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Conservative Spine Care: *The State of the Marketplace and Opportunities for Improvement*

Introduction

Services for the diagnosis and treatment of orthopedic musculoskeletal (MSK) complaints represent the largest category of medical expenditures in the United States. Recent claims data analysis, gathered for a 12-month period through the 3rd quarter of 2011, found that 17% of medical expenses were related to orthopedic services.[1] The management of neck and low back pain easily outpaced expenditures for all other types of orthopedic disorders. Despite advancements in understanding evidence-informed management options, outcomes and expenses related to treatment of MSK conditions in the U.S. have not improved in recent years.[2]

Given the sizable demand for spine care in the marketplace, it is increasingly important to improve delivery at both the systems and individual levels. Although consistent clinical guidelines are well established, patterns of practice with respect to treatment of lower back pain (LBP) vary widely, and are notoriously resistant to change. An additional hurdle is that patients often use questionable information (often from non-medical sources) to follow a treatment path that is contrary to evidence-based clinical practice guidelines.

Available data indicates that more than 80% of spine care costs are associated with non-surgical services. Given that reality, it is clear that a conservative approach to spine care is a priority to more effective management of expenditures and enhanced outcomes related to orthopedic treatment of musculoskeletal issues.

This paper examines how the current health care delivery system can affect the quality of care and summarizes current recommended high quality clinical practice guidelines. A discussion of specific implementation strategies that can meaningfully advance the quality of care and more effectively manage expenses are laid out in detail in a separate white paper from OptumHealth® Care Solutions, Inc. (OptumHealth) titled "Innovative Approaches to Enhanced Spine Care Treatment."

The current environment

Pain complaints are a leading reason for medical visits,[3] and MSK issues rank as the top concern. Within this category, back pain is the most common ailment confronting individuals. Despite extensive research and efforts to reduce the personal, societal, and economic burdens of LBP issues, it remains one of the ten most costly medical conditions in the United States.[4]

Non-specific LBP encompasses approximately 85% of all back pain diagnoses, affecting 80% of all adults at a cost estimated at $100 billion annually.[5] About 25% of individuals experiencing back pain will seek help from a health care provider.[6] Nearly three-quarters of these patients visit either a physician or chiropractor. Estimates suggest around 85-90% of primary care patients with LBP are diagnosed with non-specific back pain, where the underlying disease or pathology remains unknown.[7]

The management of LBP can be complex.[8] It is best viewed as a recurrent disorder that can occur anytime in a person's life. It can fluctuate between "no" or "mild" pain to "debilitating" pain. A substantial majority of those who suddenly develop LBP will see their condition improve quickly with or without professional care. Although symptoms usually subside in less than three months, recurrences and flare-ups often occur within one year. The prognosis can be grim for those experiencing persistent pain.[9] The early identification of individuals "at risk' of developing long-standing pain and disability has been advocated as a means to improving health and economic outcomes.[10]

The management of LBP can also be costly. An OptumInsight™ analysis of internal data found the treatment of orthopedic conditions is the top cost category, representing 17% of overall medical expenses. This surpasses the costs attributed to cardiology, gastroenterology, oncology, etc. of overall medical expenses (see Figure 1). Spine care services account for the largest distribution of orthopedic expenditures (46%). More than 80% of spine care costs are associated with non-surgical treatments (see Figure 2). From an episode-based perspective, chiropractors are the most cost-efficient health care providers for the initial management of low back pain (see Figure 3).[1]

Figure 1: An analysis of internal data – OptumHealth® Client Data, 2011 – found the treatment of orthopedic conditions is the top cost category

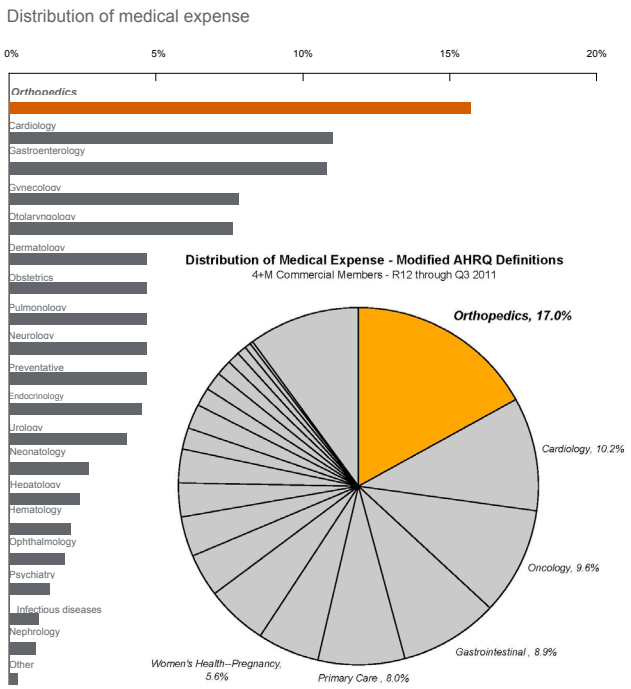


Figure 2: More than 80% of spine costs are associated with non-surgical treatments

