.htm</a></p>
<p><b>S.15. Sampling</b> (If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)  <a href="#">If an instrument-based</a> performance measure (e.g., PRO-PM), identify whether (and how) proxy responses are allowed.  <a href="#">Not applicable</a></p> <p><b>S.16. Survey/Patient-reported data</b> (If measure is based on a survey or instrument, provide instructions for data collection and guidance on minimum response rate.)          Specify calculation of response rates to be reported with performance measure results.</p>
<p><b>S.17. Data Source</b> (Check ONLY the sources for which the measure is SPECIFIED AND TESTED).          If other, please describe in S.18.  <a href="#">Claims, Electronic Health Records</a></p> <p><b>S.18. Data Source or Collection Instrument</b> (Identify the specific data source/data collection instrument (e.g. name of database, clinical registry, collection instrument, etc., and describe how data are collected.)  <a href="#">If instrument-based</a>, identify the specific instrument(s) and standard methods, modes, and languages of administration.          The data source is hospital discharge data such as the HCUP State Inpatient Databases (SID) or equivalent using UB-04 coding standards. The data collection instrument is public-use AHRQ QI software available in SAS or Windows versions.</p> <p><b>S.19. Data Source or Collection Instrument</b> (available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)  <a href="#">URL</a></p> <p><b>S.20. Level of Analysis</b> (Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)  <a href="#">Health Plan, Integrated Delivery System</a></p> <p><b>S.21. Care Setting</b> (Check ONLY the settings for which the measure is SPECIFIED AND TESTED)  <a href="#">Emergency Department and Services, Inpatient/Hospital, Outpatient Services</a>          If other:</p>

**S.22. COMPOSITE Performance Measure** - Additional Specifications *(Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)*

**2. Validity – See attached Measure Testing Submission Form**

[0277\\_MeasureTesting\\_MSF5.0\\_Data-635278482721527118-636426432379739692.doc](#)

**2.1 For maintenance of endorsement**

*Reliability testing: If testing of reliability of the measure score was not presented in prior submission(s), has reliability testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.*

**2.2 For maintenance of endorsement**

*Has additional empirical validity testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.*

**2.3 For maintenance of endorsement**

*Risk adjustment: For outcome, resource use, cost, and some process measures, risk-adjustment that includes social risk factors is not prohibited at present. Please update sections 1.8, 2a2, 2b1,2b4.3 and 2b5 in the Testing attachment and S.140 and S.11 in the online submission form. NOTE: These sections must be updated even if social risk factors are not included in the risk-adjustment strategy. You MUST use the most current version of the Testing Attachment (v7.1) -- older versions of the form will not have all required questions.*

**3. Feasibility**

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

**3a. Byproduct of Care Processes**

For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure, lab test, diagnosis, medication order).

**3a.1. Data Elements Generated as Byproduct of Care Processes.**

[Coded by someone other than person obtaining original information \(e.g., DRG, ICD-9 codes on claims\)](#)

If other:

**3b. Electronic Sources**

The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

**3b.1. To what extent are the specified data elements available electronically in defined fields** *(i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields)* Update this field for **maintenance of endorsement**.

[Yes](#)

**3b.2. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources. For maintenance of endorsement**, if this measure is not an eMeasure (eCQM), please describe any efforts to develop an eMeasure (eCQM).

**3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-**



specific URL. Please also complete and attach the NQF Feasibility Score Card.

Attachment:

### 3c. Data Collection Strategy

Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

**3c.1. Required for maintenance of endorsement.** Describe difficulties (as a result of testing and/or operational use of the measure) regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues.

**IF instrument-based,** consider implications for both individuals providing data (patients, service recipients, respondents) and those whose performance is being measured.

This indicator is measured with high precision, and most of the observed variance reflects true differences across areas.

Risk adjustment for age and sex appears to affect the areas with the highest and lowest raw rates. Areas with high rates may wish to examine the clinical characteristics of their patients to check for a more complex case mix. Patient age, clinical measures such as heart function, and other management issues may affect admission rates.

As the causes for admissions may include poor quality care, lack of patient compliance, or problems accessing care, areas may wish to review CHF patient records to identify precipitating causes and potential targets for intervention.

**3c.2. Describe any fees, licensing, or other requirements to use any aspect of the measure as specified (e.g., value/code set, risk model, programming code, algorithm).**

## 4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

### 4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

#### 4.1. Current and Planned Use

*NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement in addition to performance improvement.*

Specific Plan for Use	Current Use (for current use provide URL)

**4a1.1 For each CURRENT use, checked above (update for maintenance of endorsement), provide:**

- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included
- Level of measurement and setting

**4a1.2. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing) what are the reasons? (e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?)**



**4a1.3. If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes -- any accountability application within 3 years and publicly reported within 6 years of initial endorsement.** (*Credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.*)

**4a2.1.1. Describe how performance results, data, and assistance with interpretation have been provided to those being measured or other users during development or implementation.**

**How many and which types of measured entities and/or others were included? If only a sample of measured entities were included, describe the full population and how the sample was selected.**

The Agency for Healthcare Research and Quality (AHRQ) provides free software, in both SAS and Windows format, to calculate the AHRQ Quality Indicators. Users may use their own hospital administrative data to calculate the QIs using this software.

