



MN Community Measurement

Low Back Pain Measure

Impact and Recommendation Document

June 2010

Degree of Impact
Relevance to Consumers, Employers and Payers

Mechanical low back pain (LBP) remains the second most common symptom-related reason for seeing a physician in the United States. Of the US population, 85% will experience an episode of mechanical LBP at some point in their lifetime. For individuals younger than 45 years, LBP represents the most common cause of disability and is generally associated with a work-related injury. It is the third most common reason for disability for individuals older than 45 years. The prevalence of serious mechanical LBP (persisting > 2 wk) is 14%, while the prevalence of true sciatica is approximately 2%. Of all cases of mechanical LBP, 70% are due to lumbar strain or sprain, 10% are due to age-related degenerative changes, 4% are due to herniated disks, 4% are due to osteoporotic compression fractures and 3% are due to spinal stenosis.¹ According to the National Ambulatory Medical Care Survey in 2002, visits to a physician in the last past three months for low back pain were reported by 26.4% of the respondents.²

In 2005, Americans spent an estimated \$85.9 billion for back and neck pain related treatment (medications, office visits, physical therapy and surgery). Age, sex and inflation adjusted health care expenditures increased 65% between 1997 and 2005 without evidence of improvement in health status.^{3,4}

Degree of Improvability

Acute low back pain with or without sciatica usually is self-limited and has no serious underlying pathology. For most patients, reassurance, pain medications, and advice to stay active are sufficient. A more thorough evaluation is required in selected patients with “red flag” findings associated with an increased risk of cauda equina syndrome, cancer, infection, or fracture.^{5,6} It is estimated that 30 to 60% of patients recover in one week, 60 to 90% recover in six weeks and 95% recover in 12 weeks.⁷

Lumbar imaging for low-back pain without indications of serious underlying conditions does not improve clinical outcomes. Therefore, clinicians should refrain from routine, immediate lumbar imaging in patients with acute or subacute low-back pain and without features suggesting a serious underlying condition.⁸ Low back pain was ranked as one of the top six clinical conditions with potential performance variation selected by clinicians in the technical advisory group for high tech diagnostic imaging.

Minnesota ranks very favorably (Grade A; Tier 1) by the in terms of a composite measure for incidence rates, cases missing work, median disability duration and delayed recovery rate.⁹

Degree of Inclusiveness

Low back pain is a leading cause of disability. It occurs in similar proportions in all cultures, interferes with quality of life and work performance, and is the most common reason for medical consultations. Few cases of back pain are due to specific causes; most cases are non-specific. Acute back pain is the most common presentation and is usually self-limiting, lasting less than three months regardless of treatment. Chronic back pain is a more difficult problem, which often has strong psychological overlay: work dissatisfaction, boredom, and a generous compensation system contribute to it.¹⁰

Low back pain is often triggered by some combination of overuse, muscle strain, or injury to the muscles and ligaments that support the spine. Less commonly, low back pain is caused by illness or spinal deformity. Risk factors include: middle age (risk decreases after age 65), male, family history of back pain, previous back injury or surgery, lack of regular exercise, job related activities that include long periods of sitting, lifting heavy objects, tobacco users, being overweight, having poor posture, stress, depression and long-term use of corticosteroids.¹¹

The proportion of physician visits attributed to LBP has changed very little in the past decade and

accounts for approximately 2% of all office visits.^{12, 3}

**Fit with
National,
Regional, and
Local Priorities**

In 2009, the Centers for Medicare & Medicaid Services adopted four imaging measures for its Hospital Outpatient Quality Data Reporting Program (HOP QDRP), one of which is the use of MRI of the lumbar spine. This is a claim based measure that is calculating a rate for the number of patients who had an MRI of the lumbar spine without claim based evidence of antecedent conservative therapy.

The National Priorities Partnership selected nine areas of overuse and misuse, one of which is unwarranted diagnostic procedures, specifically targeting lumbar spine MRI prior to conservative therapy without red flags.¹³ Imaging of the back and the use of back surgery was also identified as early targets for waste reduction by New England Healthcare Institute.

