

**Measure #401: Hepatitis C: Screening for Hepatocellular Carcinoma (HCC) in Patients with Cirrhosis  
– National Quality Strategy Domain: Effective Clinical Care**

**2017 OPTIONS FOR INDIVIDUAL MEASURES:**  
**REGISTRY ONLY**

**MEASURE TYPE:**  
Process

**DESCRIPTION:**

Percentage of patients aged 18 years and older with a diagnosis of chronic hepatitis C cirrhosis who underwent imaging with either ultrasound, contrast enhanced CT or MRI for hepatocellular carcinoma (HCC) at least once within the 12 month reporting period

**INSTRUCTIONS:**

This measure is to be reported a minimum of **once per performance period** for all patients with a diagnosis of chronic hepatitis C cirrhosis seen during the **performance period**. This measure is intended to reflect the quality of services provided for patients with chronic hepatitis C cirrhosis. This measure may be reported by eligible clinicians or other qualified healthcare professionals who perform the quality actions described in the measure based on the services provided and the measure-specific denominator coding.

**Measure Reporting:**

The listed denominator criteria is used to identify the intended patient population. The numerator options included in this specification are used to submit the quality actions allowed by the measure. The quality-data codes listed do not need to be submitted for registry-based submissions; however, these codes may be submitted for those registries that utilize claims data.

**DENOMINATOR:**

All patients aged 18 years and older with a diagnosis of chronic hepatitis C cirrhosis

**Denominator Criteria (Eligible Cases):**

Patients aged ≥ 18 years on date of encounter

**AND**

Diagnosis for chronic hepatitis C (ICD-10-CM): B18.2, B19.20, B19.21

**AND**

Diagnosis for cirrhosis (ICD-10-CM): K70.30, K70.31, K74.60, K74.69

**AND**

Patient encounter during the **performance period** (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215

**NUMERATOR:**

Patients who underwent abdominal imaging with either ultrasound, contrast enhanced CT or MRI

**Numerator Options:**

***Performance Met:***

Patient underwent abdominal imaging with ultrasound, contrast enhanced CT or contrast MRI for HCC (G9455)

**OR**

***Denominator Exception:***

Documentation of medical or patient reason(s) for not ordering or performing screening for HCC. Medical reason: Comorbid medical conditions with expected survival <5 years, hepatic decompensation and not a candidate for liver transplantation, or other medical reasons. Patient reasons: Patient declined or other patient reasons (e.g., cost of tests, time related to accessing testing equipment) (G9456)

**OR**

***Performance Not Met:***

Patient did not undergo abdominal imaging and did not have a documented reason for not undergoing abdominal imaging in the performance period (G9457)

**RATIONALE:**

HCC (hepatocellular carcinoma) is the fourth most common cancer in the world and is the fastest rising cause of cancer-related deaths in the United States. HCV is the leading cause of HCC and the risk of developing HCC is highest in patients with established HCV cirrhosis.

Several potentially curative treatments are available for patients with early-stage HCC. These include surgical resection, liver transplantation, and local ablation. Long-term survival of patients who have liver resection or transplantation for HCC can be high (40% to 70% for resection and 52% to 81% for transplant patients after 5 years) (Kansagara 2014).

A recent systematic review of 18 nonrandomized studies found that screened patients had early-stage HCC than clinically diagnosed patients. More screened patients received potentially curative treatment. However, these studies were limited by their observational nature (including lead time bias) and thus the effect on overall mortality was unclear. There are no randomized controlled trials that evaluated the impact of HCC screening versus no screening on survival in patients with cirrhosis. A randomized trial of HCC screening is not forthcoming because, even in the absence of high quality data, most informed patients and their clinicians consider randomization unethical and prefer surveillance (Poustchi 2011). In a recent modeling based study (that corrected for lead time bias), US based screening for HCC in compensated HCV cirrhosis patients reduced mortality compared to no screening (Mourad 2014).

