

**Measure #363: Optimizing Patient Exposure to Ionizing Radiation: Search for Prior Computed Tomography (CT) Studies Through a Secure, Authorized, Media-Free, Shared Archive – National Quality Strategy Domain: Communication and Care Coordination**

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

**MEASURE TYPE:**  
Structure

**DESCRIPTION:**

Percentage of final reports of computed tomography (CT) studies performed for all patients, regardless of age, which document that a search for Digital Imaging and Communications in Medicine (DICOM) format images was conducted for prior patient CT imaging studies completed at non-affiliated external healthcare facilities or entities within the past 12-months and are available through a secure, authorized, media-free, shared archive prior to an imaging study being performed

**INSTRUCTIONS:**

This measure is to be reported **each time** a procedure for a computed tomography (CT) imaging report 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.

This measure is intended for reporting by facilities that can search for available images/image data from non-affiliated external healthcare facilities.

**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 reports for patients, regardless of age, undergoing a CT procedure

***DENOMINATOR NOTE:*** \*Signifies that this CPT Category I code is a non-covered service under the Medicare Part B Physician Fee Schedule (PFS). These non-covered services should be counted in the denominator population for registry-based measures.

**Denominator Criteria (Eligible Cases):**

All patients regardless of age

**AND**

**Patient procedure during the performance period (CPT):** 70450, 70460, 70470, 70480, 70481, 70482, 70486, 70487, 70488, 70490, 70491, 70492, 70496, 70498, 71250, 71260, 71270, 71275, 72125, 72126, 72127, 72128, 72129, 72130, 72131, 72132, 72133, 72191, 72192, 72193, 72194, 73200, 73201, 73202, 73206, 73700, 73701, 73702, 73706, 74150, 74160, 74170, 74174, 74175, 74176, 74177, 74178, 74261, 74262, 74263\*, 75571, 75572, 75573, 75574, 75635, 76380, 76497, 77011, 77012, 77013, 77078, 78072, 78814, 78815, 78816, 0042T

**NUMERATOR:**

Final reports of CT studies, which document that a search for DICOM format images was conducted for prior patient CT imaging studies completed at non-affiliated external healthcare facilities or entities within the past 12-months and are available through a secure, authorized, media-free, shared archive prior to an imaging study being performed

**Definition:**

**Media-free** - Radiology images that are transmitted electronically ONLY, not images recorded on film, CD, or other imaging transmittal form.

**Numerator Options:**

***Performance Met:***

Search conducted for prior patient CT studies completed at non-affiliated external healthcare facilities or entities within the past 12-months and are available through a secure, authorized, media-free, shared archive prior to an imaging study being performed (G9341)

**OR**

***Denominator Exception:***

Due to system reasons search not conducted for DICOM format images for prior patient CT imaging studies completed at non-affiliated external healthcare facilities or entities within the past 12 months that are available through a secure, authorized, media-free, shared archive (e.g., non-affiliated external healthcare facilities or entities does not have archival abilities through a shared archival system) (G9344)

**OR**

***Denominator Exception:***

Documentation of medical reason for not conducting a search for DICOM format images for prior patient CT imaging studies completed at non-affiliated external healthcare facilities or entities within the past 12 months that are available through a secure, authorized, media-free, shared archive (e.g., trauma, acute myocardial infarction, stroke, aortic aneurysm where time is of the essence) (G9753)

**OR**

***Performance Not Met:***

Search not conducted prior to an imaging study being performed for prior patient CT studies completed at non-affiliated external healthcare facilities or entities within the past 12-months and are available through a secure, authorized, media-free, shared archive, reason not given (G9342)

**RATIONALE:**

The current radiology information systems in hospitals generally do not collect or report radiation exposures and the medical imaging devices that communicate with radiology information systems do not currently forward data on the radiation dose received by a patient from each such test. As a result, physicians are uncertain of their patients' cumulative exposure and lifetime attributable risk (LAR), which is problematic when assessing, prioritizing and discussing the risks and benefits associated with their patients' clinical needs. (Sodickson A, Baeyens PF, Andriole KP, et al., 2009)

It has been estimated that between \$3 and \$10 billion are wasted in the United States annually on unnecessary or duplicative imaging studies. Duplicative imaging procedures could be substantially reduced with improved access to existing imaging data. Additionally, universal access to existing imaging studies to retrieve relevant prior images could improve diagnostic specificity for radiologists and potentially further minimize recommendations for follow-up studies. (Monegain B, 2009)

#### **CLINICAL RECOMMENDATION STATEMENTS:**

Core functional requirements for an Internet-based system for sharing medical records:

- a) methods to ensure privacy and confidentiality of data;
- a) capability to move and store large data files (eg, images) with the same efficiency and reliability as possible with small data files (eg, text);
- b) construction of registries, which contain “knowledge” of all fragments of medical information (and their physical location) from all sources for a given patient;
- c) an ability to match records and accurately reconcile patient identities without a common patient identifier;
- d) a means to regulate access to data and audit the access;
- e) a method for moving blocks of data from one location to another; and
- f) a method to aggregate and consume the data at the point of care.

