

## **ACO #44—Use of Imaging Studies for Low Back Pain**

Measure Information Form (MIF)

### **DATA SOURCE**

- Medicare Claims
- Medicare beneficiary enrollment data

### **MEASURE SET ID**

ACO #44

### **VERSION NUMBER AND EFFECTIVE DATE**

Version 1, effective 01/01/18

### **CMS APPROVAL DATE**

4/19/2018

### **NQF ID**

N/A

### **DATE ENDORSED**

N/A

### **CARE SETTING**

Ambulatory Care

### **UNIT OF MEASUREMENT**

Accountable Care Organization (ACO)

### **MEASUREMENT DURATION**

Calendar Year

### **MEASUREMENT PERIOD**

Calendar Year

## **MEASURE TYPE**

Process

## **MEASURE SCORING**

Proportion

## **PAYER SOURCE**

Medicare Fee-for-Service

## **IMPROVEMENT NOTATION**

Higher proportions are better

## **MEASURE STEWARD**

National Committee for Quality Assurance

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## **MEASURE DESCRIPTION**

The percentage of ACO assigned beneficiaries with a primary diagnosis of low back pain who did not have an imaging study (plain X-ray, MRI, or CT scan) within 28 days of diagnosis.

## **RATIONALE**

This measure assesses the overuse of imaging studies (plain x-ray, MRI, and CT scans) in beneficiaries with acute, uncomplicated low back pain. The improvement in quality envisioned by the use of this measure is less frequent inappropriate imaging in adults 18-50 years of age. Evidence shows that there is excessive imaging and surgery for low back pain in the United States and many experts believe the problem has been over medicalized. In 80% of this population, the pain goes away with or without treatment and the majority of acute low back pain sufferers improve within the first two weeks from onset (ICSI, 2011).

## **CLINICAL RECOMMENDATION STATEMENT**

Low back pain is a pervasive problem that affects three-quarters of adults at some time in their lives (Chou, 2012). Each year in the United States low back pain is experienced by 25 to 50 percent of adults, making it one of the most common reasons for seeking health care services

(Haldeman, 2008). According to the U.S. Preventive Services Task Force, it is second only to upper respiratory problems as a symptom-related reason for visits to a physician (USPSTF, 2004), and accounts for over 4.7 million missed work days per year (Dagenais, 2008).

Low back pain also results in high indirect costs from disability, lost time from work, and decreased productivity while at work, and is the number one cause for activity limitations in younger adults (Chou, 2012). Given the high prevalence of back pain, it is not surprising that its economic consequences are severe. The costs associated with health care services for spine pain (primarily low back pain) in the U.S. increased from \$45.9 billion in 1997 to \$102.6 billion in 2004 (Martin, 2008).

Research suggests that the reasons for the increase in cost and use of diagnostic imaging can be attributed to multiple factors including changing demographics, increased care seeking and patient expectations about low back pain, increased physician ownership of imaging facilities, and fee-for-service payment models (Pham, 2009). The supply of imaging equipment may also play a role, as the number of MRI scanners in the U.S. increased from 7.6 per 1 million people to 26.6 per 1 million people between 2000 and 2005 (Baras, 2009).

The three imaging modalities included in this measure are: x-ray, CT scan, and MRI, all of which have varying individual costs. Generally, the reimbursement rates and charges for lumbar spine CT run 5 to 10 times higher and MRI 10 to 15 times higher than low back radiography. Although radiography is relatively lower in cost, it represents a financial burden as it is much more frequently used than the two other imaging mechanisms. In 2004, an estimated 66 million lumbar radiographs were performed in the United States (Chou, 2012). These imaging practices directly affect the patient, and also result in downstream costs associated with invasive and expensive operations and procedures.

## **TECHNICAL SPECIFICATIONS**

### **TARGET POPULATION**

ACO assigned or aligned Medicare beneficiaries

### **DENOMINATOR**

#### **DENOMINATOR STATEMENT**

All assigned or aligned ACO beneficiaries 18 years as of January 1 of the measurement year to 50 years as of December 31 of the measurement year with a claim/encounter for an outpatient or emergency department visit code with a principal diagnosis of low back pain during the Intake Period (January 1–December 3 of the measurement year). The date of this claim/encounter will be referred to as the Episode Date.

#### **DENOMINATOR DETAILS**

All assigned or aligned ACO beneficiaries 18 years as of January 1 of the measurement year to 50 years as of December 31 of the measurement year with a claim/encounter for an outpatient or emergency department visit code (see Outpatient Value Set, Observation Value Set, ED Value Set, Osteopathic and Chiropractic Manipulative Treatment Value Set, Physical Therapy

Value Set, Telephone Visits Value Set, and Online Assessment Value Set) with a principal diagnosis of uncomplicated low back pain (see Uncomplicated Low Back Pain Value Set) during the Intake Period (January 1– December 3 of the measurement year). To be included in the cohort, patients must be enrolled full-time in both Part A and B during the year prior to the measurement period and must maintain eligibility for at least one month following the eligibility period.

## DENOMINATOR EXCLUSIONS

Exclude any observation visit or ED visit that results in an inpatient admission (see Inpatient Stay Value Set). When an observation visit or ED visit and an inpatient stay are billed on separate claims, the visit results in an inpatient stay when the admission date for the inpatient stay occurs on the ED/observation date of service or one calendar day after. An ED or observation visit billed on the same claim as an inpatient stay is considered a visit that resulted in an inpatient stay.