Collectively, these data suggest that screening has a potential to produce benefits in the highest-risk patients, such as those with HCV cirrhosis who are good candidates for potentially curative treatment (Atkins AIM 2014).

**CLINICAL RECOMMENDATION STATEMENTS:**

Patients at high risk for developing HCC, including patients with hepatitis C cirrhosis, should be entered into surveillance programs. (Level II). Surveillance for HCC should be performed using ultrasonography (Level II). Patients should be screened at 6-month intervals (level II) (AASLD, 2011).

HCC surveillance must be continued indefinitely in patients with cirrhosis (A1). Patients with cirrhosis should undergo regular surveillance for HCC, irrespective of SVR (B1) (EASL, 2014)

While current guidelines only specify using ultrasound, evidence suggests that using multiple screening methods, including incorporating the alpha fetoprotein biomarker into surveillance plans, may be more effective in identifying early stages of HCC.

**COPYRIGHT:**

The Measures are not clinical guidelines, do not establish a standard of medical care, and have not been tested for all potential applications.

The Measures, while copyrighted, can be reproduced and distributed, without modification, for noncommercial purposes, eg, use by health care providers in connection with their practices. Commercial use is defined as the sale, license, or distribution of the Measures for commercial gain, or incorporation of the Measures into a product or service that is sold, licensed or distributed for commercial gain.

Commercial uses of the Measures require a license agreement between the user and the American Medical Association (AMA), [on behalf of the Physician Consortium for Performance Improvement® (PCPI®)] or American Gastroenterological Association (AGA). Neither the AMA, AGA, PCPI, nor its members shall be responsible for any use of the Measures.

**The AMA's and PCPI's significant past efforts and contributions to the development and updating of the Measures is acknowledged. AGA is solely responsible for the review and enhancement ("Maintenance") of the Measures as of June 30, 2014.**

AGA encourages use of the Measures by other health care professionals, where appropriate.

