
**QAPI Heart Failure Quality Indicators:
Optional Quality Indicator Specifications for Use with Optional
Medicare+Choice Organization Heart Failure Data Collection Tool
June 1, 2001**

DATA SOURCES

Any reviewable data source may be used to obtain the requisite information for the Optional Medicare+Choice Organization (M+CO) Heart Failure Data Collection Tool (DCT). Recommended data sources may be found in the Abstraction Instructions portion of the tool.

POPULATION/SAMPLING FRAME

Inclusion criteria:

M+CO members with continuous enrollment of at least 180 days prior to and including the last day of M+CO-designated measurement year; **AND**

At least *one* of the following:

- discharge from an acute care hospital with a principal discharge diagnosis of heart failure during the M+CO-designated measurement year; **OR**
- for those enrollees without a hospital principal discharge diagnosis of CHF, but with three or more physician encounters (examples - ER visits, outpatient visits)¹ with a diagnosis of heart failure during the M+CO-designated measurement year.

Heart failure diagnosis codes: ICD-9-CM codes: 402.01, 402.11, 402.91, 404.01, 404.11, 404.91, 428.x.

M+CO-Designated Measurement Year: Any consecutive 12-month period from 1/1/00 through 12/31/01.

Exclusion criteria:

Any documentation during the M+CO-designated measurement year suggesting renal dialysis, including any bill/encounter record/discharge record with one or more of the following codes: ICD-9-CM diagnosis codes V56.0, V56.8; ICD-9-CM procedure codes 39.95, 54.98; CPT codes 90935, 90937, 90940, 90945, 90947, 90989, 90993.

¹ See attachment A for a suggested list of CPT codes representing these physician encounters.

Quality Indicator QAPI 1: Proportion of heart failure patients with assessment of left ventricular function

Denominator: Census or sample of population

Numerator: Those in denominator with documentation that left ventricular function (LVF) has been evaluated anytime before or during the M+CO-designated measurement year.

Notes: Billing codes likely to represent LVF assessment include: ICD-9-CM code - 88.72; CPT codes - 78468, 78472, 78473, 78480, 78481, 78483, 78494, 93303, 93304, 93307, 93308, 93312, 93314, 93315, 93317, 93350.

Billing codes which may possibly represent LVF assessment tests:
ICD-9-CM codes - 88.5x, 92.05; CPT code - 78414.

LVF may be presumed to have been assessed if one or more of the following is present anytime before or during the M+CO designated measurement year:

- 1) Report from one of the following diagnostic tests: echocardiogram (echo), MUGA scan, or cardiac catheterization - left ventriculogram (LV gram), **OR**
- 2) Physician/nurse practitioner/physician assistant reference to one of the above diagnostic tests, **OR**
- 3) Physician/nurse practitioner/physician assistant notation of LVF, either as an ejection fraction (EF) or a narrative description, without reference to an actual assessment test. Example - "known systolic dysfunction"

Quality Indicator QAPI 2: Proportion of heart failure patients with left ventricular systolic dysfunction (LVSD) who:

- 1. are prescribed angiotensin converting enzyme inhibitors (ACEI);**
OR
- 2. have documented reason for not being prescribed ACEI**

Denominator: Those in numerator of Quality Indicator QAPI 1 with ejection fraction less than 40%, or equivalent narrative description (see note)

Numerator: Those in denominator who have:

- (1) Been prescribed ACEI at any time during the M+CO-designated measurement year; **OR**
- (2) Any documentation of aortic stenosis or any coded diagnosis of aortic stenosis (ICD-9-CM codes 395.0, 395.2, 396.0, 396.2, 396.8, 424.1, 425.1, 747.22) anytime before or during the M+CO-designated measurement year; **OR**
- (3) Any documentation of bilateral renal artery stenosis or any coded diagnosis of renal artery stenosis (ICD-9-CM code 440.1) anytime before or during the M+CO-designated measurement year; **OR**
- (4) Any documented history of angioedema, hives, or severe rash with ACEI use anytime before or during the M+CO-designated measurement year; **OR**

