

Episode-of-Care for Acute/Sub-acute Lumbar Radiculopathy with or without Lower Back Pain

Measure Description

Resource use and costs associated with management of an episode-of-care for acute/sub-acute lumbar radiculopathy with or without lower back pain. The episode is triggered by an initial ambulatory care visit for radiculopathy and lasts for three month following the initial visit. All individuals with a radiculopathy diagnosis within six months prior to initial radiculopathy visit are excluded. Measure radiculopathy/LBP-related resource use and costs during the three month measurement period.

Required Data Elements

Administrative claims data

Calculation

For patients meeting inclusion criteria, determine radiculopathy-related resource use and costs during the episode. Prices from a standard price list will be applied to the LBP-related resource use to estimate the costs of the episode of care related to LBP. Hospitalizations will be included as radiculopathy-related if and only if the primary diagnosis code for the hospitalization is radiculopathy/LBP related. For inpatient facility costs, standard cost is based on a per diem cost for a DRG and will be multiplied by the length of stay for the event.

Episode Definition

Radiculopathy diagnosis during ambulatory care visit triggers episode. Episode costs determined by collecting LBP-related care over a three month period following episode. Also include non-E&M visit services/costs occurring up to 14 days prior to initial episode visit. Trigger episode includes cases with diagnoses anywhere on claim (not just primary diagnosis).

Rationale

The Institute of Medicine and AQA have identified low back pain (LBP) as one of 20 conditions that should be considered priority areas in need of quality improvement based on its relevance to a significant volume of patients, its impact on those patients, and the perception of opportunity to significantly improve the quality of related care. LBP had also been previously identified as a priority area in other national initiatives including the VA's Quality Enhancement Research Initiative.¹ In addition, LBP episodes are increasingly high-resource episodes in large part because of increasing utilization (and

¹ Priority Areas for National Action: Transforming Health Care Quality. Institute of Medicine. Karen Adams and Janet Corrigan Editors. March 10, 2003.

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over-utilization) of imaging services during the diagnostic process, as has been widely publicized in recent years. For example, a 2008 study of approximately 45,000 patients with back problems demonstrated that the average costs of their treatment increased 65 percent between 1997 and 2005, considerably faster than the costs of medical services in general. Most of this increase could be attributed to growth in imaging.² Furthermore, costs per LBP patient can vary dramatically from one provider to the next as well as across regions, largely because of variations in practice patterns.

LBP is a condition that, depending on the presence or absence of radiculopathy, can be treated in very different ways. As such, this measure is designed to observe variation in resource use for patients presenting with LBP with radiculopathy with a measurement period of 3 months (or 6 weeks) following the measure trigger, while resource use for patients experiencing LBP *without* radiculopathy will be measured separately.

This measure's inclusion criteria are designed to ensure the episode's triggering ambulatory care visit indicates a new-onset LBP episode. Non-E&M services with a diagnosis of unspecified LBP that are performed within two weeks prior to the trigger are included to capture all services physicians may order in advance of the triggering visit (so that they have the results beforehand). Because treatment of LBP often takes place within the context of a physician "team," this episode will be attributed to all physicians billing for LBP-related E&M care during the measurement period, up to 3 physicians. The model for attribution for episodes with 4 or more billing physicians during the measurement period will be defined later.

Measures

LBP-related resource use/costs

- Inpatient Facility
- Evaluation and Management and Chiropractic and PT Visits
- Procedures
- Imaging
- Tests
- DME
- Pharmacy
- OP Facility Costs
- Exceptions/Unclassified
- Other Services

Eligible Population

Age 18-64

² Martin, Brook, Deyo, Richard, Mirza, Sohail. Expenditures and Health Status Among Adults with Back and Neck Problems. JAMA 2008; 299(6): 656-664

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- Enrollment Criteria** Continuous medical and pharmacy benefit enrollment for two years, with no more than one gap in enrollment of more than 45 days in each year.
- Inclusion Criteria** Occurrence of one of the diagnostic codes in Table Rad-A for an ambulatory care E&M visit (including specified codes for chiropractic and physical therapy visits: see Table Rad-D) during the event measurement period.
- Exclusion** Patient excluded if:
- Has radiculopathy diagnosis within 6 months prior to episode trigger.
 - Has back surgery or fracture within 6 months prior to episode trigger.
 - Patient has coincident UTI or sacroiliitis diagnosis on trigger claim.
 - Persons with any of the following diagnoses in the measurement year or the year prior to measurement are excluded (see Table LBP-D for codes):
 - active cancer; end stage renal disease (ESRD); dialysis;
 - renal failure; organ transplant; HIV/AIDS; IV drug abuse;
 - neurological impairment.

