

Quality ID #364: Optimizing Patient Exposure to Ionizing Radiation: Appropriateness: Follow-up CT Imaging for Incidentally Detected Pulmonary Nodules According to Recommended Guidelines – National Quality Strategy Domain: Communication And Care Coordination

2018 OPTIONS FOR INDIVIDUAL MEASURES:
REGISTRY ONLY

MEASURE TYPE:
Process

DESCRIPTION:

Percentage of final reports for computed tomography (CT) imaging studies of the thorax for patients aged 18 years and older with documented follow-up recommendations for incidentally detected pulmonary nodules (e.g., follow-up CT imaging studies needed or that no follow-up is needed) based at a minimum on nodule size AND patient risk factors

INSTRUCTIONS:

This measure is to be submitted **each time** a procedure for a CT imaging with an incidental pulmonary nodule is performed during the performance period. There is no diagnosis associated with this measure. This measure may be submitted by eligible clinicians who perform the quality actions described in the measure based on the services provided and the measure-specific denominator coding.

Measure Submission:

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 submissions; however, these codes may be submitted for those registries that utilize claims data.

DENOMINATOR:

All final CT reports that indicate an incidental pulmonary nodule

Denominator Criteria (Eligible Cases):

All patients age 18 years and older

AND

Patient procedure during the performance period (CPT): 71250, 71260, 71270, 71275

AND

A finding of an incidental pulmonary nodule: G9754

NUMERATOR:

Final reports with documented follow-up recommendations for incidentally detected pulmonary nodules (e.g., follow-up CT imaging studies needed or that no follow-up is needed) based at a minimum on nodule size AND patient risk factors

Definition:

Follow-up Recommendations - No follow-up recommended in the final CT report OR follow-up is recommended within a designated time frame in the final CT report. Recommendations noted in the final CT report should be in accordance with recommended guidelines.

Numerator Options:

Performance Met:

Follow-up recommendations documented according to recommended guidelines for incidentally detected pulmonary nodules (e.g., follow-up CT imaging studies

needed or that no follow-up is needed) based at a minimum on nodule size AND patient risk factors (G9345)

OR

Denominator Exception:

Documentation of medical reason(s) that follow-up imaging is indicated (e.g., patient has a known malignancy that can metastasize, other medical reason(s) (G9755)

OR

Performance Not Met:

Follow-up recommendations not documented according to recommended guidelines for incidentally detected pulmonary nodules, reason not given (G9347)

RATIONALE:

With the increasing use of chest computed tomography (CT) imaging comes an increase in the frequency of incidental pulmonary nodule findings. (MacMahon et al., 2017)

A recent study found that between 2006 and 2012, the annual rate of pulmonary nodule identification in a large, integrated health system increased from 3.9 to 6.6 per 1,000 person-years. The authors estimated that more than 1.5 million adult Americans will have a pulmonary nodule identified each year.⁶ (MacMahon et al., 2017)

These incidental findings require appropriate management to avoid subjecting patients to unnecessary follow-up scans or conversely missing early malignancies. A number of factors contribute to appropriate management decisions for pulmonary nodules, based on estimations of the individual risk of malignancy including nodule size and morphology as well as clinical risk factors. (MacMahon et al., 2017)

Despite evidence-based recommendations from groups such as the Fleischner society regarding the management and follow-up of small pulmonary nodules detected incidentally, various studies^{7,8,9} have documented low rates of adherence. For example, one recent study found that 44.7% of patients received care inconsistent with the Fleischner society recommendations (17.8% overevaluation, 26.9% underevaluation).¹⁰ (MacMahon et al., 2017) This measure aims to encourage the use of an evidence-based approach in recommending follow up imaging for incidental pulmonary nodules.

CLINICAL RECOMMENDATION STATEMENTS:

Technical update to 2018 specifications: The following evidence statements are quoted verbatim from the referenced clinical guidelines and other sources:

Recommendation 1: single solid noncalcified nodules.—Solid nodules smaller than 6 mm (those 5 mm or smaller) do not require routine follow-up in patients at low risk (grade 1C; strong recommendation, low- or very-low-quality evidence). (MacMahon et al., 2017)

Solid nodules smaller than 6 mm do not require routine follow-up in all patients with high clinical risk; however, some nodules smaller than 6 mm with suspicious morphology, upper lobe location, or both may warrant follow-up at 12 months (grade 2A; weak recommendation, high-quality evidence). (MacMahon et al., 2017)

