Low Back Pain Report October 2013: Cost and Utilization of Health Care in Oregon

INTRODUCTION

Most people in the United States will experience low back pain at least once during their lives. According to the National Institutes of Health, Americans spend at least $50 billion each year on low back pain. However, research indicates that many low back pain sufferers do not need a lot of care, providing a significant opportunity for cost savings.

This report provides a complete baseline analysis of the utilization and costs associated with health care services for low back pain in Oregon as compared to the recommendations in the *State of Oregon Evidence-based Clinical Guideline for the Evaluation and Management of Low Back Pain*. Low back pain utilization data was run for claims submitted for 2010 and 2011 dates of service. Low back pain intervention activities described on the following page began in 2012. Cost and utilization claims will be analyzed for 2012 dates of services in 2014 for a future report. The Oregon Health Care Quality Corporation will also continue to publicly report information on appropriate low back pain imaging and provide consumers with information about safe and effective care at www.PartnerforQualityCare.org.

Key Findings

- *State of Oregon Evidence-based Clinical Guideline for the Evaluation and Management of Low Back Pain* states that simple low back pain often resolves itself with little or no medical intervention. Yet, for the population included in this analysis, Oregonians spent more than $11.5 million for health care services for low back pain in 2011. This is a conservative estimate based on a slice of the population.
- An analysis of claims data compared to the state's clinical guideline points to many opportunities to improve care and lower costs. According to the guideline, for people with the most common type of low back pain, imaging tests are often not useful for diagnosis or treatment and a non-prescription pain reliever is the best choice if medication is needed. Despite that, 2011 data found at least 22 percent of Oregonians who received care for a new episode of low back pain received an imaging test and approximately 16 percent filled prescriptions for narcotic pain relievers within 90 days. Avoiding unnecessary narcotic prescriptions could improve patient care and save over $1 million a year.
- In addition to wasted resources, this unnecessary care poses potential risk for patients. New prescriptions for narcotics can be habit forming and contribute to the already high rate of opiate use in Oregon. For x-rays and CT scans, there is the risk of exposure to radiation. Plain film x-ray imaging for low back pain is higher than expected across all payers, with 16 percent of all patients receiving a plain film x-ray.

OREGON ACTIVITIES TO IMPROVE CARE FOR LOW BACK PAIN

Oregon State Clinical Guidelines Project: Evaluation and Management of Low Back Pain

In December 2010, the Oregon Health Policy Board released *Oregon's Action Plan for Health* that includes a strategy to "identify and develop 10 sets of Oregon-based best practice guidelines and standards that can be uniformly applied across public and private health care to drive down costs and reduce unnecessary care." In November 2011, the first guideline, *Evaluation and Management of Low Back Pain*, was published. This guideline was developed in partnership by the Oregon Health Authority, Oregon Health Leadership Council, Oregon Health Care Quality Corporation (Q Corp) and the Center for Evidence-based Policy at OHSU.

Resetting Expectations of Care

As part of the Robert Wood Johnson Foundation's *Aligning Forces for Quality* program, Q Corp convened a multi-stakeholder committee to work on efforts to reset consumer expectations for low back pain care and support the provider community to implement the guideline. In January 2012, the *Get Vertical: And Don't Take Back Pain Lying Down!* campaign launched, with a consumer booklet and online quiz to help people with low back pain better understand safe and effective care for the condition. To learn more about the campaign, visit www.PartnerforQualityCare.org/lowbackpain.

Working with Providers

Q Corp has been actively disseminating both the *State of Oregon Evidence-based Clinical Guideline for the Evaluation and Management of Low Back Pain* and the consumer booklet to provider groups and employers throughout Oregon. Q Corp developed and presented a Continuing Medical Education session titled *Evidence-based Care for Acute Low Back Pain* for St. Charles Health System. To learn more about the presentation and scheduling, email info@q-corp.org.