Table Rad-A: Diagnostic Codes for Radiculopathy-Related Ambulatory Care to Identify Radiculopathy Patients

Description	ICD-9 Code
Lumbosacral spondylosis w/o myelopathy	721.3
Spondylosis of unspecified site	721.9
Lumbar disc displacement w/o myelopathy	722.1
Degeneration of thoracic or lumbar intervertebral disc	722.5
Sciatica	724.3
Back pain with radiation, unspecified	724.4

These ICD-9 codes, present in any diagnostic field, will be used to identify LBP patients during the identification period and during the measurement period, regardless of corresponding CPT and UB revenue codes.

Table Rad-B: Codes Used to Identify Services/Costs to be Included During Episode Period

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Description	ICD-9 Code
Lumbosacral spondylosis without myelopathy	721.xx
Spondylosis of unspecified site	722.xx
Lumbar disc displacement w/o myelopathy	724.xx
Somatic dysfunction, lumbar region	739.3
Somatic dysfunction, sacral region	739.4
Degeneration of thoracic or lumbar intervertebral disc	847.2

These ICD-9 codes, present in any diagnostic field, will be used to identify all LBP-related services during the measurement period, regardless of corresponding CPT and UB revenue codes.

Table Rad-C: Inpatient Facility Codes

Description	CPT	UB Revenue
Nonacute inpatient	99301-99313, 99315, 99316, 99318, 99321-99328, 99331-99337	0118, 0128, 0138, 0148, 0158, 019x, 0524, 0525, 055x, 066x
Acute inpatient	99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291	010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 072x, 080x, 0987

These codes will be used to help identify those LBP-related services that should be categorized as “Inpatient” during our analyses. They do not identify the only services that will be included.

Table Rad-D: Evaluation and Management Codes (Plus selected chiropractic and PT visit codes)

Description	CPT Codes
Chiropractic Codes	98940-98942
Physical Therapy Codes	97110, 97112, 97113, 97124, 97140
General physician office visits	99201-99205, 99211-99215
Preventive medicine/screening	99394-99397, 99401-99404, 99411, 99412, 99420, 99429, 99384-99387
Observation care	99217-99220
Emergency dept care	99281-99285
Home health	99341-99345, 99347-99350
Skilled nursing facility	99304-99310, 99315, 99316, 99318, 99324-99328, 99334-99337
Office consultation	99241-99245
Unlisted	99455, 99456

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These codes will be used to help identify those LBP-related services that should be categorized as “E&M” during our analyses. They do not identify the only services that will be included.

Table Rad-E: Medications for Acute Low Back Pain

Description	Prescription		
Analgesics	<ul style="list-style-type: none"> • APAP/caffeine/dihydrocodeine • acetaminophen-codeine • acetaminophen-hydrocodone • acetaminophen-oxycodone • acetaminophen-pentazocine • acetaminophen-propoxyphene • acetaminophen-tramadol • buprenorphine • butorphanol 	<ul style="list-style-type: none"> • fentanyl • hydrocodone-ibuprofen • hydromorphone • ibuprofen-oxycodone • levorphanol • meperidine • meperidine-promethazine • methadone • morphine 	<ul style="list-style-type: none"> • nalbuphine • naloxone-pentazocine • oxycodone • oxymorphone • pentazocine • propoxyphene • tramadol • ziconotide • <i>oxicotin</i>
Corticosteroids	<ul style="list-style-type: none"> • methylprednisolone 	<ul style="list-style-type: none"> • prednisolone 	<ul style="list-style-type: none"> • prednisone
Cox-2 inhibitors	<ul style="list-style-type: none"> • celecoxib 		
Muscle relaxants	<ul style="list-style-type: none"> • carisoprodol • chlorzoxazone • cyclobenzaprine 	<ul style="list-style-type: none"> • diazepam • metaxalone • methocarbamol 	<ul style="list-style-type: none"> • orphenadrine
NSAIDs	<ul style="list-style-type: none"> • diclofenac • etodolac • fenoprofen • flurbiprofen • ibuprofen • diclofenac (volatren and flector) 	<ul style="list-style-type: none"> • ketoprofen • ketorolac • meclofenamate • mefenamic acid • meloxicam 	<ul style="list-style-type: none"> • nabumetone • naproxen • oxaprozin • sulindac • tolmetin
Other	<ul style="list-style-type: none"> • lyoderm • duloxetine (cymbalta) 	<ul style="list-style-type: none"> • gabapentin (neurontin) • 	<ul style="list-style-type: none"> • Pregabalin (lyrica) •

Table Rad-F: Additional J-Codes to Identify Injections

J0592	Injection, buprenorphine hydrochloride, 0.1 mg
J0595	Injection, butorphanol tartrate, 1 mg
J1020	Injection, methylprednisolone acetate, 20 mg
J1030	Injection, methylprednisolone acetate, 40 mg
J1040	Injection, methylprednisolone acetate, 80 mg
J1094	Injection, dexamethasone acetate, 1 mg
J1100	Injection, dexamethasone sodium phosphate, 1mg
J1170	Injection, hydromorphone, up to 4 mg
J1885	Injection, ketorolac tromethamine, per 15 mg
J2175	Injection, meperidine hydrochloride, per 100 mg
J2180	Injection, meperidine and promethazine hcl, up to 50 mg
J2270	Injection, morphine sulfate, up to 10 mg
J2271	Injection, morphine sulfate, 100mg

