

# Low Back Treatment Trends Affecting Health Insurance Payers

QUALITY OUTCOMES, COST REDUCTION  
AND PATIENT SATISFACTION





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## Summary

As chiropractic care continues to integrate into the health care system, primarily because of its ability to meet healthcare reform goals, progressive health insurance payers are taking notice. Reform goals strive to improve the health of populations, improve the patient experience of quality and satisfaction in care, and reduce the per capita cost of healthcare, “triple aim” as coined by the Institute for Healthcare Improvement.


Integrating chiropractic care into treatment protocols is becoming a priority for health care payers. As this “Low Back Treatment Trends Affecting Health Insurance Payers” e-book will make clear, payers and providers who take leadership roles in this integration will be rewarded with successful, lower cost treatment options.

### This e-book will show:

- The prevalence and costs to the health care system of low back pain rival major diseases.
- Chiropractic care is effective as an initial intervention, as a means of diagnosis and, in most cases, as a full treatment.
- Chiropractic treatment is highly cost effective.
- Health care providers are experimenting with ways to better integrate chiropractic into health care delivery.

The incidence and cost of low back pain in America is staggering. Approximately 80 percent of adults in the United States have been bothered by back pain at some point.<sup>1</sup> The condition comes at a price. Back pain is the sixth most costly health condition in the United States. Health care costs and indirect costs due to back pain equal more than \$12 billion per year.<sup>15</sup> Adults with back pain are more likely to use health care services than adults without, and back pain is a leading cause of work-loss days.

As reform measures unfold and chiropractic care is increasingly covered by most health plans, patients are gaining more and more access to chiropractors as a covered treatment option. This is ideal as clinical studies have shown that chiropractic treatment of low back pain is one of the most effective and cost efficient conservative approaches to restoring mobility, reducing pain and helping people return to normal lives. Earlier this year, a study published in *Spine* concluded that patients with acute, nonspecific low back pain responded significantly better with spinal manipulation than non-steroidal, anti-inflammatory drugs.<sup>37</sup>



“Chiropractic treatment of low back pain is one of the most effective & cost efficient conservative approaches to restoring mobility, reducing pain and helping people return to normal lives

Payers are beginning to prefer health care systems that better integrate chiropractic care into their low back pain treatment protocols. Some health care systems have chiropractors on their staff. Others are encouraging primary care doctors to establish referral relationships with chiropractors.

Payers are continuing to support integration of chiropractic into treatment to improve outcomes and reduce costs. Although chiropractors have traditionally practiced in stand-alone offices, we continue to see trends of increased integration with the larger medical community. Many have established collaborative care arrangements with family and primary care doctors. Some are working in multi-specialty clinics, in hospitals as staff chiropractors, and as leaders focused on developing and implementing clinical programs designed to assist patients with low back and neck pain.

Examples will be provided that show how the effectiveness of chiropractic care and the relatively low cost of treatment will continue to accelerate this integration as the United States health care system evolves. The new care delivery models that evolve will recognize and use chiropractic care as a mainstream treatment for low back pain, ultimately to benefit quality outcomes, patient satisfaction and cost reduction.

## About the Authors



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Tabatha Erck brings more than 20 successful years in the health care and insurance industries to her role as current CEO of CCMI. At CCMI, Erck is responsible for executing strategies, initiatives and day-to-day operations, as well as developing and recommending new ideas to the president and Board of Directors to reflect the changing market dynamics. Erck serves on the Board of Directors for the National Association of Specialty Health Organizations (NASHO) and is the former director of Medicare and Individual Sales at HealthPartners. Winner of the Minneapolis/St. Paul Business Journal's 2012 "Women in Business" award, Ms. Erck has a Masters in Healthcare Administration from the University of San Francisco, a Masters in LEAN (Six Sigma), and is pursuing a Doctorate degree from the University of St. Thomas.