DEFINITION OF ACUTE LOW BACK PAIN EPISODE

Q Corp convened a multi-stakeholder Low Back Pain Steering Committee that first met in the fourth quarter of 2011 to define the requirements for utilization reporting. Committee members agreed that the report population (denominator population) be defined to align with the population addressed by the *State of Oregon Evidence-based Clinical Guideline for the Evaluation and Management of Low Back Pain*. The steering committee also agreed that the episode for utilization reporting be clearly defined.

After a thorough discussion of the various denominator definitions currently used to identify low back pain patients, the steering committee decided to use a modified version of the HEDIS Relative Resource Use definition. To more closely match the Oregon guideline, exclusions for pregnancy, ankylosing spondylitis and spinal stenosis were added.

The guideline addresses the initial treatment of patients who present with simple mechanical back pain. The steering committee agreed to classify a patient who had not been treated for low back pain for 180 days prior as a newly diagnosed patient; the length of the episode would be 90 days following the initial diagnosis. Table 1 summarizes the steering committee's criteria for the analysis of utilization data.

Table 1. Denominator definition

	State of Oregon Evidence-based Clinical Guidelines	Criteria
Product Line	N/A	Commercial, Medicare, Medicaid
Age	Adults	18 and older
Negative diagnosis ("clean") period	N/A	180 days (6 months)
Length of episode	N/A	90 days
Enrollment Criteria	N/A	Continuously enrolled from the beginning of the "clean" period through the end of the episode.
Exclusions/red flag conditions	Pregnancy Cancer (any history) Vertebral infection Vertebral compression fracture Cauda equine syndrome Ankylosing spondylitis Nerve compression/Disorders Spinal stenosis	HEDIS Relative Resource Use for LBP: ➢ Cancer (any history) ➢ Trauma (in previous 12 months) ➢ Cauda equine syndrome (any history) ➢ Neuralgia/Neuritis (in previous 12 months) ➢ IV Drug Abuse (in previous 12 months) ➢ ESRD (within measurement period) ➢ Organ transplant (within measurement period) ➢ HIV/AIDS (within measurement period) **PLUS** Additional exclusions for the following conditions: ➢ Pregnancy (within measurement period) ➢ Ankylosing spondylitis (any history) ➢ Spinal stenosis (any history)
LBP Diagnosis Code	N/A	HEDIS definition

DESCRIPTION OF UTILIZATION DATA

Q Corp developed a custom care analysis model for low back pain that uses the denominator definition developed by the steering committee. Patients with evidence of radiculopathy, depression or osteoporosis were flagged to allow the data to be stratified for analysis. Information on additional utilization categories that were of interest to the steering committee was also provided. Utilization was stratified by payer type, age, gender and geographic region to identify variation in care. Detailed analysis of office visit data was performed to understand which specialists were treating low back pain patients in the period following the initial diagnosis. Analysis was performed to gain insight into specialties most likely to order images.

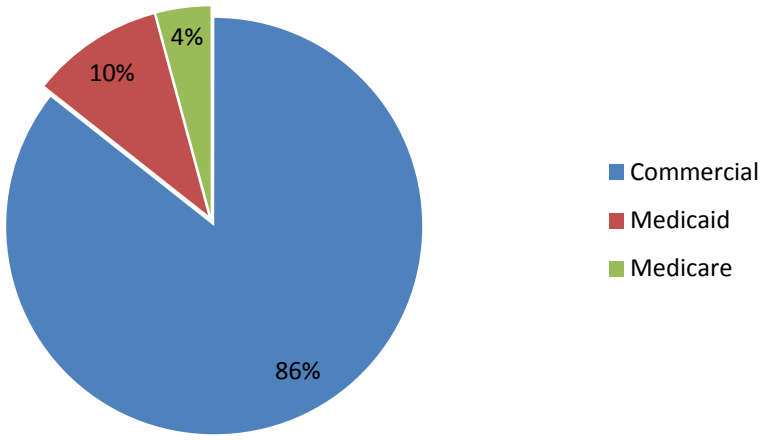
KEY FINDINGS: UTILIZATION DATA

The following list of utilization categories was analyzed:

- Imaging (CT scans, MRIs and x-rays)
- Emergency Department Visits
- Evaluation and Management Visits (primary care and specialist)
- Prescriptions (anti-depressants, narcotics, NSAIDs and muscle relaxants)
- Surgeries (arthrodesis, discectomies, kyphoplasties and laminectomies)
- Complementary Care (acupuncture, chiropractic manipulation, massage, physical therapy, etc.)

