

# Developing Quality Measures for Diagnostic Radiologists: Part 2

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## Abstract

The ACR convened a cross-specialty, multidisciplinary technical expert panel to identify and define new measures for quality improvement. These measures can be included in the ACR's National Radiology Data Registry and potentially used in the CMS quality reporting programs. The technical expert panel was tasked with developing measures that reflect the most rigorous clinical evidence and address areas most in need of performance improvement. The measures described in these articles represent a new phase in the ACR's efforts to develop meaningful measures for radiologists that promote population health through diagnostic accuracy, clinical effectiveness, and care coordination.

**Key Words:** Quality, reimbursement, MIPS, NRDR

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## INTRODUCTION

The ACR convened a cross-specialty, multidisciplinary technical expert panel (TEP) to identify and define new measures for quality improvement. These measures can be included in the ACR's National Radiology Data Registry and potentially used in the CMS quality reporting programs. The TEP was tasked with developing measures that reflect the most rigorous clinical evidence and address areas most in need of performance improvement. The TEP also evaluated existing ACR measures to identify measurement gaps, in terms of both type of measure and domain of care, and ensure that proposed measure concepts address identified gap areas. The TEP considered opportunities for outcome

and process measures with a focus on diagnostic accuracy, appropriate use of imaging studies, and care coordination. Future phases of the work will seek to include additional measures that further these goals. In this article (part 2), we review the rationale and evidence supporting 11 quality measures developed by the TEP.

## MEASURE 1: RECOMMENDED FOLLOW-UP FOR IMAGING FINDINGS (TABLE 1)

### Background

Referring physicians depend on both radiologists' interpretations of studies and any recommendations for

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follow-up imaging in order to provide quality patient care. A recent analysis found that the majority of referring physicians (84%-90%) rely on radiologists' interpretations all or most of the time, and half of referring physicians look for radiologists to include recommendations on next steps in management [1]. The written radiology report is critical for the timely and accurate communication not only of imaging results but also of any follow-up recommendations [2]. However, communication breakdowns occur and are often reported as significant problems in both the outpatient and inpatient settings, resulting in medical errors such as missed and delayed diagnosis [3]. Malpractice claims research has found that the second most common cause of litigation is failure to communicate results of radiologic examinations [4]. This quality measure was developed to improve communication of follow-up imaging recommendations and enhance optimal patient care.

### Gap Analysis

The rate of follow-up imaging recommendations in radiology reports, frequently based on established guidelines, ranges from 9% to 31% [5-9]. Two recent studies found that up to one-third of recommendations for follow-up imaging are not executed. Although the reasons for this are multiple, increased precision within the radiology report directing the timing of follow-up studies may increase compliance [7,10]. This measure aims to encourage greater precision for follow-up imaging recommendations in radiology reports to improve guidance given to referring physicians. Increased adherence to this measure should help promote optimal patient care. The guidelines that serve as the foundation for this measure are based on expert consensus opinion.

## MEASURE 2: FOLLOW-UP CT IMAGING FOR INCIDENTALLY DETECTED PULMONARY NODULES ACCORDING TO RECOMMENDED GUIDELINES (TABLE 2)

### Background

It has been estimated that more than 1 million adults in the United States will have incidental pulmonary nodules detected each year during chest CT imaging, and the number of incidentally detected pulmonary nodules will continue to increase with the US Preventive Services Task Force recommendation for annual chest CT screening in patients at increased risk for lung cancer [11,12]. Although most pulmonary nodules are benign, some represent a potentially curable form of cancer [11]. To exclude malignancy, evaluation can include radiographic

surveillance and invasive procedures such as biopsy and surgical excision, which can elicit patient anxiety, expose patients to radiation, and result in complications that negatively affect morbidity and mortality [13]. The evaluation of incidental pulmonary nodules has potential to create a tremendous burden on individual patients, their families, and health care systems [14]. The evidence-based recommendations cited in this quality measure were developed to reduce the burden of evaluation by recommending fewer tests in patients at lower risk for cancer, including nonsmokers and those with smaller nodules with an estimated cancer risk of less than 1% [15].

### Gap Analysis

Despite evidence-based recommendations for follow-up of incidentally detected pulmonary nodules, several studies have documented low rates of adherence [14,16-18]. For example, one recent study found that 45% of patients received care inconsistent with the Fleischner Society guidelines, with 18% of patients undergoing unnecessary evaluation including prolonged surveillance and unneeded procedures that can cause harm [14]. The aim of this measure is to encourage the use of an evidence-based approach in recommending follow-up imaging for incidental pulmonary nodules that reduces unnecessary chest CT examinations in patients who are at low risk for lung cancer and at least 35 years of age. Improving adherence to these evidence-based recommendations should reduce patient anxiety, minimize unnecessary chest CT examinations and radiation exposure, and decrease associated costs. The guidelines that serve as the foundation for this measure are informed by data from multiple large prospective lung cancer screening trials [19-21].

## MEASURE 3: FOLLOW-UP FOR BENIGN ADRENAL MASSES (TABLE 3)

### Background

Incidentally detected adrenal masses are extremely common, with incidence rates ranging from approximately 4% in radiologic series to 8% in autopsy series [22]. Most adrenal lesions incidentally detected in patients without cancer are benign, the most common lesion being a benign nonfunctioning adenoma [23]. There are reliable imaging features to determine the benign origin of adrenal lesions. Despite these known features of benign lesions, historically there has been wide variation in recommendations regarding follow-up in radiology reports [24]. There are also variable recommendations

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