**THE MEASURES AND SPECIFICATIONS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND.**

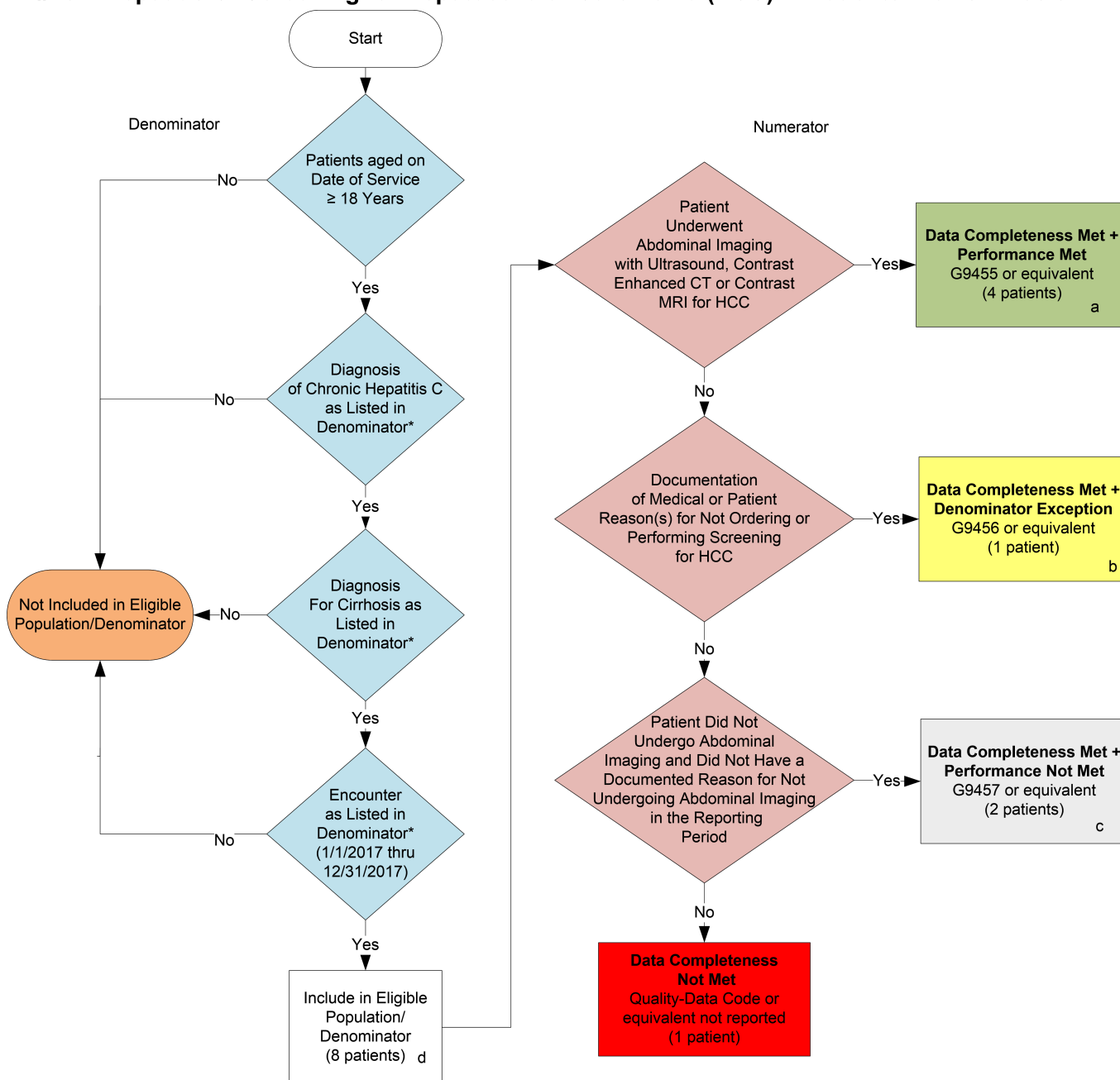
© 2015 American Medical Association and American Gastroenterological Association. All Rights Reserved.  
Applicable FARS/DFARS Restrictions Apply to Government Use.

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, AGA, the PCPI and its members disclaim all liability for use or accuracy of any Current Procedural Terminology (CPT®) or other coding contained in the specifications.

CPT® contained in the Measures specifications is copyright 2004-2016 American Medical Association. LOINC® copyright 2004-2016 Regenstrief Institute, Inc. SNOMED CLINICAL TERMS (SNOMED CT®) copyright 2004-2016 College of American Pathologists. All Rights Reserved.

## 2017 Registry Individual Measure Flow

### #401: Hepatitis C: Screening for Hepatocellular Carcinoma (HCC) in Patients with Cirrhosis



#### SAMPLE CALCULATIONS:

##### Data Completeness=

Performance Met (a=4 patients) + Denominator Exception (b=1patient) + Performance Not Met (c=2 patients) = 7 patients = 87.50%  
 Eligible Population / Denominator (d=8 patients) = 8 patients

##### Performance Rate=

Performance Met (a=4 patients) = 4 patients = 57.14%  
 Data Completeness Numerator (7 patients) - Denominator Exception (b=1patient) = 6 patients

\*See the posted Measure Specification for specific coding and instructions to report this measure.  
 NOTE: Reporting Frequency: Patient-process

CPT only copyright 2016 American Medical Association. All rights reserved.  
 The measure diagrams were developed by CMS as a supplemental resource to be used in conjunction with the measure specifications. They should not be used alone or as a substitution for the measure specification.

v1

## 2017 Registry Individual Measure Flow

### #401 Hepatitis C: Screening for Hepatocellular Carcinoma (HCC) in Patients with Cirrhosis

Please refer to the specific section of the Measure Specification to identify the denominator and numerator information for use in reporting this Individual Measure.