Chart 1 reports the number of episodes that was included in the low back pain analysis after applying the denominator criteria. For 2011, 86 percent of the patients included were commercially insured, 10 percent were covered by Medicaid, and 4 percent were covered by Medicare Advantage plans. Note that the Q Corp database contains 83 percent of the commercially insured population, 67 percent of the Medicaid population, and 41 percent of the Medicare Advantage population. The distribution by payer of acute low back pain in the overall Oregon population is likely different.

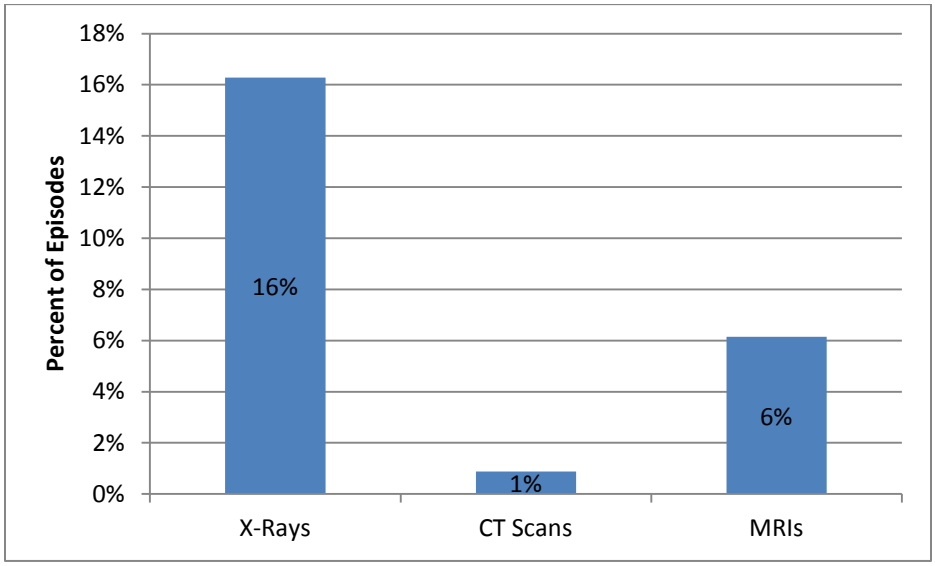
Chart 1. Patients with acute low back pain by payer type



KEY FINDINGS: IMAGING TESTS

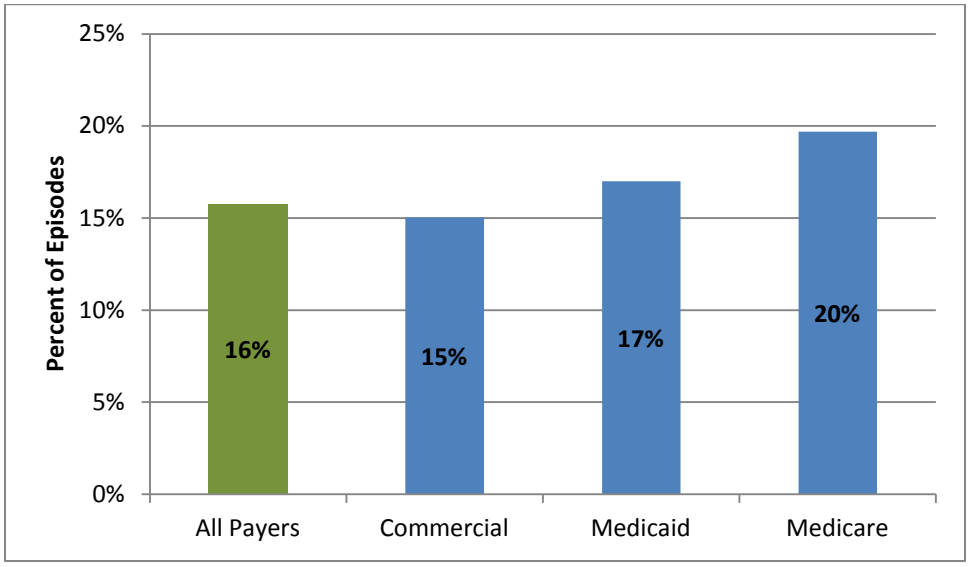
Imaging tests are not indicated for most episodes of acute low back pain. However, the utilization data shows that in 2011, 16 percent of newly diagnosed patients received X-rays, 1 percent received CT scans, and 6 percent received MRIs within the first 90 days after the initial diagnosis. This represents a significant opportunity for reducing utilization and costs.