Several sets of clinical guidelines are available for this population (ICSI, Joint American College of Physicians & American Pain Society, American College of Radiology, American College of Occupational and Environmental Medicine (ACOEM) and the Work Loss Data Institute). Guidelines have common themes for management of acute low back pain that include no imaging procedures in the absence of red flags, conservative approach of ice/heat and anti-inflammatory medications, keeping active and returning to normal activities.

Low Back Pain was selected by the Minnesota Department of Health (MDH) as one of the eight conditions for development of Baskets of Care, and was additionally selected as one of the top six clinical conditions for focus for the HTDI workgroup in terms of having potential variation for public reporting.

**Performance
Variation:**

Factors that contribute to the exponential growth of lumbar spine imaging (307% for the Medicare population over the last 12 years) include patient demand, the compelling nature of visual evidence, fear of lawsuits and financial incentives. Spine imaging varies dramatically across geographic regions and surgery rates are highest where imaging rates are highest. When judged against guidelines, one-third to two-thirds of spinal CT and MRI imaging may be inappropriate.^{14,15}

Results from HealthPartners Optimal Care for Acute Low Back Pain- Composite Measure¹⁶:

Optimal Care – 62.3% (6,829/10,953) → range 44% to 80% and almost all clinics between 60 and 70% (not much variation)

- 87.9% No imaging in the first six weeks
- 95.3% No injections in the first six weeks
- 72.5% No narcotic prescriptions in the first six weeks
- 97.2% No surgical consultation in the first six weeks

**Existing
Measures at a
National and
Local Level**

Many of the existing measures are related to providing a process of care, there are very few existing outcome measures and they are listed first:

Outcome Measures:

NQF

NQF # 0311LBP: Post-surgical Outcomes:

Percentage of post-surgical outcomes examined by a physician's system that includes the following. Tracking specific complications of back surgery; Periodic analysis of surgical complications data and a plan for improving outcomes. Note: This standard is assessed as a process that applies to all patients. Evaluation is not based on documentation in individual medical records. This standard is applicable only for physicians who perform surgery. (NCQA)

Blue Cross

Spinal surgery patients with **adverse outcomes** (neuro deficit, dural tears, visceral or vascular injuries, wound infection or return to surgery)

ICSI Basket of Care

Functional Status: Percent of patients with a previous visual analog scale (VAS) pain scale rating of 4 or higher and an Oswestry score of 20 or higher that had a reduction of the Oswestry score by at least 30 percent at six weeks. This measure should be calculated as initial Oswestry Score x 70% = expected score (e.g., a patient whose initial score is 49 and 6-week score is 30; exceeds 30 percent reduction)

Process Measures:

PQRI Measures

#148- Comprehensive Initial Assessment (includes pain assessment, functional status, patient history, assessment of prior treatment and response, and employment status)

#149- Physical Exam

#150- Advice for Normal Activities

#151- Advice Against Bed Rest

HOP QDRP

MRI of the lumbar spine without claim based evidence of antecedent conservative therapy.

NQF

0313 LBP: **Advice Against Bedrest:**

Percentage of patients with medical record documentation that a physician advised them against bed rest lasting four days or longer. (NCQA)

0314 LBP: **Advice for Normal Activities:**

Percentage of patients with medical record documentation that a physician advised them to maintain or resume normal activities. (NCQA)

NQF # 0315 LBP: **Appropriate Imaging for Acute Back Pain:**

Percentage of patients with a diagnosis of back pain for whom the physician ordered imaging studies during the six weeks after pain onset, in the absence of "red flags" (overuse measure, lower performance is better). (NCQA)

NQF # 0309 LBP: **Appropriate Use of Epidural Steroid Injections:**

Percentage of patients with back pain who have received an epidural steroid injection in the absence of radicular pain AND those patients with radicular pain who received an epidural steroid injection without image guidance (overuse measure, lower performance is better). (NCQA)

NQF # 0308 LBP: **Evaluation of Patient Experience** (NCQA)

