

Measure #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

2017 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 reported **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 reported by eligible clinicians 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 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, 78814, 78815, 78816

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:

Pulmonary nodules are commonly encountered in both primary care and specialty settings. Pulmonary nodules require appropriate management to avoid missing early malignancies or conversely subjecting patients to unnecessary follow-up scans. (MacMahon et al., 2005) (ACCP, 2007)

At least 99% of all nodules 4mm or smaller are benign and because such small opacities are common on thin-section CT scans, follow-up CT is not recommended. (Swensen, 2002)

Additionally, there is no conclusive evidence that serial CT studies with early intervention for detected cancers can reduce disease-specific mortality, even in high-risk patients. Therefore, follow-up CT for every small indeterminate nodule is not recommended. (MacMahon et al., 2005)

CLINICAL RECOMMENDATION STATEMENTS:

Since the decision to perform follow-up studies relies on size, lesion characteristics (eg, morphology), and growth rates (typically described as doubling time), an understanding of these features and their relationship to malignancy should dictate further evaluation. In addition, the patient's risk profile, including age and smoking history, needs to be integrated into the diagnostic algorithm.

Nodule size* ≤ 4 mm

Low-Risk Patient: no follow-up needed†

High-Risk Patient: follow-up at 12 months; if unchanged, no further follow-up‡

Nodule size >4-6 mm

Low-Risk Patient: follow-up at CT at 12 months; if unchanged, no further follow-up‡

High-Risk Patient: initial follow-up CT at 6-12 months, then at 18-24 months if no change‡

Nodule size >6-8 mm

Low-Risk Patient: initial follow-up CT at 6-12 months, then at 18-24 months if no change

High risk Patient: initial follow-up CT at 3-6 months, then at 9-12 and 24 months if no change

Nodule size >8 mm

Same for Low- or High-Risk Patient: follow-up CT at around 3, 9, and 24 months, dynamic contrast enhanced CT, PET, and/or biopsy

Note – Newly detected indeterminate nodule in persons 35 years of age or older.

Low-Risk Patient - minimal or absent history of smoking and of other known risk factors.

High-Risk Patient - history of smoking or of other known risk factors.

* Average of length and width

† The risk of malignancy in this category (<1%) is substantially less than that in a baseline CT scan of an asymptomatic smoker.

‡ Nonsolid (ground-glass) or partly solid nodules may require longer follow-up to exclude indolent adenocarcinoma.

These recommendations apply only to adult patients with nodules that are “incidental” in the sense that they are unrelated to known underlying disease. The following examples describe patients for whom the above guidelines would not apply:

- Patients known to have or suspected of having malignant disease. Patients with a cancer that may be a cause of lung metastases should be cared for according to the relevant protocol or specific clinical situation.
- Young patients. Primary lung cancer is rare in persons under 35 years of age (<1% of all cases), and the risks from radiation exposure are greater than in the older population. Therefore, unless there is a known primary cancer, multiple follow-up CT studies for small incidentally detected nodules should be avoided in young patients.
- Patients with unexplained fever. In certain clinical settings, such a patient presenting with neutropenic fever, the presence of a nodule may indicate active infection, and short-term imaging follow-up or intervention may be appropriate.

Previous CT scans, chest radiographs, and other pertinent imaging studies should be obtained for comparison whenever possible, as they may serve to demonstrate either stability or interval growth of the nodule in question. A low-dose, thin-section, unenhanced technique should be used, with limited longitudinal coverage, when follow-up of a lung nodule is the only indication for the CT examination. (MacMahon et al., 2005)

