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 01/01/17

CMS Approval Date

- 12/01/2016

NQF ID

- #0052

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 (Dagenis, 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.

References

#0052 Use of Imaging Studies for Low Back Pain, National Quality Forum Measure Information. Last Updated: Dec 18, 2014.

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Martin BI, Deyo RA, Mirza SK, et al. Expenditures and health status among adults with back and neck problems. JAMA. 2008;299:656–664.

Pham HH, Landon BE, Reschovsky JD, et al. Rapidity and modality of imaging for acute low back pain in elderly patients. Arch Intern Med. 2009;169:972-981.

U.S. Preventive Services Task Force (USPSTF). Primary care interventions to prevent low back pain in adults: recommendation statement. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2004 Feb. 4

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 Manipulative Treatment Value Set) with a principal diagnosis of low back pain (see 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 Exceptions and Exclusions Details

- Exclude any ED visit that results in an inpatient admission.
- Exclude beneficiaries who:
  1. have a diagnosis of low back pain during the 180 days prior to the Episode Date, and/or
  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 12 months (1 year) 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.

Numerator

- Numerator Statement

  ACO assigned beneficiaries who received an imaging study (plain x-ray, MRI, CT scan) 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 low back pain (see Low Back Pain Value Set) on the Episode Date or in the 28 days following the Episode Date.

Stratification or Risk Adjustment

- N/A

Sampling

- N/A

Calculation Algorithm

Step 1: 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 low back pain (Low Back Pain Value Set): outpatient visit (Outpatient Value Set), observation visit (Observation Value Set), emergency department visit (ED Value Set), or osteopathic manipulative treatment (Osteopathic Manipulative Treatment Value Set). Do not include emergency department visits that result in an inpatient admission.

Step 2: 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 3: 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 4: 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 12 months (1 year) 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.

Step 5: Calculate a rate (number of beneficiaries receiving an imaging study (i.e. plain x-ray, MRI, CT scan).

Step 6: 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.