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Dr. Fischer has more than 20 years of clinical and 17 years managed health care experience. She currently serves on the Northwestern Health Science University Board of Trustees and has served on the Board of Directors of the Minnesota Chiropractic Association. She founded Plymouth Grove Chiropractic, P.A. in 1988 and previously practiced in Duluth, Minnesota. Dr. Fischer enjoys chiropractic because the practice embraces the concept of empowering individuals to maximize their health and wellness as much as possible through natural methods. In her role as Chief Clinical Officer of CCMI, Dr. Fischer diligently supports regional chiropractic doctors in current best practice paradigms and promotes professional collaboration.

## About Chiropractic Care of Minnesota, Inc.



[Chiropractic Care of Minnesota, Inc.](#) (CCMI) is a nonprofit organization whose goal is to improve the quality of life of our communities by delivering high value healthcare networks and support services.

Clarity of mission and vision has led CCMI to develop ChiroCare into the upper Midwest's largest independent network of chiropractors. CCMI also offers [AcuNet](#), a credentialed network of licensed acupuncturists serving the Upper Midwest states of Minnesota, Wisconsin, North Dakota, South Dakota and Iowa.

ChiroCare has become a brand that symbolizes the standard of excellence among chiropractic practices. Since its beginnings as the nation's first chiropractic network over 25 years ago, ChiroCare has remained at the forefront of managed chiropractic care. Our select network includes over 1,600 contracted providers throughout Minnesota and bordering areas of North Dakota, South Dakota, Iowa, Nebraska and Wisconsin. The network currently makes high quality, value-based services available to approximately 1.1 million eligible members of ChiroCare's contracted customers. For more information, check out our blog [Spinal Viewpoint](#).

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## I. Extent of Low Back Pain

Low back pain is defined as a musculoskeletal disorder that, according to Consumer Reports, affects approximately 80 percent of adults in the United States.<sup>2</sup>

**The Center on an Aging Society at Georgetown University offers these facts about the extent of low back pain:<sup>18</sup>**

- Back problems are among patients' most frequent complaints to their doctors.
- Nearly 65 million Americans report a recent episode of back pain.
- Some 16 million adults — eight percent of all adults in the United States — experience persistent or chronic back pain and, as a result, are limited in certain everyday activities.
- Back pain is the sixth most costly health condition in the United States.
- Health care costs and indirect costs due to back pain are more than \$12 billion per year.<sup>19</sup>
- Adults with back pain are more likely to use health care services than adults without back pain.

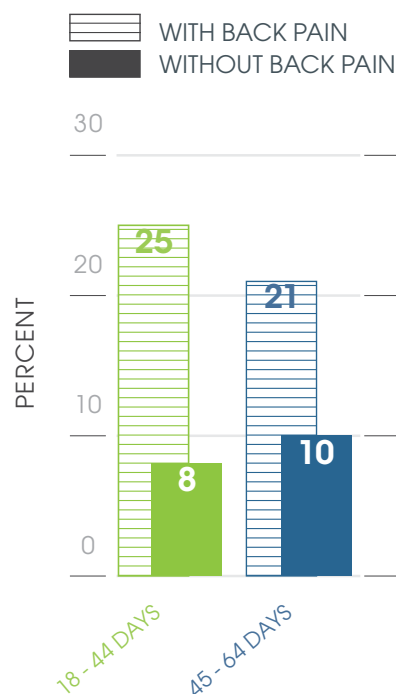
### Health-Related Issues

Chronic low back pain is often associated with other health problems, reduced mobility, and quality of life. Low back pain can be

caused by a variety of issues such as a herniated disc, osteoarthritis, fractures and spinal deformities. If not treated, low back pain can resolve to reduced mobility, weight-gain and even obesity.

### Back Pain Affects Work

**FIGURE 1:**  
PORTION OF ADULTS MISSING  
10 OR MORE DAYS OF WORK IN  
THE PAST YEAR



**SOURCE:**  
Center on an Aging Society analyses of data from the 2000 National Health Interview Survey.

### Productivity Loss

Back pain is a leading cause of work-loss days. Of the 80 percent of Consumer Reports subscribers who reported low back pain, more than half said the pain severely limited their daily routine for a week or longer, and 88 percent said it recurred throughout the year. Figure 1 shows the rates at which adults miss ten or more days of work per year, specifically 20 percent of adults who have reported back pain and less than ten percent of adults who have no reported back pain.