Solitary noncalcified solid nodules measuring 6–8 mm in patients with low clinical risk are recommended to undergo initial follow-up at 6–12 months depending on size, morphology, and patient preference (grade 1C: strong recommendation, low- or very-low-quality evidence). (MacMahon et al., 2017)

For solitary solid noncalcified nodules measuring 6–8 mm in patients at high risk, an initial follow-up examination is recommended at 6–12 months and again at 18–24 months (grade 1B: strong recommendation, moderate quality evidence). (Fleischner Society, 2017)⁵

For solitary solid noncalcified nodules larger than 8 mm in diameter, consider 3-month follow-up, work-up with combined positron emission tomography (PET) and CT (PET/CT), tissue sampling, or a combination thereof; any one of these options may be appropriate depending on size, morphology, comorbidity, and other factors. (grade 1A; strong recommendation, high-quality evidence). (MacMahon et al., 2017)

Recommendation 2: multiple solid noncalcified nodules.—For multiple solid noncalcified nodules smaller than 6 mm in diameter, no routine follow-up is recommended (grade 2B; weak recommendation, moderate-quality evidence). (MacMahon et al., 2017)

For multiple solid noncalcified nodules with at least one nodule 6 mm or larger in diameter, follow-up is recommended at approximately 3–6 months, followed by an optional second scan at 18–24 months that will depend on estimated risk. (grade 1B; strong recommendation, moderate-quality evidence). (MacMahon et al., 2017)

Recommendation 3: solitary pure ground-glass nodules.—For pure ground-glass nodules smaller than 6 mm (ie, 5 mm and smaller) in diameter, no routine follow-up is recommended (grade 1B; strong recommendation, moderate-quality evidence). (MacMahon et al., 2017)

For pure ground-glass nodules 6 mm or larger, follow-up scanning is recommended at 6–12 months and then every 2 years thereafter until 5 years (grade 1B; strong recommendation, moderate-quality evidence). (MacMahon et al., 2017)

Recommendation 4: solitary part solid lung nodules.—For solitary part solid nodules smaller than 6 mm, no routine follow-up is recommended (grade 1C; strong recommendation, low- or very-low-quality evidence). (MacMahon et al., 2017)

For solitary part-solid nodules with a solid component 6 mm or larger, a short-term follow-up CT scan at 3–6 months should be considered to evaluate for persistence of the nodule. For nodules with particularly suspicious morphology (i.e., lobulated margins or cystic components), a growing solid component, or a solid component larger than 8 mm, PET/CT, biopsy, or resection are recommended (grade 1B; strong recommendation, moderate quality evidence.) (MacMahon et al., 2017)

Recommendation 5: multiple subsolid lung nodules.—In patients with multiple subsolid nodules smaller than 6 mm, one must consider infectious causes. If lesions remain persistent after an initial follow-up scan at 3–6 months, consider follow-up at approximately 2 and 4 years to confirm stability, depending on the clinical setting (grade 1C; strong recommendation, low- or very-low-quality evidence). (MacMahon et al., 2017)

¹ Gould MK, Tang T, Liu IL, et al. Recent trends in the identification of incidental pulmonary nodules. *Am J Respir Crit Care Med* 2015;192(10):1208–1214.

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, e.g., 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®)], American Board of Medical Specialties (ABMS) and the American College of Radiology (ACR). Neither the AMA, ABMS, ACR, PCPI, nor its members shall be responsible for any use of the Measures.

The AMA's, PCPI's and ABMS's significant past efforts and contributions to the development and updating of the Measures is acknowledged. ACR is solely responsible for the review and enhancement ("Maintenance") of the Measures as of December 31, 2014.

