The American College of Radiology

National Mammography Database

ABR PQI Project Description

May 18, 2017

American College of Radiology
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Revisions

Date	Description of Revisions
August 3, 2009	Original issue
July 5, 2012	Various sections Correction to the start date of the second six-month period Section 2.4.2 Addition of text: "However, the project cannot be repeated for additional ABR PQI credit. Each diplomate can use the NMD for an ABR PQI project only once."
November 28, 2012	Section 2 Modifications stating that: • the use of retrospective data is not permitted. • the diplomate must provide his or her NPI at the beginning of the project. • data collection periods must be between January and June, or July and December. Section 3 Revision of the timeline for project completion. The required period for collection of follow-up data has been changed from one year to one month. Section 3.4.2 Modification stating that the project can be repeated only if a different performance measure is used each time.
December 17, 2012	Appendix A Clarification of how the numerators are calculated for Outcome Measures 1, 2 and 3.
April 25, 2013	Section 2 The length of data collection periods has been changed from six months to 12 months. Section 3.2.1 The length of data collection periods has been changed from six months to 12 months.
December 12, 2013	Section 3.2.2 The improvement plan may be implemented within the first two months of the assessment data collection period.
May 1, 2017	Section 2 References to ACR communicating with the ABR deleted. Contact name changed.

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1. INTRODUCTION

This document describes how diplomates of the American Board of Radiology (ABR) can use the National Mammography Database (NMD) towards the fulfillment of their Part IV Maintenance of Certification requirements.

The NMD offers a choice of the metrics 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 metric calculated during the baseline period to the same metric calculated during the assessment period. That baseline data must be collected during NRDR participation.

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

Diplomates who wish to complete a NMD project must submit the following information to the ACR:

When	What	How
At the start of the project	1. Participants' names 2. Participants' dates of birth 3. Participants' NPI's	On the NMD website[1]
After the improvement plan has been implemented	1. The metric to be improved 2. The target measure 3. The twelve-month span in which baseline data was collected. The span must be between January and December, or between July and June, in order to coincide with the NMD reporting cycle. 4. The twelve-month span in which assessment data will be collected. The span must be between January and December, or between July and June. 5. A statement affirming that the diplomate has implemented the plan, and that it meets all the requirements for Maintenance of Certification.	By e-mail to Ryan Keefer, at rbkeefer@acr.org
At the end of the project	6. A statement of how closely the target measure was approximated.	By e-mail to Ryan Keefer, at rbkeefer@acr.org

The participant must sign on to his or her ABR Personal Database (PDB) (www.abronline.org) in order to officially attest to his or her participation and eventual completion of this project.

[1] https://nrdr.acr.org/Portal/NMD/Main/page.aspx

3. DATA COLLECTION AND ANALYSIS

3.1 Baseline Data Collection

Diplomates perform baseline data collection by submitting data to the NMD from mammograms that they have interpreted. For a period of twelve months, they submit all data elements required by the registry, for all mammograms they interpret. This data must be collected during NRDR participation.

Diplomates submit data to the NMD by uploading electronic files containing these data to the NMD website. The collection period spans 12 months, either from January 1 to December 31, or from July 1 to June 30. If the diplomate has chosen a target measure that is dependent on tissue diagnoses of cancer, then follow-up data regarding tissue diagnoses are collected for an additional month.

The electronic files must be generated by a software product that has been certified by the ACR for use with the NMD. A list of such products is available on the NMD website.

3.2 Data Analysis

3.2.1 Benchmarks

Diplomates receive reports for every twelve-month period in which they participate in the NMD (January 1 to December 31, or July 1 to June 30). These reports compare data from the diplomates' practice to those of other practices, and 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 metric for the diplomates' PQI plan. Once a target is selected, the diplomate performs a root cause analysis to determine the reason for performance disparity and identifies an approach to reducing it.

3.3 Improvement Plan

3.3.1 Improvement plan formulation

Diplomates determine a plan for improving the metric they have chosen as a focus of the PQI project. For example, a diplomate who chooses to improve his or her positive predictive value will perform a root cause analysis including the review relevant literature, consulting with colleagues, and evaluating practice patterns in order to identify the problem and appropriate changes in assessment. He or she will write a plan describing these changes and how they will be incorporated into the diplomate's practice.

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 his or her abnormal interpretation rate, for example, will choose either the regional or national mean during the baseline period as his or her target.