Optimal patient care requires that care providers and patients be able to create, manage and access comprehensive electronic health records (EHRs) efficiently and securely. The sharing of radiologic images has become a fundamental part of radiology services and is essential for delivering high-quality care. (Flanders AE, 2009)

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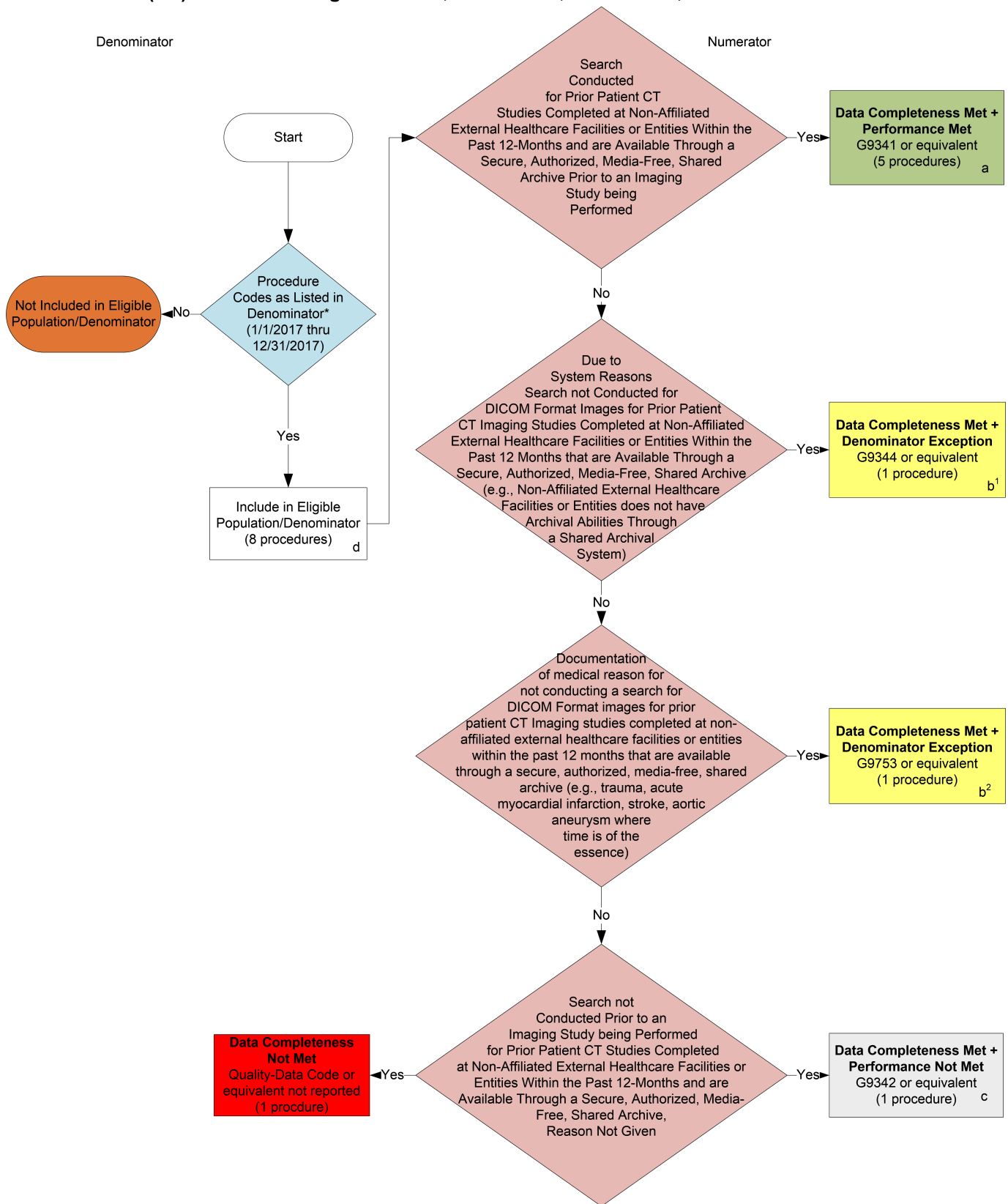
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## 2017 Registry Individual Measure Flow