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

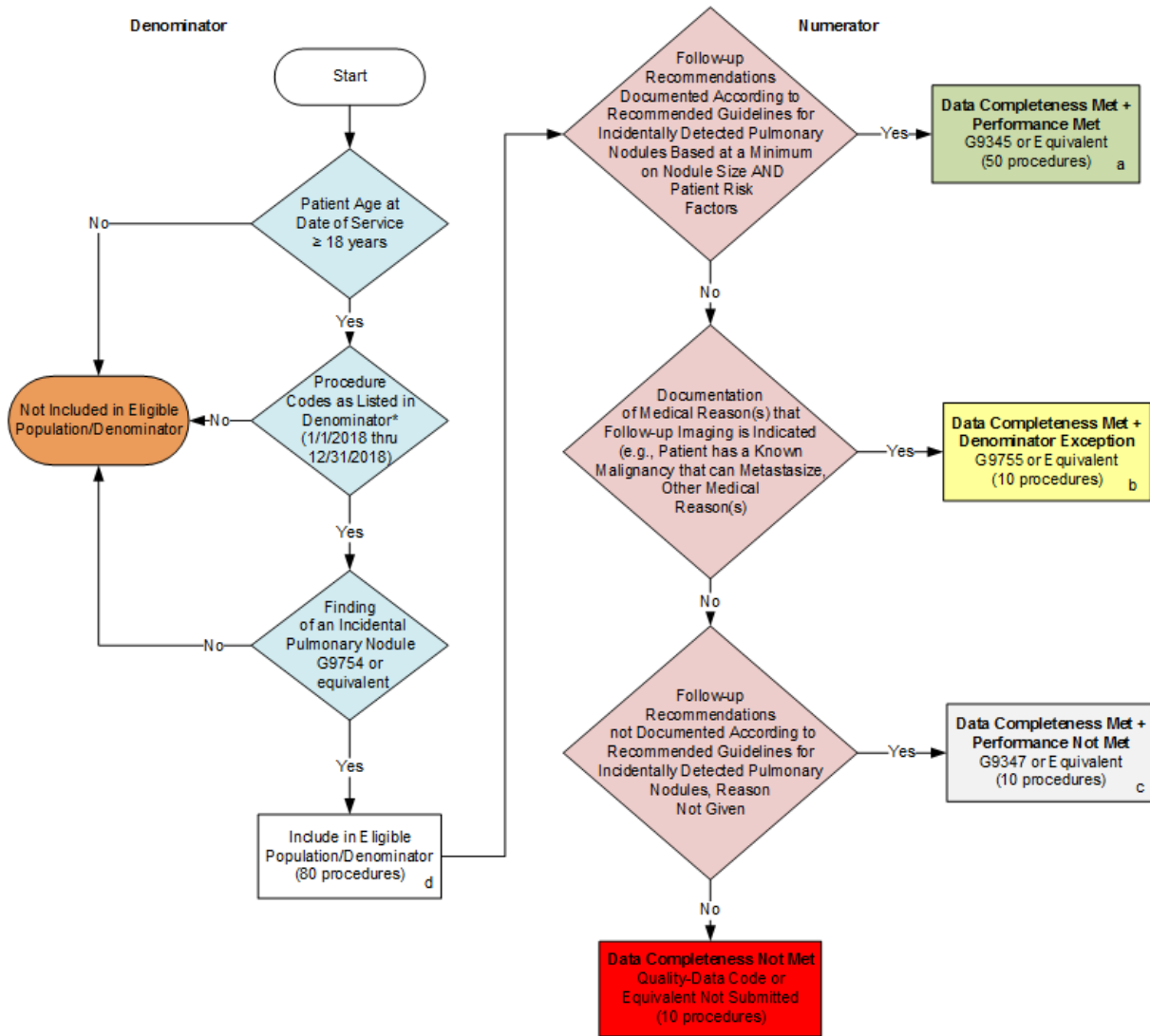
THE MEASURES AND SPECIFICATIONS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND.

© 2017 American Board of Medical Specialties, American College of Radiology and American Medical 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, ABMS, ACR, 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 2004-2017 American Medical Association. LOINC® copyright 2004-2017 Regenstrief Institute, Inc. SNOMED CLINICAL TERMS (SNOMED CT®) copyright 2004-2017 College of American Pathologists. All Rights Reserved.

**2018 Registry Flow for Quality ID #364: Optimizing Patient Exposure to Ionizing Radiation:
Appropriateness: Follow-up CT Imaging for Incidentally Detected Pulmonary Nodules According
to Recommended Guidelines**



SAMPLE CALCULATIONS:

Data Completeness=

$$\frac{\text{Performance Met (a=50 procedures)} + \text{Denominator Exception (b=10 procedures)} + \text{Performance Not Met (c=10 procedures)}}{\text{Eligible Population / Denominator (d=80 procedures)}} = \frac{70 \text{ procedures}}{80 \text{ procedures}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a=50 procedures)}}{\text{Data Completeness Numerator (70 procedures) - Denominator Exception(10 procedures)}} = \frac{50 \text{ procedures}}{60 \text{ procedures}} = 83.33\%$$

* See the posted Measure Specification for specific coding and instructions to submit this measure.