- (5) Serum potassium >5.5 mg/dL on three or more occasions during the M+CO-designated measurement year (excluding lab values measured during an acute care admission, an observation unit stay, or an emergency room visit); **OR**
- (6) Serum creatinine >3.0 mg/dL on three or more occasions during the M+CO-designated measurement year (excluding lab values measured during an acute care admission, an observation unit stay, or an emergency room visit); **OR**
- (7) Systolic blood pressure less than 80 mm Hg on three or more occasions during the M+CO-designated measurement year (excluding blood pressures measured during an acute care admission, an observation unit stay, or an emergency room visit); **OR**
- (8) Any documentation of any specific reason why ACEI not used (e.g., cough, hyperkalemia, hypotension, renal insufficiency/failure, other physician-noted reason) anytime before or during the M+CO-designated measurement year; **OR**
- (9) Chart documentation of participation in a clinical trial testing alternatives to ACEIs as first-line heart failure therapy during the M+CO-designated measurement year.

Note: Narrative descriptions from diagnostic test reports or physician/nurse practitioner/physician assistant notes that SHOULD be considered equivalent to an ejection fraction less than 40% include the following:

- contractility described solely as abnormal, compromised, decreased, depressed, impaired, low, poor, reduced, or very low
- ejection fraction (EF) described solely as abnormal, compromised, decreased, depressed, impaired, low, poor, reduced, or very low
- hypokinesia described as diffuse, generalized, or global
- left ventricular dysfunction (LVD) described as marked, moderate, moderate-severe, severe, significant, substantial, or very severe, OR the severity is not specified
- left ventricular ejection fraction (LVEF) described solely as abnormal, compromised, decreased, depressed, impaired, low, poor, reduced, or very low
- left ventricular function (LVF) described solely as abnormal, compromised, decreased, depressed, impaired, low, poor, reduced, or very low
- left ventricular systolic dysfunction (LVSD) described as marked, moderate, moderate-severe, severe, significant, substantial, or very severe, OR the severity is not specified
- systolic dysfunction described as marked, moderate, moderate-severe, severe, significant, substantial, or very severe, OR the severity is not specified
- systolic function described solely as abnormal, compromised, decreased, depressed, impaired, low, poor, reduced, or very low
- history or finding of moderate or severe left ventricular systolic dysfunction (or any of the other above inclusions) described using one of the following terms: “consistent with”, “diagnostic of”, “evidence of”, “indicative of”, “most likely”, “probable”, or “suggestive of”

Narrative descriptions from diagnostic test reports or physician/nurse practitioner/physician assistant notes that SHOULD NOT be considered equivalent to an ejection fraction less than 40% include the following:

- history or finding of moderate or severe left ventricular systolic dysfunction (or any of the other LVSD inclusive terms above) described as “possible” or “questionable”

These narrative descriptions may not represent the universe of possible narrative descriptions. Therefore, if you have other narrative descriptions that you believe meet the LVSD definition and are defensible, then you may use them.

OPTIONAL QUALITY INDICATORS

QAPI OPT 1: Proportion of heart failure patients with LVSD on ACEIs with ACEI dose equal to or greater than 50% of that reported effective in clinical trials²

Rationale: *The recommended doses of ACEI for heart failure are the higher doses used in the clinical trials demonstrating an improvement in survival.*

Denominator: Number in sample with LVSD (ejection fraction less than 40%, or equivalent narrative description) prescribed a known dose of at least one of the following ACEIs during the M+CO-designated measurement year: Captopril, Enalapril, Lisinopril, Benazepril, Fosinopril, Quinapril, Ramipril.

Numerator: Those in denominator whose most recent known daily dose of ACEI is at least 50% of the following:

Captopril	150 mg/day
Enalapril	20 mg/day
Lisinopril	20 mg/day
Benazepril	20 mg/day
Fosinopril	20 mg/day
Quinapril	20 mg/day
Ramipril	10 mg/day

QAPI OPT 2: Proportion of heart failure patients with LVSD on ACEIs with ACEI dose equal to or greater than 100% of that reported effective in clinical trials³

Rationale: *The recommended doses of ACEI for heart failure are the higher doses used in the clinical trials demonstrating an improvement in survival.*

Denominator: Number in sample with LVSD (ejection fraction less than 40%, or equivalent narrative description) prescribed a known dose of at least one of the following ACEIs during the M+CO-designated measurement year: Captopril, Enalapril, Lisinopril, Benazepril, Fosinopril, Quinapril, Ramipril.