NQF # 0322 LBP: **Initial Assessment:**

Percentage of patients with a diagnosis of back pain who have medical record documentation of all of the following on the date of the initial visit to the physician: 1.Pain assessment 2. Functional status 3. Patient history, including notation of presence or absence of "red flags" 4.Assessment of prior treatment and response, and 5.Employment status (NCQA)

NQF # 0316LBP: **Mental Health Assessment:**

Percentage of patients with a diagnosis of back pain for whom documentation of a mental health assessment is present in the medical record prior to intervention or when pain lasts more than six weeks. (NCQA)

NQF # 0307LBP: **Patient Education:**

Percentage of patients provided with educational materials that review the natural history of the disease and treatment options, including alternatives to surgery, the risks and benefits and the evidence. Note: This standard is assessed as a process that applies to all patients. Evaluation is not based on documentation in individual medical records. (NCQA)

NQF # 0306LBP: **Patient Reassessment:**

Percentage of patients with documentation that the physician conducted reassessment of both of the following. Pain and Functional status (NCQA)

NQF # 0319LBP: **Physical Exam:**

Percentage of patients with documentation of a physical examination on the date of the initial visit with the physician. (NCQA)

NQF # 0317 LBP: Recommendations for Exercise:

Percentage of patients with back pain lasting more than 12 weeks, with documentation of physician advice for supervised exercise (NCQA)

NQF # 0312 LBP: Repeat Imaging Studies:

Percentage of patients who received inappropriate repeat imaging studies in the absence of red flags or progressive symptoms (overuse measure, lower performance is better). (NCQA)

NQF # 0310 LBP: Shared Decision Making:

Percentage of patients with whom a physician or other clinician reviewed the range of treatment options, including alternatives to surgery prior to surgery. To demonstrate shared decision making, there must be documentation in the patient record of a discussion between the physician and the patient that includes all of the following. •Treatment choices, including alternatives to surgery; •Risks and benefits; •Evidence of effectiveness. Note: This measure is applicable only for physicians who perform surgery. (NCQA)

NQF # 0305LBP: Surgical Timing:

Percentage of patients without documentation of red flags who had surgery within the first six weeks of back pain onset (overuse measure, lower performance is better). Note: This measure is applicable only for physicians who perform surgery. (NCQA)

Blue Cross

Spinal surgery patients with documented Oswestry pre surgery and post surgery within 6 months. (process measure, not measuring the score/ outcome)

HealthPartners

Optimal Care for Acute Low Back Pain- Composite Measure:

No imaging in the first six weeks

No injections in the first six weeks

No narcotic prescriptions in the first six weeks

No surgical consultation in the first six weeks

ICSI Basket of Care

Imaging: Percent of patients who had a cross sectional imaging study (i.e., MRI, CT scan) during the six weeks after pain onset. This is an overuse measure; lower performance is better.

Functional Status Tools

Enhance the patient/provider relationship

The Oswestry disability questionnaire, a modified Zung questionnaire, and a modified somatic perception questionnaire were considered appropriate measurements after 21 other commonly-used assessments were found to lack universality. Studies were carried out on all six continents to ascertain their applicability.¹⁷

Using a patient assessment tool, in this case for functional status pre and post intervention, can serve many purposes. Not only as an assessment of current status, a patient self administered tool can provide a point of reference for measurement of outcomes and engage the patient in their progress.

Considerations for Recommendations

Feasibility (resources, barriers, culture)

Primary Care/ Acute Low Back Pain:

Acute low back pain in terms of the first six weeks of treatment would be a measure that is focused almost solely on primary care physicians. Many of these measures are related to processes of care that are or are not delivered. Improvement in functional status could be an outcome measure that is added. Need to consider existing data burden and number of DDS measures currently for family practice and internal medicine specialties (diabetes, ischemic vascular, depression, asthma, colon cancer screening).