Chart 2. Percent of episodes with images by image type



Plain film x-ray imaging is higher than expected across all payers. Across commercial, Medicaid and Medicare payers, 16 percent of all patients received a plain film x-ray. The rates broken out by payer for commercial, Medicaid and Medicare are 15 percent, 17 percent and 20 percent, respectively.

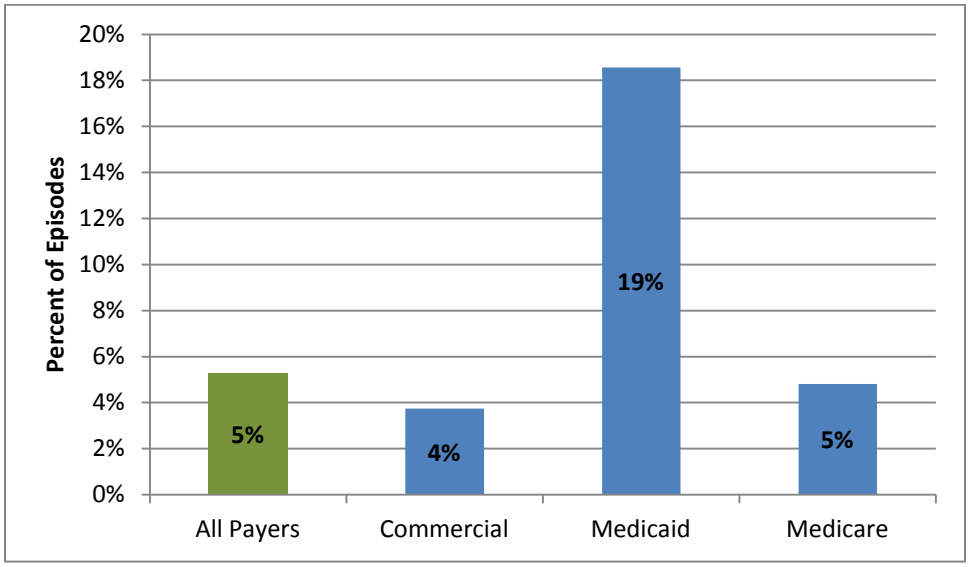
Chart 3. Percent of episodes with plain film x-rays by payer type



KEY FINDINGS: EMERGENCY DEPARTMENT VISITS

For patients covered by Medicaid, 19 percent received care in the Emergency Department, compared with 5 percent for patients covered by Medicare and 4 percent for patients with commercial coverage.