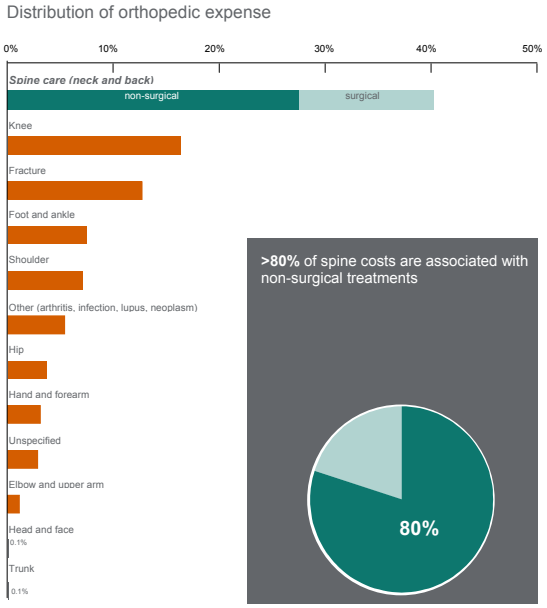
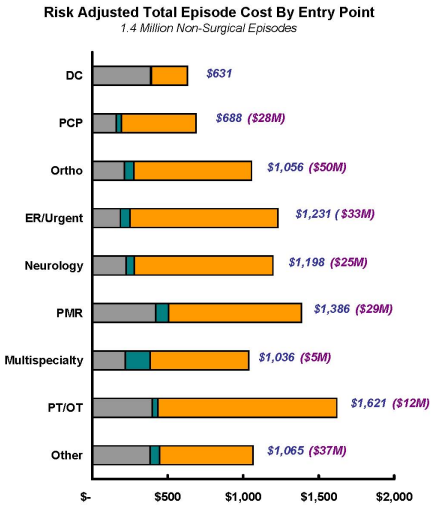


Figure 3: Cost efficiency favors a care pathway that begins with a patient consulting a chiropractor



- **Episode entry point appears to be associated with variable care pathways and costs**
- **Using DC as a proxy for appropriate non-surgical pathway, there is a potential $219M risk adjusted impact for non-surgical spine care for 1.4M episodes in 4M members over 2.5 years**

Guidelines for Diagnosis and Treatment

Evidence-based clinical practice guidelines for management of LBP were first introduced in 1994 with the aim of improving quality of care while reducing costs. Since then, more than 70 different sets of guidelines have been published internationally. Some consistency can be seen in guidelines outlined worldwide over the past decade that provides a consistent set of 'quality' recommendations for acute and chronic LBP.[11] They typically include the five sequential goals when assessing LBP:

1. Ruling out potential serious pathology (i.e., infection)
2. Ruling out specific causes of lower back pain (such as spinal stenosis)
3. Ruling out substantial neurological involvement
4. Evaluating the severity of symptoms and functional limitations
5. Identifying risk factors for chronicity.

It is notable that 85-90% of individuals assessed had nonspecific or ordinary LBP. Standard clinical practice guidelines for such cases recommend against routine imaging (radiography, computed tomography (CT) scan, magnetic resonance imaging (MRI), stronger opioid analgesics, and injection procedures (epidural, facet, and soft-tissue).

The consensus of the guidelines suggests that acute non-specific LBP patients should:

- be reassured of a good prognosis
- be educated in self-care
- remain active
- use over-the-counter medications (acetaminophen, non-steroidal anti-inflammatory drugs (NSAIDS) or spinal manipulation or both as a first line of symptom control.[12]

Treatments such as traction, ultrasound, transcutaneous electrical nerve stimulator (TENS) unit and supports/braces are not recommended in these guidelines. However, supervised exercise, and to a lesser degree behavioral modification and/or acupuncture therapies are recommended for individuals having chronic or persistent LBP.

A major gap in many existing guidelines is they fail to identify the most appropriate health care provider at the outset of treatment. Instead, clinical guidelines are developed with a professional group e.g., primary care practitioners as the intended audience.[11] As a result, clinical practice guidelines (CPG) are not well suited to inform decisions about who is the most appropriate initial health care provider.