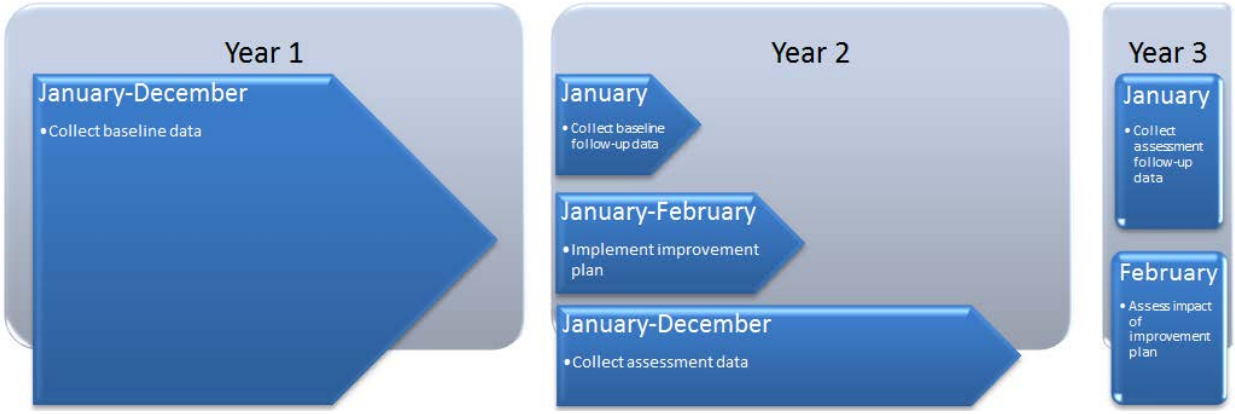
The plan must address at least one of the Institute of Medicine's dimensions of quality; i.e., it must discuss how the plan will increase the number of outcomes that are safe, timely, effective, efficient, patient-centered or equitable.

3.3.2 Improvement plan implementation

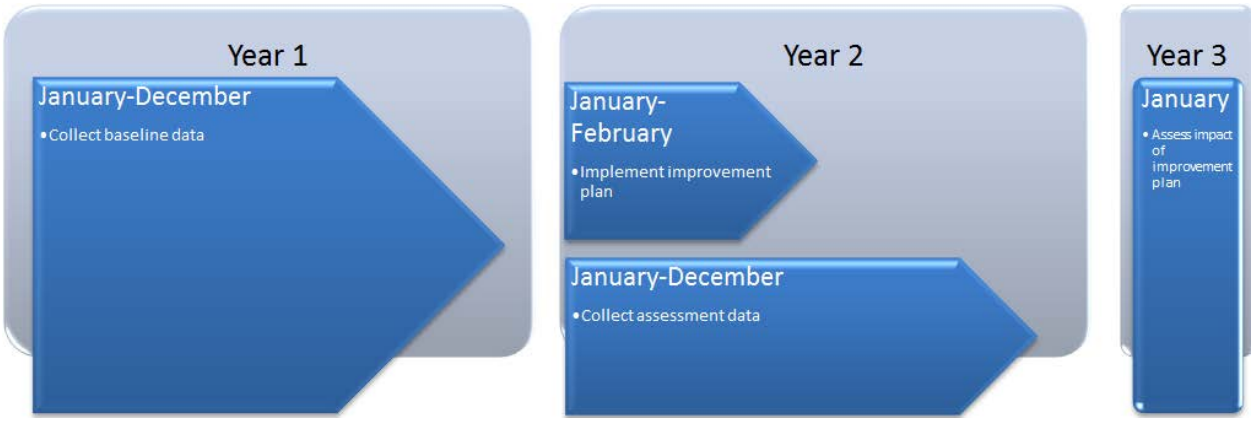
Details of plan implementation depend upon the procedural changes proposed by diplomates. If the target metric requires follow-up data to determine which mammograms result in a tissue diagnosis of cancer, then the plan must include one month to collect these data after each of the baseline and assessment data collection periods.

The improvement plan must be implemented within two months of the start of the assessment period. If that is not possible, then the assessment period will start in the January or July which follows the plan implementation. For example, if the baseline period is January-December of Year 1, and the assessment period is January-December of Year 2, then the improvement plan must be implemented by the end of February of Year 2. If it is not possible to implement the improvement plan until March of Year 2, then the assessment period will start in July of Year 2 and end in June of Year 3.

Diplomates continue data collection for the twelve-month assessment period and, if applicable, a follow-up data collection period. Diplomates then assess the impact of the PQI plan.