In addition, AHRQ provides technical assistance to users through a QI User Support email address, [QISupport@ahrq.hhs.gov](mailto:QISupport@ahrq.hhs.gov). AHRQ triages, troubleshoots and responds to technical inquiries related to methodology and rationale behind the indicator and general questions related to the use of the software. During a calendar year, AHRQ typically provides technical support to over 1,000 queries.

**4a2.1.2. Describe the process(es) involved, including when/how often results were provided, what data were provided, what educational/explanatory efforts were made, etc.**

The AHRQ QI software is updated annually. Technical support is available on an on-going basis. No data updates are necessary; users apply the AHRQ QIs to their own hospital administrative data.

**4a2.2.1. Summarize the feedback on measure performance and implementation from the measured entities and others described in 4d.1.**

**Describe how feedback was obtained.**

Feedback is obtained from users through a variety of channels, in particular through a technical assistance support service described above. In addition, AHRQ incorporates input on QI implementation from technical workgroups convened to support QI development and maintenance, stakeholder committees such as NQF standing committees, and peer-reviewed or other research publications.

**4a2.2.2. Summarize the feedback obtained from those being measured.**

[See the response to 432.1.](#)

**4a2.2.3. Summarize the feedback obtained from other users**

[See the response to 432.1.](#)

**4a2.3. Describe how the feedback described in 4a2.2.1 has been considered when developing or revising the measure specifications or implementation, including whether the measure was modified and why or why not.**

The AHRQ Quality Indicators are updated annually, including updating indicator technical specifications in accordance with the latest coding guidance; suggestions from users and other stakeholders obtained through Technical Assistance, committees, or workgroups; and the latest clinical and scientific research. AHRQ regularly reviews these sources, identifies possible indicator updates, and prioritizes updates for each indicator and software update based on expected impact on users.

#### **Improvement**

Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

**4b1. Refer to data provided in 1b but do not repeat here. Discuss any progress on improvement (trends in performance results, number and percentage of people receiving high-quality healthcare; Geographic area and number and percentage of accountable entities and patients included.)**

**If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-**

quality, efficient healthcare for individuals or populations.

#### 4b2. Unintended Consequences

The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

##### 4b2.1. Please explain any unexpected findings (positive or negative) during implementation of this measure including unintended impacts on patients.

Coding professionals follow detail guidelines, are subject to training and credentialing requirements, peer review and audit.

As a PQI, CHF is not a measure of hospital quality, but rather one measure of outpatient and other health care. Providers may reduce admission rates without actually improving quality by shifting care to an outpatient setting. Some CHF care takes place in emergency rooms. As such, combining inpatient and emergency room data may give a more accurate picture of this indicator. Physician management of patients with congestive heart failure differs significantly by physician specialty. [1, 2] Such differences in community practices may be reflected in differences in CHF admission rates.

[1] Edep ME, Shah NB, Tateo IM, et al. Differences between primary care physicians and cardiologists in management of congestive heart failure: relation to practice guidelines. J Am Coll Cardiol 1997;30(2):518-26.

[2] Reis, SE, Holubkov R, Edmundowicz D, et al. Treatment of patients admitted to the hospital with congestive heart failure: specialty-related disparities in practice patterns

##### 4b2.2. Please explain any unexpected benefits from implementation of this measure.

## 5. Comparison to Related or Competing Measures

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure.

### 5. Relation to Other NQF-endorsed Measures

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.

#### 5.1a. List of related or competing measures (selected from NQF-endorsed measures)

#### 5.1b. If related or competing measures are not NQF endorsed please indicate measure title and steward.

### 5a. Harmonization of Related Measures

The measure specifications are harmonized with related measures;

**OR**

The differences in specifications are justified

#### 5a.1. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):

Are the measure specifications harmonized to the extent possible?

#### 5a.2. If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.

**5b. Competing Measures**

The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);

**OR**

Multiple measures are justified.

**5b.1. If this measure conceptually addresses both the same measure focus and the same target population as NQF-endorsed measure(s):**

**Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible.)**

[No competing measures found.](#)

[Related Measures: None found.](#)

## Appendix

**A.1 Supplemental materials may be provided in an appendix.** All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.

[Attachment Attachment: 0277\\_Deliverable\\_28\\_QI\\_Empirical\\_Methods\\_v50\\_20141216-636426432383333442.docx](#)

## Contact Information

**Co.1 Measure Steward (Intellectual Property Owner):** [Agency for Healthcare Research and Quality](#)

**Co.2 Point of Contact:** [Pamela, Owens, Pam.Owens@ahrq.hhs.gov, 301-427-1412-](#)

**Co.3 Measure Developer if different from Measure Steward:** [Agency for Healthcare Research and Quality](#)

**Co.4 Point of Contact:** [John, Bott, john.bott@ahrq.hhs.gov, 301-427-1317-](#)

## Additional Information

**Ad.1 Workgroup/Expert Panel involved in measure development**

Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.

[None](#)

**Measure Developer/Steward Updates and Ongoing Maintenance**

**Ad.2 Year the measure was first released:** [2001](#)

**Ad.3 Month and Year of most recent revision:** [10, 2010](#)

**Ad.4 What is your frequency for review/update of this measure?** [Annual](#)

**Ad.5 When is the next scheduled review/update for this measure?** [05, 2011](#)

**Ad.6 Copyright statement:** [The AHRQ QI software is publicly available; no copyright disclaimers](#)

**Ad.7 Disclaimers:**

**Ad.8 Additional Information/Comments:**