Chart 4. Percent of episodes with Emergency Department visits by payer type



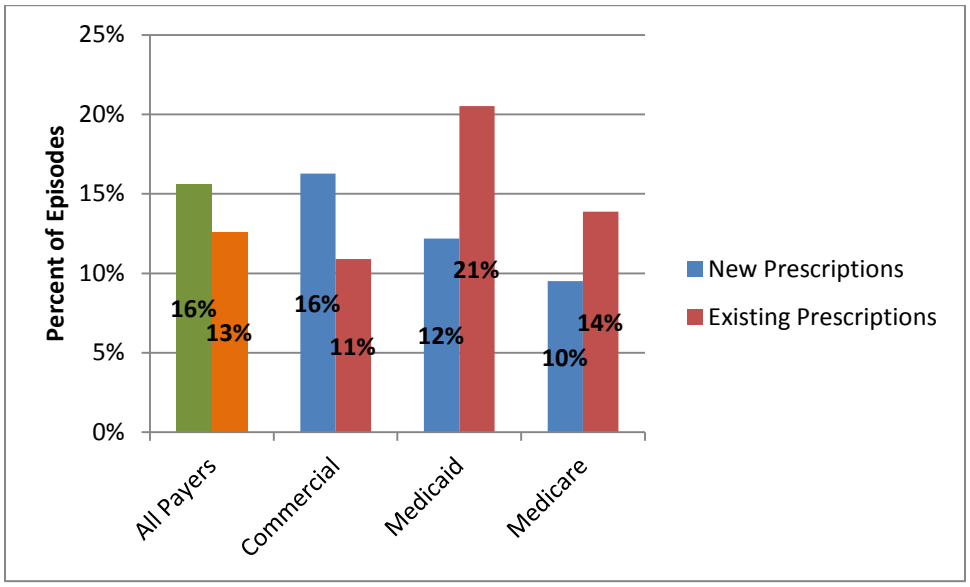
KEY FINDINGS: PRESCRIPTION DRUG UTILIZATION

The pharmacy claims collected from the data suppliers does not include an ICD-9 diagnosis code. For this reason, caution must be used when interpreting the pharmacy results because the prescription may have been written for a condition other than low back pain. However, limiting the episode to 90 days decreases the likelihood that the prescription was written for another condition.

The steering committee requested that the reports differentiate between a new and existing prescription. If there was a prescription filled in the 180 days prior to the patient's low back pain diagnosis, the prescription was flagged as existing. Otherwise the prescription was flagged as new.

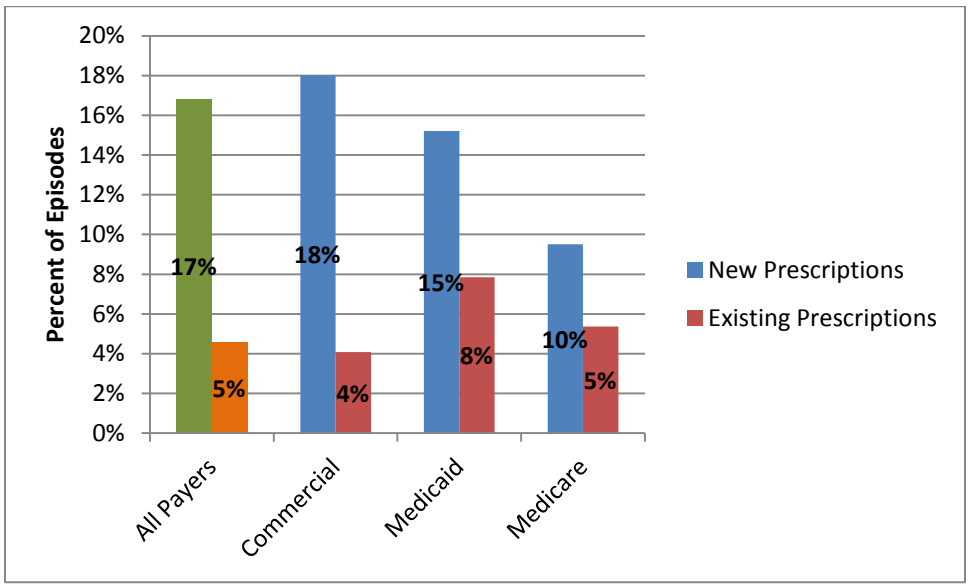
Looking across payers, 16 percent of commercial patients filled a new prescription for narcotics compared with 12 percent for Medicaid and 10 percent for Medicare. In contrast, 11 percent of commercial patients had an existing prescription for a narcotic at the time of diagnosis, compared to 21 percent for Medicaid and 14 percent for Medicare.