Exclude beneficiaries who:

1. Have a diagnosis of uncomplicated low back pain (see Uncomplicated Low Back Pain Value Set) during the 180 days (6 months) prior to the Episode Date.
2. Have history for any of the following:
  - Cancer (see Malignant Neoplasms Value Set, Other Neoplasms Value Set, and History of Malignant Neoplasm Value Set) at any time during the beneficiary's history through 28 days after the Episode Date.
  - Recent Trauma (see Trauma Value Set) any time during the 3 months (90 days) prior to the Episode Date through 28 days after the Episode Date.
  - Intravenous drug abuse (see IV Drug Abuse Value Set) any time during the 12 months (1 year) prior to the Episode Date through 28 days after the Episode Date.
  - Neurologic impairment (see Neurologic Impairment Value Set) any time during the 12 months (1 year) prior to the Episode Date through 28 days after the Episode Date.
  - HIV (see HIV Value Set) any time in the beneficiary's history through 28 days after the Episode Date.
  - Spinal Infection (see Spinal Infection Value Set) any time during the 12 months (1 year) prior to the Episode Date through 28 days after the Episode Date.
  - Major organ transplant (see Organ Transplant Other Than Kidney Value Set, Kidney Transplant Value Set) any time in the beneficiary's history through 28 days after the Episode Date.
  - Prolonged use of corticosteroids (see Corticosteroids Value Set) any time during the 12 months (1 year) prior to and including the Episode Date.

## NUMERATOR

### NUMERATOR STATEMENT

ACO assigned beneficiaries who received an imaging study (plain x-ray, MRI, CT scan) with a diagnosis of uncomplicated low back pain on the Episode Date or in the 28 days following the Episode Date.

### NUMERATOR DETAILS

ACO assigned beneficiaries who received an imaging study (see Imaging Study Value Set) with a diagnosis of uncomplicated low back pain (see Uncomplicated Low Back Pain Value Set) on the Episode Date or in the 28 days following the Episode Date. Do not include denied claims.

## STRATIFICATION OR RISK ADJUSTMENT

N/A

## SAMPLING

N/A

## CALCULATION ALGORITHM

*Step one:* Identify all ACO assigned beneficiaries 18 years as of January 1 of the measurement year to 50 years as of December 31 of the measurement year who had any of the following visits during the Intake Period (i.e., January 1 – December 3) with a principal diagnosis of uncomplicated low back pain (Uncomplicated Low Back Pain Value Set):

- Outpatient visit (Outpatient Value Set) with or without a telehealth modifier (Telehealth Modifier Value Set).
- Observation visit (Observation Value Set) or an Emergency department visit (ED Value Set).
  - Do not include observation visits or ED visits that result in an inpatient stay (Inpatient Stay Value Set). When an observation visit or ED visit and an inpatient stay are billed on separate claims, the visit results in an inpatient stay when the admission date for the inpatient stay occurs on the ED/observation date of service or one calendar day after. An ED or observation visit billed on the same claim as an inpatient stay is considered a visit that resulted in an inpatient stay.
- Osteopathic or chiropractic manipulative treatment (Osteopathic and Chiropractic Manipulative Treatment Value Set).
- Physical Therapy visit (Physical Therapy Value Set).

- Telephone visit (Telephone Visits Value Set).
- Online assessment (Online Assessments Value Sets).

*Step two:* Determine the Episode Date. For each beneficiary identified in Step 1, determine the earliest encounter for low back pain. If the beneficiary had more than one encounter, include only the first encounter.

*Step three:* Test for Negative Diagnosis History. Exclude beneficiaries with a diagnosis of low back pain (Low Back Pain Value Set) during the 180 days (6 months) prior to the Episode Date.

*Step four:* Exclude any beneficiary who had a diagnosis for which imaging is clinically appropriate:

- Cancer (Malignant Neoplasms Value Set, Other Neoplasms Value Set, or History of Malignant Neoplasm Value Set) any time during the beneficiary's history through 28 days after the Episode Date.
- Recent Trauma (Trauma Value Set) any time during the 3 months (90 days) prior to the Episode Date through 28 days after the Episode Date.
- Intravenous drug abuse (IV Drug Abuse Value Set) any time during the 12 months (1 year) prior to the Episode Date through 28 days after the Episode Date.
- Neurologic impairment (Neurologic Impairment Value Set) any time during the 12 months (1 year) prior to the Episode Date through 28 days after the Episode Date.
- HIV (see HIV Value Set) any time in the beneficiary's history through 28 days after the Episode Date.
- Spinal Infection (see Spinal Infection Value Set) any time during the 12 months (1 year) prior to the Episode Date through 28 days after the Episode Date.
- Major organ transplant (see Organ Transplant Other Than Kidney Value Set, Kidney Transplant Value Set) any time in the beneficiary's history through 28 days after the Episode Date.
- Prolonged use of corticosteroids (see Corticosteroids Value Set) any time during the 12 months (1 year) prior to and including the Episode Date.

*Step five:* Calculate a rate (number of beneficiaries receiving an imaging study (i.e. plain x-ray, MRI, CT scan).

*Step six:* Subtract the rate calculated in Step 5 from one to invert the measure result to represent appropriate treatment of low back pain (i.e., the proportion for whom imaging studies did not occur). The measure is reported as an inverted rate (i.e.

1-numerator/denominator) to reflect the number of people who did not receive an imaging study.

## REFERENCES

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