The concern with having patients first consult a general practitioner is treatment strategies may not be optimized for individual patients leading to inconsistent results. This is important because not all patients entering a care pathway for spine-related disorders are the same. Data suggest that for first contact settings, around 55% of patients are at low risk of poor outcome and are likely to do well irrespective of treatment while 33% are at medium risk and 12% are at high-risk of poor outcome. Patients at medium risk of poor outcome are defined as experiencing pain-related physical limitations. Patients at high risk of poor outcome are experiencing physical challenges and are emotionally distressed by their back pain and social circumstances. Individuals at high risk may be acute patients struggling with their symptoms or those with long standing symptoms. Treatment pathways that include self-care strategies along with extra support from treatments delivered by chiropractors and/or physical therapists should be an important consideration when care is initiated for individuals at medium- and high-risk of an unfavorable outcome.[13]

Current Clinical Practices Too Often Miss the Mark

"If one looked only at the United States, it would be easy to conclude that the modern back pain crisis has proved impervious to the best efforts of researchers, health care providers, and policy makers," according to S.W. Weisel. He points out that results in the U.S. lag behind other countries in both nonsurgical and surgical care for low spine-related pain. Weisel adds that the U.S. health care system "does not align with the scientific evidence. It does not seem to provide effective or cost-effective care on a consistent basis. And it appears to be producing patients with chronic disabling pain in record numbers."[14]

Today's reality indicates that evidence-based guidelines are often not being followed – what is called a "know-do gap," the chasm between existing knowledge and actual practice.[15] Studies show that when guidelines are used, there is a positive impact on the clinical management of LBP, including better functional outcomes, reduced health care utilization and lower costs.[16] Yet adherence by primary care physicians to guideline care is estimated to be just 65%.[17] According to recent studies:

- only about 50% of patients seeing a primary care physician receive a recommendation to remain active
- for acute nonspecific LBP, 65% of the cases receive recommendations for imaging studies, despite a clear guideline recommending against it
- manipulation, which is supported by most guidelines, is recommended by primary care physicians in only 2% of the acute nonspecific LBP cases.[18]

Treatments for LBP are proliferating, with more than 200 "conservative" treatment options offered by at least 31 different types of health care providers in the U.S. Patients receive an unpredictable mix of diagnoses, treatments, and ideas about back pain and its causation.[19] A market that is so difficult for patients to navigate may explain why costs are rising without a corresponding improvement in outcomes.

A nationally representative survey to measure trends in health care expenditures on adults who self-reported spine problems (neck and LBP) showed a substantial increase in expenditures from 1997 to 2005. Yet there was no evidence of corresponding improvement in self-assessed health status, functional disability, work limitations, or social functioning.[20] Among the trends in national expenditures for spine-related cases were:

- a 49% increase in the number of patients seeking spine-related care (from 12.2 million in 1997 to 18.2 million in 2006). This represented the largest contributing factor to increased outpatient expenditures.[21]
- an estimated 111% increase in total national spine-related expenditures for chiropractic visits from 1997 to 2006.
- a 78% increase in expenditures for spine-related physical therapy
- a 188% increase in expenditures for prescription medications, directly attributed to spine problems – a bigger jump than every other service category. This trend was primarily attributed to the estimated 423% increase in the expenditure for spine-related narcotic analgesics from 1997 to 2004.[21]

Recently published data concerning Medicare beneficiaries show parallel trends in the rate of increase for care of lower back pain, including dramatic increases in:

- imaging (MRI), up 307%
- spinal injections (facet up 231%, epidural up 271%)
- lumbar fusion surgery (up 220%) over 7-10 year intervals.[20]

A larger percentage of the expenditures are front-loaded, even among patients with non-specific LBP. Diagnostic and treatment interventions were found to be common in the first month. The utilization pattern of imaging and noninvasive services was just as prevalent for the group having non-specific LBP as the overall study population.

More than 32% of patients having LBP received x-rays, with at least 50% receiving them on the same day as the initial diagnosis. Second-line medication was prescribed for 69% of patients and opioids were prescribed for 42%. The median number of days to surgery was 90 for all those having surgery. Surgery was performed within 54 days (median) of the initial diagnosis for those individuals not classified as having chronic lower back pain (greater than 3 months duration).[22]

Data from OptumHealth indicate that a more efficient treatment path typically begins with a patient consulting a chiropractor. This path tends to lead to interventions that are more closely aligned with recommended treatment guidelines and ultimately more favorable solutions at more reasonable costs.