Numerator: Those in denominator whose most recent known daily dose of ACEI is at least 100% of the following:

Captopril	150 mg/day
Enalapril	20 mg/day
Lisinopril	20 mg/day
Benazepril	20 mg/day
Fosinopril	20 mg/day
Quinapril	20 mg/day
Ramipril	10 mg/day

² The quality indicator includes only those ACEIs which have been demonstrated to be effective treatment for heart failure in published clinical trials. These trials suggest several “effective” doses for Enalapril, Benazepril, Fosinopril, and Quinapril. This quality indicator will be calculated using the lower limits of the effective dose range. Because standard doses have not yet been reported for other ACEIs, they are not included in this quality indicator.

³ The quality indicator includes only those ACEIs which have been demonstrated to be effective treatment for heart failure in published clinical trials. These trials suggest several “effective” doses for Enalapril, Benazepril, Fosinopril, and Quinapril. This quality indicator will be calculated using the lower limits of the effective dose range. Because standard doses have not yet been reported for other ACEIs, they are not included in this quality indicator.

QAPI OPT 3: Proportion of heart failure patients with explicit documentation of New York Heart Association (NYHA) functional status classification in at least one of the three most recent available physician/nurse practitioner/physician assistant office visits which mention heart failure

Rationale: *Assessment of NYHA functional status classification is essential to guide treatment of heart failure patients, particularly those with LVSD. Documentation of NYHA functional status is a prerequisite for development of quality indicators for the appropriate use of beta blockers, digoxin, and spironolactone.*

Denominator: Number in sample for whom functional status information is being abstracted from outpatient chart

Numerator: Those in denominator with explicit physician/nurse practitioner/physician assistant documentation of NYHA functional status classification in at least one of the three most recent available physician/nurse practitioner/physician assistant office visit which mention heart failure

MEDICATION PREVALENCE MEASURES

These measures are not true quality indicators, as noted in the discussions under "Limitations" below. However, because these medications are unquestionably important in treatment of heart failure, providers may find the information in these prevalence measures informative and useful for quality improvement efforts.

QAPI MEDPREV 1: Proportion of heart failure patients with LVSD prescribed beta blockers

Rationale: *Beta blocker therapy should be routinely administered in addition to standard therapy to clinically stable patients with LVSD, mild to moderate heart failure symptoms (NYHA class II-III), and no contraindications to beta blockers.*

Limitations: *Because it is not clear whether NYHA Class or beta blocker contraindications can be reliably ascertained from the medical record, it is not possible at this time to construct a quality indicator strictly assessing adherence to this guideline recommendation. But because beta blockers are an important element in the management of patients with LVSD, providers may wish to use this less precise assessment of "appropriate" beta blocker use in their quality improvement efforts.*

Denominator: Number in sample with LVSD for whom beta blocker data is collected

Numerator: Those in denominator prescribed beta blockers at any time during the M+CO-designated measurement year

QAPI MEDPREV 2: Proportion of heart failure patients with LVSD prescribed digoxin

Rationale: *Digoxin is indicated for patients with LVSD with mild to moderate heart failure symptoms (NYHA class II-III) while on standard therapy. There is also evidence suggesting that digoxin is indicated for NYHA Class IV.*

Limitations: *Because it is not clear whether NYHA Class or digoxin contraindications can be reliably ascertained from the medical record, it is not possible at this time to construct a quality*

indicator strictly assessing adherence to this guideline recommendation. But because digoxin is an important element in the management of patients with LVSD, providers may wish to use this less precise assessment of “appropriate” digoxin use in their quality improvement efforts.

Denominator: Number in sample with LVSD for whom digoxin data is collected

Numerator: Those in denominator prescribed digoxin at any time during the M+CO-designated measurement year

QAPI MEDPREV 3: Proportion of heart failure patients with LVSD prescribed spironolactone

Rationale: *Low-dose spironolactone should be considered for patients with LVSD and recent or current NYHA class IV who are on standard therapy.*

Limitations: *Because it is not clear whether NYHA Class or spironolactone contraindications can be reliably ascertained from the medical record, it is not possible at this time to construct a quality indicator strictly assessing adherence to this recommendation. But because spironolactone is an important emerging agent in the treatment of patients with LVSD, providers may wish to use this imprecise assessment of “appropriate” spironolactone use in their quality improvement efforts.*

Denominator: Number in sample with LVSD for whom spironolactone data is collected