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J2275	Injection, morphine sulfate (preservative-free sterile solution), per 10mg
J2300	Injection, nalbuphine hydrochloride, per 10 mg
J2310	Injection, naloxone hydrochloride, per 1 mg
J2410	Injection, oxymorphone hcl, up to 1 mg
J2650	Injection, prednisolone acetate, up to 1 ml
J2920	Injection, methylprednisolone sodium succinate, up to 40 mg
J2930	Injection, methylprednisolone sodium succinate, up to 125 mg
J0670	Injection, mepivacaine hydrochloride, per 10 ml

Table Rad-G: Codes to Identify Exclusions if Occur During the 6-month period prior to episode trigger visit

Fusion Surgery: 22840,22851,22630,22612,22614
Other Back Surgery: 63001 thru 63051 inclusive
Fracture (recent trauma codes): 800, 805, 806, 839, 850-854, 860-869, 905-909, 926.11, 926.12, 929, 952, 958-959

Table Rad-H: Exclusion Codes: Exclude if occur during measurement or prior period.

Table Rad-H1: Other Diagnostic Codes Identified as Exclusion Criteria

Neurological impairment: 344.60, 729.2
Intraspinal abscess: 324.1 324.9
Thoracic or Lumbar Spondylosis with Myelopathy (progressive symptoms): 721.4
Intervertebral Disk Disorder with Myelopathy (progressive symptoms): 722.7
IV Drug Abuse (304.0,304.1x,304.2x,304.4x,305.4x,305.5x,305.6x,305.7x)

Table Rad-H2: Diagnostic Codes Concomitant with LBP Trigger Codes (on trigger claims- see codes Rad-A)

Description	ICD-9-CM Diagnosis
UTI	599.0
Sacroiliitis	720.7

A claim with these diagnostic codes cannot be a trigger claim.

Table Rad-H3: Diagnostic Codes to Identify Active Cancer Treatment

Description	ICD-9-CM Diagnosis
Cancer	140-208, 230-239

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Description	CPT	ICD-9-CM Procedure	UB Revenue
Treatment	38230, 38240-38242, 77261-77799, 79000-79999, 96400-96549	41.0, 41.91, 92.2	028x, 033x, 0342, 0344, 0973

Table Rad-H4: Codes to Identify ESRD

Description	CPT	HCPCS	ICD-9-CM Diagnosis	ICD-9-CM Procedure	UB Revenue	UB Type of Bill	POS
ESRD (including renal dialysis)	36145, 36800-36821, 36831-36833, 90919-90921, 90923-90925, 90935, 90937, 90939, 90940, 90945, 90947, 90989, 90993, 90997, 90999, 99512	G0257, G0311-G0319, G0321-G0323, G0325-G0327, G0392, G0393, S9339	585.5, 585.6, V42.0, V45.1, V56	38.95, 39.27, 39.42, 39.43, 39.53, 39.93, 39.94, 39.95, 54.98	080x, 082x-085x, 088x	72x	65

Table Rad-H5: Codes to Identify Organ Transplant

Description	CPT	HCPCS	ICD-9-CM Procedure	UB Revenue
Organ transplant	32850-32856, 33930-33945, 44132-44137, 44715-44721, 47133-47147, 48160, 48550-48556, 50300-50380	S2152, S2053-S2055, S2060, S2061, S2065	33.5, 33.6, 37.5, 41.94, 46.97, 50.5, 52.8, 55.6	0362, 0367, 0810-0813, 0819

Table Rad-H6: Codes to Identify HIV-AIDS

Description	ICD-9-CM Diagnosis
HIV	042

Risk Adjustment Method

Comorbid conditions indentified as HCCs in months preceding event date using inpatient and outpatient ICD-9 codes.

Episode Severity / Disease Staging

No episode severity/disease staging.

Outlier Methodology

All individuals are included in the analysis with costs winsorized at the 2nd and 98th percentile.

Level of Measurement/Analysis

Measurement will take place at the level of the individual provider (to include chiropractors and therapists). Attribution of resource use and costs for a patient will be assigned to the providers(s) that are responsible for the care of the Radiculopathy patient.

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If there are less than 3 physicians with E&M or therapy codes for Radiculopathy care on separate dates during the measurement period, all of these physicians will be assigned the resource use and costs. If there are more than 3 providers, method of allocation TBD. *(Will provide table of frequency of number of providers involved along with tables for case of 3 or more physicians what would happen if we took 3 providers with most E&M visits.)*

Note: Portions of these measure specifications are based on or adapted from existing NCQA measure specifications.