Timeline for PQI Plan Requiring Follow-up Data (Measures 1, 2 and 3)



Timeline for PQI Plan without Follow-up Data (Measure 4)

3.4 Assessment

3.4.1 Collection of a second dataset

Procedures for this cycle are identical to those for collecting baseline data. This effort includes all examinations performed between January 1 and December 31, or between July 1 and June 30, of a specific year, so that all assessment observations are included in one reporting cycle.

At the conclusion of the 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 providing data for the NMD, 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. The ABR will not track the project.

The project cannot be repeated for additional ABR PQI credit using the same performance measure. It can, however, be repeated using a different performance measure.

APPENDIX A PERFORMANCE MEASURES

Outcome Measures

1. Diagnostic Mammography Positive Predictive Value 2 (PPV2 - Biopsy Recommended) – proportion of patients recommended for biopsy who are subsequently diagnosed with breast cancer. *Please note: this option is not yet available in NMD.*

2. Screening Mammography Positive Predictive Value 2 (PPV2 – Biopsy Recommended) – proportion of patients recommended for biopsy who are subsequently diagnosed with breast cancer.

3. Cancer Detection Rate (CDR) – cancers detected per 1,000 patients screened.

4. Abnormal Interpretation Rate (Recall Rate) – proportion of screening mammogram interpretations that lead to additional imaging or biopsy.

Outcome Measure 1: Diagnostic Mammography Positive Predictive Value 2

Please note: this option is not yet available in NMD.

Data Elements	Clinical Performance Measure
Date of examination Indication for examination Assessment category Final assessment, if recorded assessment is 0 Biopsy date Classification of lesion	**Numerator**: Number of diagnostic exams that result in a tissue diagnosis of cancer within 12 months. **Denominator**: Number of diagnostic exams with a BI-RADS® assessment category of 4 or 5 **Numerator / Denominator Exclusion:** None **Measure Description:** The percentage of diagnostic mammograms recommended for biopsy or surgical consult (BI-RADS® Category 4 or 5) that result in a tissue diagnosis of cancer within 12 months.

Outcome Measure 2: Screening Mammography Positive Predictive Value 2

Data Elements	Clinical Performance Measure
Indication for examination Assessment category Final assessment, if recorded assessment is 0 Biopsy date Classification of lesion	**Numerator**: Number of screening exams that result in a tissue diagnosis of cancer within 12 months. **Denominator**: Number of screening mammograms with either a BI-RADS assessment category of 4 or 5, or a BI-RADS assessment category of 0 associated with category 4 or 5 on a diagnostic mammogram. **Numerator / Denominator Exclusion:** None **Measure Description:** The percentage of screening mammograms with abnormal interpretation (BI-RADS 0, 4 or 5) that result in a tissue diagnosis of cancer within 12 months.

Outcome Measure 3: Cancer Detection Rate

Data Elements	Clinical Performance Measure
Indication for examination Assessment category Final assessment, if recorded assessment is 0 Biopsy date Classification of lesion	**Numerator**: Number of screening mammograms with a BI-RADS assessment category of 0, 4 or 5 that had a tissue diagnosis of cancer within 12 months. **Denominator**: Number of screening exams **Numerator / Denominator Exclusion:** None **Measure Description:** The percentage of screening mammograms that were interpreted as positive (BI-RADS Category 0, 4 or 5) and result in a tissue diagnosis of cancer within 12 months.

Outcome Measure 4: Abnormal interpretation rate of screening exams

Data Elements	Clinical Performance Measure
Indication for examination Assessment category	**Numerator**: Number of screening exams with a BI-RADS assessment category of 0, 4 or 5. **Denominator**: Number of screening exams **Numerator / Denominator Exclusion:** None **Measure Description:** The percentage of screening mammograms interpreted as positive (BI-RADS Category 0, 4, or 5).

APPENDIX B GLOSSARY

ABR – American Board of Radiology

ACR – American College of Radiology

BI-RADS® – ACR Breast Imaging Reporting and Data System, a standardized method for breast imaging reporting. (American College of Radiology (ACR). ACR BI-RADS® - Mammography. 4th Edition. In: *ACR Breast Imaging Reporting and Data System, Breast Imaging Atlas*. Reston, VA. American College of Radiology; 2003.)

NMD – National Mammography Database

NPI – National Provider Identifier

NRDR – National Radiology Data Registry

PQI – Practice Quality Improvement