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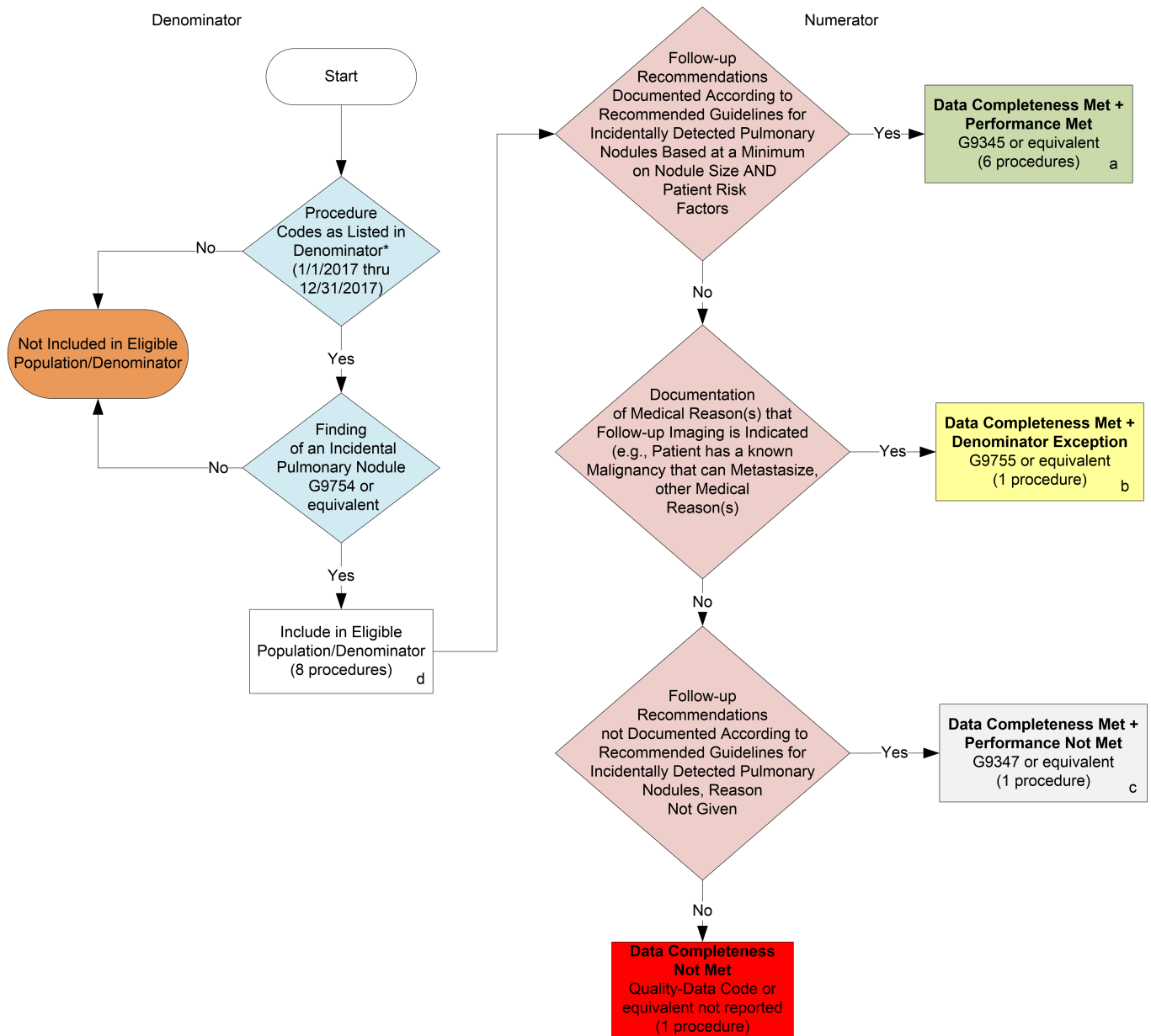
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2017 Registry Individual Measure Flow

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SAMPLE CALCULATIONS:

Data Completeness=

$$\frac{\text{Performance Met (a=6 procedures)} + \text{Performance Not Met (c=1 procedure)}}{\text{Eligible Population / Denominator (d=8 procedures)}} = \frac{7 \text{ procedures}}{8 \text{ procedures}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a=6 procedures)}}{\text{Data Completeness Numerator (7 procedures)}} = \frac{6 \text{ procedures}}{7 \text{ procedures}} = 85.71\%$$

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

NOTE: Reporting Frequency: Patient-process

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2017 Registry Individual Measure Flow

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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 Procedure:
 - a. If Procedure as Listed in the Denominator equals No, do not include in Eligible Population or Denominator. Stop Processing.
 - b. If Procedure as Listed in the Denominator equals Yes,
3. Check Incidental Pulmonary Nodule:
 - a. If Incidental Pulmonary Nodule equals No, , do not include in Eligible Population or Denominator. Stop Processing.
 - b. If Incidental Pulmonary Nodule equals Yes, include in the Eligible population or Denominator.
4. Denominator Population:
 - a. Eligible population or Denominator 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 procedures in the sample calculation.
5. Start Numerator

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 6 procedures in Sample Calculation.
 - 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 No, proceed to check Follow-up Recommendations not Documented According to Recommended Guidelines for Incidentally Detected Pulmonary Nodules, Reason Not Given.
6. 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 1 procedure in the Sample Calculation.
 - c. 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.
7. Check Data Completeness Not Met:
- a. If Data Completeness Not Met, the Quality Data Code or equivalent was not reported. 1 procedure has been subtracted from the data completeness numerator in sample calculation.

SAMPLE CALCULATIONS:

Data Completeness=

$$\frac{\text{Performance Met (a=6 procedures)} + \text{Performance Not Met (c=1 procedure)}}{\text{Eligible Population / Denominator (d=8 procedures)}} = \frac{7 \text{ procedures}}{8 \text{ procedures}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a=6 procedures)}}{\text{Data Completeness Numerator (7 procedures)}} = \frac{6 \text{ procedures}}{7 \text{ procedures}} = 85.71\%$$