The American College of Radiology

CT Colonography Registry

ABR PQI Project Description

October 12, 2017

American College of Radiology
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Date	Description of Revisions
January 10, 2008	Original issue
July 8, 2010	Section 3 ABR identification requirements specified as name and date of birth
September 17, 2010	Appendix A Descriptions of performance measures revised "Extracolonic Findings" removed as a performance measure
June 18, 2012	Section 2 Time period references changed from "August" to "July" Section 3 Statement added that the project cannot be repeated for additional PQI credit
November 28, 2012	Section 2 The project may be repeated if a different performance measure is used. A statement of intention to begin a project need not be provided to the ACR.
May 1, 2017	Section 2 ACR verification with ABR removed
October 12, 2017	Section 2 Administrative procedures revised Section 3.1 Baseline data must be collected during NRDR participation.

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1. Introduction

This document describes how diplomates of the American Board of Radiology (ABR) can use the CT Colonography (CTC) Registry as a Practice Quality Improvement (PQI) Improvement Activity, towards the fulfillment of their Part IV Maintenance of Certification requirements.

The CTC Registry offers a choice of the performance measures listed in Appendix A on which to base a Practice Quality Improvement (PQI) plan. The impact of the PQI plan is measured by comparing the diplomate's target performance measure calculated during the baseline period to the same performance measure calculated during the assessment period.

Every six months, registry participants receive reports comparing their individual and facility performance measures to those of other practices. By reviewing these reports, participants can readily identify areas of improvement by noting those that show significant differences between their individual performance and that of other practices on the regional or national level.

2. Administrative

At the conclusion of the project, the participant may request documentation from the ACR attesting to the fact that the participant contributed data to the registry during the project. The request should specify the participant's NPI, NRDR Facility ID, and the period of time for which attestation is required. It should be sent to Ryan Keefer at rbkeefer@acr.org.

Information about the ABR's administrative requirements can be found at https://www.theabr.org/moc-part-4-activities.

3. Data Collection and Analysis

3.1 Baseline Data Collection

Diplomates begin the PQI process by entering data from CTC examinations into the CTC Registry. For a period of six months, they enter all data elements required by the registry, for all examinations performed at their facility. These data must be collected during NRDR participation.

The procedure for collecting baseline data is as follows:

- Diplomates register their facility with the ACR, obtaining authorization to enter data in the CTC Registry using the NRDR website (nrdr.acr.org).
- Diplomates print paper copies of the CTC Registry data collection forms from the website.
- Diplomates collect data on all CTC examinations performed at their facility and enter the data on the NRDR website for a period of six months. This period spans January 1 to June 30, or July 1 to December 31, of a specific year.

3.2 Data Analysis

3.2.1 Benchmarks

Diplomates receive reports for every six-month period in which they participate in the CTC Registry (January 1 to June 30, or July 1 to December 31). These reports compare data from the diplomates' practice to those of other similar practices in the region and nation, and constitute the

feedback that helps diplomates develop their improvement plan. Data from the diplomate's practice are reported for individual physicians and for the facility as a whole. The mean performance data at the regional and national level serve as benchmarks for comparison with the diplomates' own data.

3.2.2 Target selection

Diplomates select an area of improvement from among the measures that show a significant disparity in the baseline data between their performance and that of other practices. The national or regional mean serves as the target performance measure for the diplomates' PQI plan.

3.3 Improvement Plan

3.3.1 Improvement plan formulation

Diplomates determine a plan for improving the performance measure they have chosen as a focus of the PQI project. For example, a diplomate who chooses to improve his or her rate of optimal bowel cleansing will review relevant literature, consult with colleagues, and evaluate practice patterns in order to identify appropriate changes in procedure. He or she will write a plan describing these changes and how they will be incorporated into the diplomate's procedure for bowel cleansing.

The plan must specify how success will be measured, in terms of a target value of the subject measurement. A diplomate who wishes to reduce the rate of colonic perforation, for example, will choose either the regional or national mean during the baseline period as his or her target.

The plan must address at least one of the National Academy of Medicine's dimensions of quality; i.e., it must discuss how the plan will increase the number of outcomes that are safe, timely, effective, efficient, patient-centered or equitable.

3.3.2 Improvement plan implementation

Details of plan implementation depend upon the procedural changes proposed by diplomates. Ideally, the plan is implemented during the six months following the collection of baseline data. Diplomates continue data collection during the implementation period, as such data is useful during the assessment phase. After six more months of data collection following the implementation period, the facility will have accumulated 18 months of data to assess, allowing year-over-year comparisons.

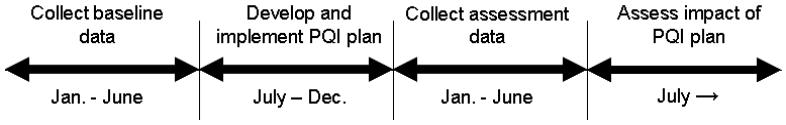

Figure 1 - Timeline for PQI Plan

In addition, since diplomates enter not only their subject measurement but other measurements as well, they contribute to the comprehensiveness of the registry by entering data on a continual basis.