Numerator: Those in denominator prescribed spironolactone at any time during the M+CO-designated measurement year

QAPI MEDPREV 4: Proportion of heart failure patients with LVSD prescribed angiotensin-II receptor blockers (ARBs) or both long-acting nitrates and hydralazine in place of ACEIs

Rationale: *ARBs and long-acting nitrates/hydralazine are recommended as second-line therapy if ACEIs are contraindicated or not tolerated.*

Denominator: Number in sample with LVSD and **not** on ACEI for whom ARB and long-acting nitrates/hydralazine data is collected

Numerator: Those in denominator prescribed **either** ARB **or** both long-acting nitrates and hydralazine at any time during the M+CO-designated measurement year

**Attachment A:
Outpatient Physician Encounter CPT Codes—Years 2000 and 2001**

CPT code	Narrative Description
99201	New patient: Office or other outpatient visit
99202	New patient: Office or other outpatient visit
99203	New patient: Office or other outpatient visit
99204	New patient: Office or other outpatient visit
99205	New patient: Office or other outpatient visit
99211	Established patient: Office or other outpatient visit
99212	Established patient: Office or other outpatient visit
99213	Established patient: Office or other outpatient visit
99214	Established patient: Office or other outpatient visit
99215	Established patient: Office or other outpatient visit
99241	New or established patient: Office consultation
99242	New or established patient: Office consultation
99243	New or established patient: Office consultation
99244	New or established patient: Office consultation
99245	New or established patient: Office consultation
99271	New or established patient: Confirmatory consultation
99272	New or established patient: Confirmatory consultation
99273	New or established patient: Confirmatory consultation
99274	New or established patient: Confirmatory consultation
99275	New or established patient: Confirmatory consultation
99281	New or established patient: Emergency department visit
99282	New or established patient: Emergency department visit
99283	New or established patient: Emergency department visit
99284	New or established patient: Emergency department visit
99285	New or established patient: Emergency department visit
99301	New or established patient: Evaluation and management (nursing facility)
99302	New or established patient: Evaluation and management (nursing facility)
99303	New or established patient: Evaluation and management (nursing facility)
99311	New or established patient: Subsequent nursing facility care
99312	New or established patient: Subsequent nursing facility care
99313	New or established patient: Subsequent nursing facility care
99315	Nursing facility discharge services
99316	Nursing facility discharge services
99321	New patient: Domiciliary or rest home visit
99322	New patient: Domiciliary or rest home visit
99323	New patient: Domiciliary or rest home visit
99331	Established patient: Domiciliary or rest home visit
99332	Established patient: Domiciliary or rest home visit
99333	Established patient: Domiciliary or rest home visit
99341	New patient: Home visit
99342	New patient: Home visit
99343	New patient: Home visit
99344	New patient: Home visit
99345	New patient: Home visit

CPT code	Narrative Description
99347	Established patient: Home visit
99348	Established patient: Home visit
99349	Established patient: Home visit
99350	Established patient: Home visit
99381	New patient: Initial preventive medicine, age < 1 y
99382	New patient: Initial preventive medicine, age 1 - 4 y
99383	New patient: Initial preventive medicine, age 5 - 11 y
99384	New patient: Initial preventive medicine, age 12 - 17 y
99385	New patient: Initial preventive medicine, age 18 - 39 y
99386	New patient: Initial preventive medicine, age 40 - 64 y
99387	New patient: Initial preventive medicine, age > 65 y
99391	Established patient: Periodic preventive medicine, age < 1 y
99392	Established patient: Periodic preventive medicine, age 1 - 4 y
99393	Established patient: Periodic preventive medicine, age 5 - 11 y
99394	Established patient: Periodic preventive medicine, age 12 - 17 y
99395	Established patient: Periodic preventive medicine, age 18 - 39 y
99396	Established patient: Periodic preventive medicine, age 40 - 64 y
99397	Established patient: Periodic preventive medicine, age > 65 y
99401	Preventive medicine counseling
99402	Preventive medicine counseling
99403	Preventive medicine counseling
99404	Preventive medicine counseling
99411	Preventive medicine counseling
99412	Preventive medicine counseling
99420	Administration and interpretation of health risk assessment instrument
99429	Unlisted preventive medicine service

Note: This is a suggested, NOT mandatory, list of CPT codes.