Chart 5. Percent of episodes with a narcotics prescription by payer type



New prescriptions for skeletal muscle relaxants varied from 18 percent of commercial patients, 15 percent of Medicaid patients and 10 percent of Medicare patients.

Chart 6. Percent of episodes with a skeletal muscle relaxant prescription by payer type

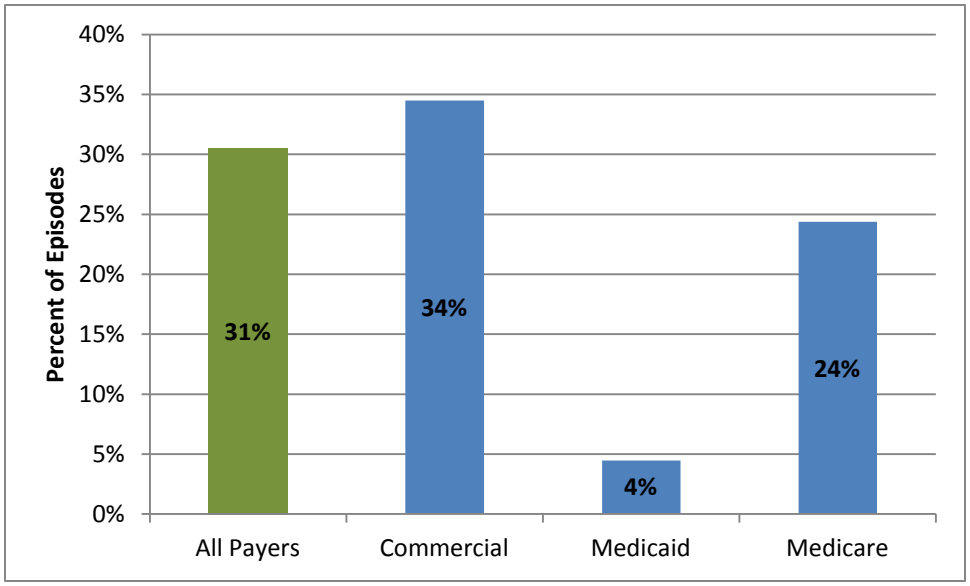


KEY FINDINGS: COMPLEMENTARY CARE

The complementary care category includes other services that a patient may seek following an onset of low back pain. Many insurance carriers and employers do not cover all of these services, and Q Corp does not have data for patients who self-pay. Utilization is likely underreported for these reasons.

The use of complimentary care, especially chiropractic care, among commercial patients is high. For example, 34 percent of commercial patients received chiropractic manipulation.

Chart 7. Percent of episodes with chiropractic care by payer type



KEY FINDINGS: COMORBIDITY OF DEPRESSION

The steering committee was interested in learning how depression impacted the utilization of services for newly diagnosed low back pain patients. In a thorough analysis of all utilization categories of treatment, the most striking differences were shown with the utilization of narcotic drugs and the use of chiropractic manipulation. For patients with a comorbidity of depression at the time of low back pain diagnosis, 21 percent were already receiving a prescription for a narcotic compared with 8 percent of patients without depression. Patients with depression are less likely to receive chiropractic manipulation; 24 percent for patients with depression compared with 34 percent for patients without depression.