Difficult to differentiate via ICD-9 codes acute versus chronic. Acute Low Back Pain – defined as pain that occurs posteriorly between the lower rib margin and the proximal thighs and that is of less than 6 weeks duration. Chronic back pain is defined as pain that lasts for more than three months. It is often progressive and the cause can be difficult to determine.¹⁸ Current HealthPartners method for process composite is a claim based method with a defined “clean period” 180 prior to the index visit. Would not

be replicable in a DDS submission by medical groups.

Potential risk adjustment elements for acute low back pain (medical) could include Wadell Non-Organic Signs, functional impairment or psychiatric co-morbidities.¹⁹ These elements suggested by recent article about risk factors for developing persistent disabling low back pain. Traditional risk factors such as age, sex, education, weight and work dissatisfaction were not strong predictors. Strong predictors included maladaptive pain coping behaviors, non-organic signs, functional impairment, general health status and psychiatric comorbidities.

Specialty Care/ Spine Surgery:

Could consider focusing on patients who had spinal surgery and the focus would be on specialists (orthopedics, neurosurgery). Could include a measure of functional status (pre and six week post Oswestry). It is estimated that of all patients presenting with low back pain that only 1 -2% require spinal surgery; this would narrow the population of patients impacted.²⁰

Depending on the measures selected, new tools would need to be implemented by the medical groups to measure functional status or shared decision making. The use of these tools can enhance the patient/provider relationship by encouraging patient engagement. These measures would be amenable to collecting via a summary data submission process in addition to a direct data submission process.

Potential risk adjustment elements for the spinal surgery population include pre-operative functional status and pre-operative ASA risk score.

Imaging appropriateness will be available via electronic point of care decision support tool, and pending any major barriers to ICSI / Health Plan implementation, this information should not be duplicated in the DDS process.

¹ eMedicine Mechanical Low Back Pain Hills, Everett C. MD Penn State Hershey Rehabilitation Hospital Nov 2009
<http://emedicine.medscape.com/article/310353-overview>

² Back Pain Prevalence and visit rates: estimates from US national surveys, 2002 Deyo, RA Spine Nov 2006

³ Expenditures and Health Status Among Adults with Back and Neck Problems Brook, Martin et al JAMA Feb 2008

⁴ The Price of Pain Newsweek Feb 2008

⁵ Evaluation and Treatment of Acute Low Back Pain Kinkade, Scott American Family Physician April 2007 www.aafp.org

⁶ ICSI Adult Low Back Pain Guidelines 13th Revision www.icsi.org/guidelines_and_more/gl_os_prot/musculo-skeletal/low_back_pain/low_back_pain__adult_5.html

⁷ Low Back Pain Deyo, Richard NEJM Feb 2001

⁸ Imaging Strategies for Low Back Pain; Systematic Review and Meta-analysis Chou, Richard Lancet Feb 2009

⁹ Work Loss Data Institute 2009 State Report Card www.worklossdata.com/US%20Map%20by%20Grades.jpg

¹⁰ Low Back Pain Erlich, George Bulletin of the World Health Organization 2003

¹¹ Low Back Pain – What Increases Your Risk Web MD www.webmd.com/back-pain/tc/low-back-pain-what-increases-your-risk Feb2008

¹² Back Pain Prevalence and Visit Rates; from US National Surveys 2002 Deyo, RA Spine Nov 2006

¹³ National Priorities Partnership convened by NQF November 2008

¹⁴ Overtreating Chronic Back Pain: Time to Back Off? Deyo, Richard JABFM February 2009

¹⁵ Rates of Advanced Spinal Imaging and Spine Surgery Lurie, Jon SPINE 616-620 2003

¹⁶ HealthPartners 2009 Clinical Indicators Report (2008 dates of service)

¹⁷ World Health Organization Erlich 2003

¹⁸ National Institute Neurological Disorders and Stroke www.ninds.nih.gov/disorders/backpain/detail_backpain.htm March 2010

¹⁹ Will This Patient Develop Persistent Disabling Low Back Pain? Chou, R. JAMA May 2007

²⁰ Thomas Lowe, MD Spine Universe updated 2/1/2010