NOTE: Submission Frequency: Procedure

CPT only copyright 2017 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.

v2

2018 Registry Flow for Quality ID

#364: Optimizing Patient Exposure to Ionizing Radiation: Appropriateness: Follow-up CT Imaging for Incidentally Detected Pulmonary Nodules According to Recommended Guidelines

Please refer to the specific section of the specification to identify the denominator and numerator information for use in submitting this Individual Specification. This flow is for registry data submission.

1. Start with Denominator
2. Check Patient Age:
 - a. If Patient Age is greater than or equal to 18 years at Date of Service equals No, do not include in Eligible Population or Denominator. Stop Processing
 - b. If Patient Age is greater than or equal to 18 years at Date of Service equals Yes, proceed to check Procedure.
3. Check Procedure:
 - a. If Procedure as Listed in the Denominator equals No, do not include in Eligible Population. Stop Processing.
 - b. If Procedure as Listed in the Denominator equals Yes, proceed to check Incidental Pulmonary Nodule.
4. Check Incidental Pulmonary Nodule:
 - a. If Incidental Pulmonary Nodule equals No, do not include in Eligible Population. Stop Processing.
 - b. If Incidental Pulmonary Nodule equals Yes, include in the Eligible Population.
5. 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 80 procedures in the Sample Calculation.
6. Start Numerator
7. Check Follow-up Recommendations Documented According to Recommended Guidelines for Incidentally Detected Pulmonary Nodules Based at a Minimum on Nodule Size AND Patient Risk Factors:
 - a. If Follow-up Recommendations Documented According to Recommended Guidelines for Incidentally Detected Pulmonary Nodules Based at a Minimum on Nodule Size AND Patient Risk Factors equals Yes, include in Data Completeness Met and Performance Met.
 - b. Data Completeness Met and Performance Met letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a equals 50 procedures in the Sample Calculation.
 - c. If Follow-up Recommendations Documented According to Recommended Guidelines for Incidentally Detected Pulmonary Nodules Based at a Minimum on Nodule Size AND Patient Risk Factors equals No, proceed to check Documentation of Medical Reason(s) that follow-up imaging is indicated (e.g., patient has a known malignancy that can metastasize, other medical reason(s) .

8. Check Documentation of Medical Reason(s) that follow-up imaging is indicated (e.g., patient has a known malignancy that can metastasize, other medical reason(s):
 - a. If Documentation of Medical Reason(s) that follow-up imaging is indicated (e.g., patient has a known malignancy that can metastasize, other medical reason(s) equals Yes, include in Data Completeness and Denominator Exception.
 - b. Data Completeness Met and Denominator Exception letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b equals 10 procedures in the Sample Calculation.
 - c. If Documentation of Medical Reason(s) that follow-up imaging is indicated (e.g., patient has a known malignancy that can metastasize, other medical reason(s) equals No, proceed to check Follow-up Recommendations not Documented According to Recommended Guidelines for Incidentally Detected Pulmonary Nodules, Reason Not Given.

9. Check Follow-up Recommendations not Documented According to Recommended Guidelines for Incidentally Detected Pulmonary Nodules, Reason Not Given:
 - a. If Follow-up Recommendations not Documented According to Recommended Guidelines for Incidentally Detected Pulmonary Nodules, Reason Not Given equals Yes, include in Data Completeness Met and Performance Not Met.
 - b. Data Completeness Met and Performance Not Met letter is represented in the Data Completeness in the Sample Calculation listed at the end of this document. Letter c equals 10 procedures in the Sample Calculation.

10. If Follow-up Recommendations not Documented According to Recommended Guidelines for Incidentally Detected Pulmonary Nodules, Reason Not Given equals No, proceed to Data Completeness Not Met

11. Check Data Completeness Not Met:
 - a. If Data Completeness Not Met, the Quality Data Code or equivalent was not submitted. 10 procedures have been subtracted from the Data Completeness Numerator in the Sample Calculation.

SAMPLE CALCULATIONS:

Data Completeness=

$$\frac{\text{Performance Met (a=50 procedures) + Denominator Exception (b=10 procedures) + Performance Not Met (c=10 procedures)}}{\text{Eligible Population / Denominator (d=80 procedures)}} = \frac{70 \text{ procedures}}{80 \text{ procedures}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a=50 procedures)}}{\text{Data Completeness Numerator (70 procedures) - Denominator Exception)10 procedures}} = \frac{50 \text{ procedures}}{60 \text{ procedures}} = 83.33\%$$