Similar findings can be found in a two-year retrospective claims analysis of Blue Cross Blue Shield-Tennessee members. It found that "Paid costs for episodes of care initiated with a doctor of chiropractic medicine (DC) were almost 40% less than episodes initiated with a medical doctor (MD). Even after risk adjusting each patient's costs, we found that episodes of care initiated with a DC were 20% less expensive than episodes initiated with an MD."[23]

What is needed? A better process to direct care

Health care organizations recognize the importance of encouraging consumers to select providers and/or plans that offer comparatively better quality-of-care. A recent study of consumers' beliefs, values, and knowledge showed that they often choose a treatment path that is contrary to what policy makers prescribe as evidence-based health care. A dominant misconception among many consumers is that newer technologies result in higher-quality care. It is one reason why serious challenges exist in efforts to drive consumers toward evidence-based decision making.[24]

Proponents of evidence-based practices encourage consumers to be actively involved in decision making about health care. Yet when it comes to spine-related disorders, patient information about assessing health care provider selection and management options have, to this point been limited. Only when back surgery is required does there appear to be greater access to support tools.[7]

OptumHealth is taking steps to empower consumers with better information and make it easier for the medical community to direct care in the most appropriate and cost-effective manner. OptumHealth recognizes that upgrading the diagnostic triage process is a crucial step in better managing costs and improving outcomes. Health care providers will want to explore what these tools have to offer and the implementation strategies and resources that are available.

More details on this can be found in the follow-up white paper from OptumHealth titled "Innovative Approaches to Enhanced Spine Care Treatment." That paper will identify processes as well as specific tools that can be used to enhance the diagnostic process and lead to more cost efficiencies and improved outcomes. Most notable is an OptumHealth-developed tools that include:

- **The STarT Back Screening Tool,** a prognostic tool designed for health professionals to help direct individuals into appropriate initial treatment pathways;
- **The Provider Locater,** an application to help patients identify care providers;
- **Consumer Education: Neck and Back Pain: Top 10 Tips to Help You Cope**
- Other web-accessible resources such as answers to frequently-asked questions.

OptumHealth has many of the resources in place to implement opportunities directed at improving the quality of health care and patients' experiences with the health care system. Opportunities can be categorized in how they impact clinical triage, care pathways, and consumer decision-support.

Conclusion

The incidence of neck and back pain issues for patients represents one of the most significant contributors to rising health care expenditures in the U.S. The lack of progress in improving outcomes and managing related costs is a significant concern for health insurers and providers, yet the status quo does not have to stand.

Clinical practice guidelines already in place can help improve results in the treatment of nonspecific spine cases. An important step in the process is to put tools in the hands of patients to help guide them along the most effective treatment path. Details can be found in the follow-up white paper referred to above.

About the Author

Thomas M. Kosloff, D.C.
Associate Medical Director, OptumHealth Care Solutions – Physical Health

Dr. Tom Kosloff has been a medical director for OptumHealth for more than 15 years. Dr. Kosloff has extensive experience in private practice and utilization management. He currently oversees clinical policy development and related consumer resources created by OptumHealth for physical health services. In addition, Dr. Kosloff provides subject matter expertise for UnitedHealthcare's Medical Technology Assessment Committee. He has been a participant on a multidisciplinary professional consensus guideline panel and is a member of several international healthcare quality work groups.

Dr. Kosloff graduated from the New York College of Chiropractic and completed postgraduate studies in orthopedics at New York Chiropractic College and neurology at Logan College of Chiropractic.

Dr. Kosloff spent almost two decades in the active practice of chiropractic in metropolitan New York. After completing his practice career, Dr. Kosloff managed care experience began at ACN Group, which has since adopted the Optum brand. During this time period, Dr. Kosloff has served in various capacities within utilization management including regional utilization management director, regional chief clinical officer, and chair of the national utilization management committee.

About Optum

As one of the nation's largest health and wellness companies, Optum is focused on helping people live their lives to the fullest. Our vision is to be a constructive and transformational force in the health care system. We provide information and technology-enabled health services for health care providers, health plans, life sciences companies and consumers. In total, we serve close to 60 million individuals. Optum optimizes the health, well-being and financial security of individuals and organizations through personalized health management solutions.

Contact Us

Phone: (866) 427-6845
Email: engage@optumhealth.com
On the Web: www.optumhealth.com

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T 866.427.6845 | **www.optum.com**

6300 Olson Memorial Highway, Golden Valley, MN 55427

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