1. Start with Denominator
2. Check Patient Age:
  - a. If the Age is greater than or equal to 18 Years on Date of Service and equals No during the measurement period, do not include in Eligible Patient Population. Stop Processing.
  - b. If the Age is greater than or equal to 18 Years on Date of Service and equals Yes during the measurement period, proceed to check Patient Diagnosis.
3. Check Patient Diagnosis Chronic Hepatitis C:
  - a. If Diagnosis of Chronic Hepatitis C as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Diagnosis of Chronic Hepatitis C as Listed in the Denominator equals Yes, proceed to check Patient Diagnosis Cirrhosis.
4. Check Patient Diagnosis Cirrhosis:
  - a. If Diagnosis for Cirrhosis as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Diagnosis for Cirrhosis as Listed in the Denominator equals Yes, proceed to check Encounter Performed.
5. Check Encounter Performed:
  - a. If Encounter as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Encounter as Listed in the Denominator equals Yes, include in the Eligible Population.
6. Denominator Population:
  - a. Denominator population is all Eligible Patients in the denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d equals 8 patients in the sample calculation.
7. Start Numerator
8. Check Patient Underwent Abdominal Imaging with Ultrasound, Contrast Enhanced CT or Contrast MRI for HCC:
  - a. If Patient Underwent Abdominal Imaging with Ultrasound, Contrast Enhanced CT or Contrast MRI for HCC equals Yes, include in Data Completeness Met and Performance Met.
  - b. Data Completeness Met and Performance Met is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a equals 4 patients in Sample Calculation.

- c. If Patient Underwent Abdominal Imaging with Ultrasound, Contrast Enhanced CT or Contrast MRI for HCC equals No, proceed to Documentation of Medical or Patient Reason(s) for Not Ordering or Performing Screening for HCC.
9. Check Documentation of Medical or Patient Reason(s) for Not Ordering or Performing Screening for HCC:
  - a. If Documentation of Medical or Patient Reason(s) for Not Ordering or Performing Screening for HCC equals Yes, include in Data Completeness Met and Denominator Exception.
  - b. Data Completeness Met and Denominator Exception is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b equals 1 patient in the Sample Calculation.
  - c. If Documentation of Medical or Patient Reason(s) for Not Ordering or Performing Screening for HCC equals No, proceed to Patient Did Not Undergo Abdominal Imaging and Did Not Have a Documented Reason for Not Undergoing Abdominal Imaging in the Performance Period.
10. Check Patient Did Not Undergo Abdominal Imaging and Did Not Have a Documented Reason for Not Undergoing Abdominal Imaging in the Performance Period:
  - a. If Patient Did Not Undergo Abdominal Imaging and Did Not Have a Documented Reason for Not Undergoing Abdominal Imaging in the Performance Period equals Yes, include in Data Completeness Met and Performance Not Met.
  - b. Data Completeness Met and Performance Not Met is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter c equals 2 patients in the Sample Calculation.
  - c. If Patient Did Not Undergo Abdominal Imaging and Did Not Have a Documented Reason for Not Undergoing Abdominal Imaging in the Performance Period equals No, proceed to Data Completeness Not Met.
11. Check Data Completeness Not Met:
  - a. If Data Completeness Not Met equals No, Quality Data Code or equivalent was not reported. 1 patient has been subtracted from the data completeness numerator in sample calculation.

**SAMPLE CALCULATIONS:**

**Data Completeness=**

$$\frac{\text{Performance Met (a=4 patients)} + \text{Denominator Exception (b=1patient)} + \text{Performance Not Met (c=2 patients)}}{\text{Eligible Population / Denominator (d=8 patients)}} = \frac{7 \text{ patients}}{8 \text{ patients}} = 87.50\%$$

**Performance Rate=**

$$\frac{\text{Performance Met (a=4 patients)}}{\text{Data Completeness Numerator (7 patients) - Denominator Exception (b=1patient)}} = \frac{4 \text{ patients}}{7 \text{ patients}} = 57.14\%$$