KEY FINDINGS: COST DATA

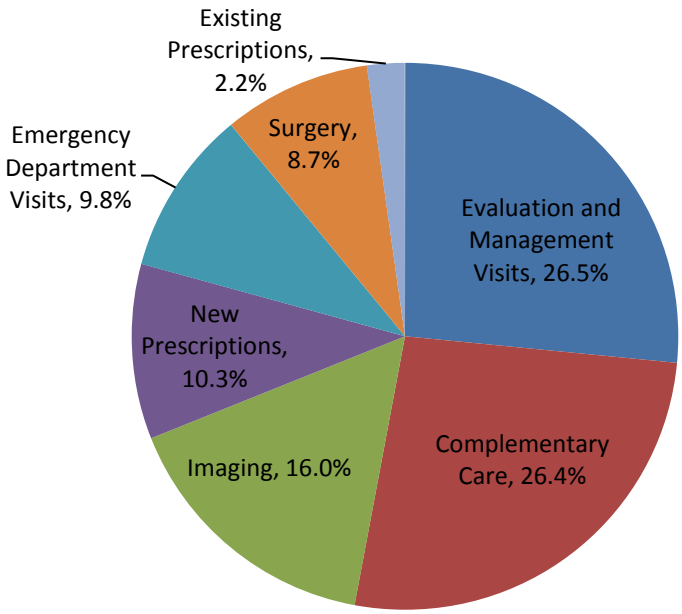
The costs reported in this section are from the actual allowed dollars for patients (total amount a health insurer paid for the service before member contribution) with an initial diagnosis of acute low back pain. Q Corp used a subset of the episodes that were included in the utilization analysis for the cost analysis. Episodes were dropped if they included claims information from data suppliers who have not agreed to supply Q Corp with cost data. Table 2 shows the amount of data that was retained for each payer type.

Table 2. New low back pain episodes with cost data

Payer Type	Episodes with Cost Data	Episodes without Cost Data	Total Episodes	Percent Episodes with Valid Cost Data
Commercial	33,985	1,847	35,832	94.8%
Medicaid	3,729	389	4,118	90.6%
Medicare Advantage	3,517	91	3,608	97.5%
All Lines of Business	**41,231**	**2,327**	**43,558**	**94.7%**

Chart 8 shows the distribution of 2011 costs by utilization category. Evaluation and Management Visits and Complementary Care (physical therapy, chiropractic manipulation, etc.) account for 26.5 percent and 26.4 percent of the total costs respectively. Imaging accounts for 16.0 percent of the total costs.

Chart 8. 2011 distribution of estimated costs for newly diagnosed low back pain episodes



Although use of unnecessary imaging is the focus of much work around low back pain utilization, the cost analysis shows that it is not a big expense category in the initial days of treatment. (It is also worth noting that prescription drugs are a relatively inexpensive utilization category.) The high utilization of plain film x-rays instead of the more expensive CT scans and MRIs likely keeps the total imaging costs relatively low compared to other utilization categories. Cost savings could be achieved by continuing to focus on initiatives that emphasize self care to reduce the number of unnecessary physician visits.

USING CLAIMS DATA

The information in this report comes from administrative (billing) claims. Claims data reflects information submitted by providers to payers as part of the billing process. While claims data has limitations, it provides useful information about services provided by a very large segment of the Oregon health care delivery network.

Use of claims data assumes clinics and practices are billing accurately and comprehensively for services rendered. Limitations of claims data include timeliness and completeness of the information. For example, data in this report does not include uninsured patients, patients who pay for their own health care services, Medicare fee-for-service patients, or patients served by a health plan that is not providing data to Q Corp. More information about claims data is available in the Technical Appendix, available online at Q-Corp.org.

About the Oregon Health Care Quality Corporation

The Oregon Health Care Quality Corporation is an independent, nonprofit organization dedicated to improving the quality and affordability of health care in Oregon by leading community collaborations and producing unbiased information. We work with the members of our community— including consumers, providers, employers, policymakers and health insurers—to improve the health of all Oregonians.

Q Corp's work is nationally recognized. In 2007, Q Corp became one of 16 organizations nationwide selected to participate in *Aligning Forces for Quality*, the Robert Wood Johnson Foundation's signature effort to improve the overall quality of health care in targeted communities. In 2008, Q Corp received the Chartered Value Exchange designation from the U.S. Department of Health and Human Services in recognition of its leadership to improve care in Oregon. Q Corp is also a member of the Network for Regional Healthcare Improvement, a national coalition of regional health improvement collaboratives working to improve the quality and value of health care delivery.

For more information visit **Q-Corp.org**.