3.4 Assessment

3.4.1 Collection of a second dataset

After fully implementing their improvement plan, diplomates continue the cycle of data collection, for the purpose of assessing the plan's impact. Procedures for this cycle are identical to those for collecting baseline data. This effort includes all examinations performed between January 1 and June

30, or between July 1 and December 31, of a specific year, so that all assessment observations are included in one reporting cycle.

At the conclusion of the six-month assessment period, diplomates use semi-annual reports from the registry to compare their actual and target measures. If the actual measure does not approximate the target, then the diplomate modifies the improvement plan and repeats the assessment cycle.

3.4.2 Sustaining improvement

Diplomates are encouraged to continue entering data in the CTC Registry, even after the target for improvement is reached. They will then be able to track the subject measurement using the semi-annual reports provided by the registry, to monitor whether the improvement is sustained.

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Appendix A Performance Measures

Process Measures

1. Adequate Bowel Cleansing & Distention
2. Rate of Adequacy of Diagnostic CTC Examination
3. Rate of Adequacy of Screening CTC Examination

Outcome Measures

1. Rate of Colonic Perforation
2. True Positive Rate

Process Measure: Adequate Bowel Cleansing & Distention

Data Elements	Clinical Performance Measure
Per Exam Is one or more segment non-diagnostic? Yes If yes, cause: Excess fluid: Yes OR Fecal material: Yes OR Segmental collapse: Yes	**Numerator:** Number of exams with no non-diagnostic segments **Denominator:** All CTC exams, either screening or diagnostic **Numerator and Denominator Exclusion:** Exams that were non-diagnostic due to reasons other than excess fluid, fecal material or segmental collapse **Measure:** Percentage of exams with adequate bowel cleansing and distention

Process Measure: Rate of Technical Adequacy of Screening* CTC Examination

Data Elements	Clinical Performance Measure
Per Exam Scanner: ≥ 4 row MDCT Detector row size: ≤ 2.5 mm (4 x 2.5 mm detector configuration) $CTDI_{vol}$ ≤ 12.5 mGy if prone image = yes and # of decubitus views = 0 $CTDI_{vol}$ ≤ 12.5 mGy, if prone image = no and # of decubitus views = 1 $CTDI_{vol}$ ≤ 18.75 mGy, if prone image = yes and # of decubitus views = 1 $CTDI_{vol}$ ≤ 25.0 mGy, if prone image = yes and # of decubitus views = 2 Supine image acquisition: Yes Prone or decubitus image acquisition: Yes Reconstruction: • Slice thickness: ≤3 mm • Interval: ≤2.0 mm Were entire colon and rectum imaged? Yes	**Numerator**: Number of exams with adequate data acquisition/technique for CTC **Denominator**: All screening* CTC exams **Numerator and Denominator Exclusion:** Exams for patients whose width from left to right is ≥40 cm **Measure:** Percentage of screening exams with adequate data acquisition/technique for CTC

*A screening exam refers to an exam in which the patient is asymptomatic.

Process Measure: Rate of Technical Adequacy of Diagnostic* CTC Examination

Data Elements	Clinical Performance Measure
Per Exam Scanner: ≥ 4 row MDCT Detector row size: ≤ 2.5 mm (4 x 2.5 mm detector configuration) Supine image acquisition: Yes Prone or decubitus image acquisition: Yes Reconstruction: • Slice thickness: ≤3 mm • Interval: ≤2.0 mm Were entire colon and rectum imaged? Yes	**Numerator:** Number of exams with adequate data acquisition/technique for CTC **Denominator:** All diagnostic* CTC exams **Numerator and Denominator Exclusion:** None **Measure:** Percentage of diagnostic exams with adequate data acquisition/technique for CTC

* A diagnostic exam refers to any exam other than a screening exam

Outcome Measure: Rate of Colonic Perforation

Data Elements	Clinical Performance Measure
Per Exam Colonic perforation: Yes	**Numerator**: Number of exams with colonic perforation during CTC **Denominato**r: All CTC exams, either screening or diagnostic **Numerator and Denominator Exclusion:** Exams for patients referred from an incomplete colonoscopy **Measure:** Percentage of exams with colonic perforation

Outcome Measure: True Positive Rate

Data Elements	Clinical Performance Measure
Per Exam Polyp size ≥ 10 Did colonoscopy read level of lesion? Yes Was polyp confirmed? Yes / No	**Numerator for True Positive Rate**: Number of exams with a confirmed ≥10mm polyp at colonoscopy that corresponds to a polyp detected by CTC* **Denominator:** Number of exams with confirming colonoscopies for a ≥10mm polyp **Numerator and Denominator Exclusion:** Number of exams with confirming colonoscopies that did not reach the level of lesion, or with no confirming colonoscopy **Measure (True Positive Rate):** Percentage of exams with confirming colonoscopies for a ≥10mm polyp detected by CTC

* A polyp confirmed by colonoscopy corresponds to a polyp detected at CTC if it is within 1 segment and 50% of the size of the CTC polyp (e.g., a polyp of 12 mm at CTC must have a measurement of at least 6mm at colonoscopy).

Appendix B Abbreviations

ABR American Board of Radiology

ACR American College of Radiology

CT Computed tomography

CTC CT colonography

NRDR National Radiology Data Registry

PQI Practice Quality Improvement

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