### #363: Optimizing Patient Exposure to Ionizing Radiation: Search for Prior Computed Tomography (CT) Studies Through a Secure, Authorized, Media-Free, Shared Archive



**2017 Registry Individual Measure Flow**  
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**SAMPLE CALCULATIONS:**

**Data Completeness Rate=**

$$\frac{\text{Performance Met (a=5 procedures)} + \text{Denominator Exception (b1+b2=1 procedure)} + \text{Performance Not Met (c=1 procedure)}}{\text{Eligible Population / Denominator (d=8 procedures)}} = \frac{7 \text{ procedures}}{8 \text{ procedures}} = 87.50\%$$

**Performance Rate=**

$$\frac{\text{Performance Met (a=5 procedures)}}{\text{Data Completeness Numerator (7 procedures) – Denominator Exception (b1+b2=1 procedure)}} = \frac{5 \text{ procedures}}{6 \text{ procedures}} = 83.33\%$$

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

NOTE: Reporting Frequency: Patient-process

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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.

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## 2017 Registry Individual Measure Flow

### #363: Optimizing Patient Exposure to Ionizing Radiation: Search for Prior Computed Tomography (CT) Studies Through a Secure, Authorized, Media-Free, Shared Archive

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, include in Eligible Population and continue to Numerator.
3. Start Numerator:
  - a. If Search Conducted for Prior Patient CT Studies Completed at Non-Affiliated External Healthcare Facilities or Entities within the Past 12-Months and are Available Through a Secure, Authorized, Media-Free, Shared Archive Prior to an Imaging Study being Performed 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 5 procedures in Sample Calculation.
  - c. If Search Conducted for Prior Patient CT Studies Completed at Non-Affiliated External Healthcare Facilities or Entities within the Past 12-Months and are Available Through a Secure, Authorized, Media-Free, Shared Archive Prior to an Imaging Study being Performed equals No, proceed to next numerator Due to Systems Reasons.
4. Due to System Reasons:
  - a. If Due to System Reasons Search not Conducted for DICOM Format images for Prior Patient CT Imaging Studies Completed at Non-Affiliated External Healthcare Facilities or Entities within the Past 12 Months that are available through a Secure, Authorized, Media-Free, Shared Archive 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<sup>1</sup> equals 1 procedures in Sample Calculation.
  - a. If Due to System Reasons Search not Conducted for DICOM Format images for Prior Patient CT Imaging Studies Completed at Non-Affiliated External Healthcare Facilities or Entities within the Past 12 Months that are available through a Secure, Authorized, Media-Free, Shared Archive equals No, proceed to next numerator Documentation of Medical Reason.
5. Check Documentation of Medical Reason:

- a. If Documentation of Medical Reason for not Conducting a Search for DICOM Format Images for prior patient CT Imaging Studies Completed at Non-Affiliated External Healthcare Facilities or Entities within the past 12 Months that are available through a Secure Authorized, Media-Free, Shared Archive equals Yes, include in Data Completeness Met 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<sup>2</sup> equals 1 procedure in the Sample Calculation.
  - c. If Documentation of Medical Reason for not Conducting a Search for DICOM Format Images for prior patient CT Imaging Studies Completed at Non-Affiliated External Healthcare Facilities or Entities within the past 12 Months that are available through a Secure Authorized, Media-Free, Shared Archive equals No, proceed to next numerator Search Not Conducted Prior to Imaging Study.
6. Search Not Conducted Prior to an Imaging Study:
- a. If Search not Conducted Prior to an Imaging Study being Performed for Prior Patient CT Studies Completed at Non-Affiliated External Healthcare Facilities or Entities within the past 12 Months and are Available Through a Secure, Authorized, Media-Free, Shared Archive, 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 the this Document. Letter c equals 1 procedure in the Sample Calculation.
  - c. If Search not Conducted Prior to an Imaging Study being Performed for Prior Patient CT Studies Completed at Non-Affiliated External Healthcare Facilities or Entities within the past 12 Months and are Available Through a Secure, Authorized, Media-Free, Shared Archive, Reason Not Given equals No, proceed to check 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 Rate=**

Performance Met (a=5 procedures) + Denominator Exception (b1+b2=1 procedure) + Performance Not Met (c=1 procedure) = 7 procedures = 87.50%  
 Eligible Population / Denominator (d=8 procedures) = 8 procedures

##### **Performance Rate=**

Performance Met (a=5 procedures) = 5 procedures = 83.33%  
 Data Completeness Numerator (7 procedures) – Denominator Exception (b1+b2=1 procedure) = 6 procedures