Back pain not only leads to lost workdays, it often is caused by work. In 2000, approximately 1.7 million nonfatal occupational injuries or illnesses caused missed days at work. And, 25 percent of these were back injuries. While many of these injuries occur among people working in physically demanding jobs, nursing aides and orderlies, laborers in both construction and non-construction industries, and assemblers are prone to such injuries.<sup>22</sup> As one might expect, those with chronic back pain make lower salaries than those without, due to more missed work.<sup>22</sup>

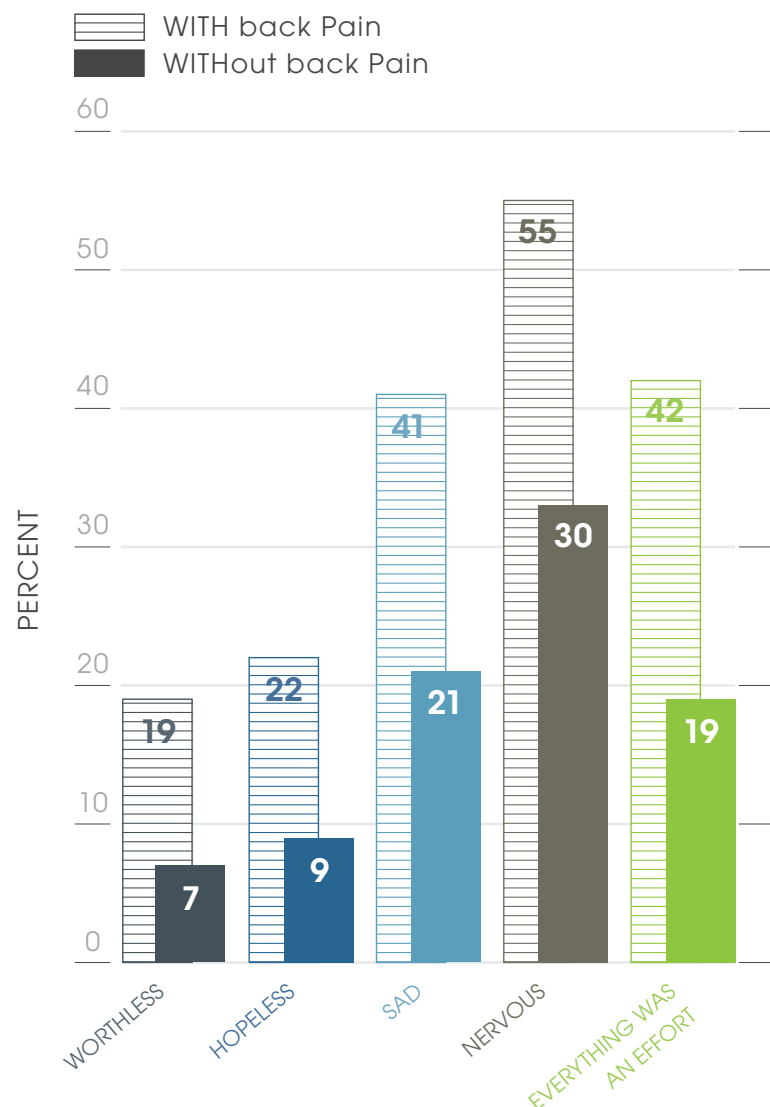
“Back pain not only leads to lost workdays, it often is caused by work. In 2000, approximately 1.7 million nonfatal occupational injuries or illnesses caused missed days at work.”

### Emotional Distress

Low back pain carries more than just physical discomfort. Psychologists have found that adults with back pain report emotional distress at twice the rate of those without back pain.<sup>20</sup> Studies show that chronic physical pain can actually change your nervous system, programming you to be hypersensitive to pain even after you have physically healed. If low back pain causes emotional distress, the reverse is also true. It only makes sense that if you are unable to live your life due to pain, depression will set in.



FIGURE 2:  
PORTION OF ADULTS WITH AND WITHOUT BACK PAIN WHO REPORT  
EXPERIENCING DOWNHEARTED FEELINGS DURING THE PAST MONTH



**SOURCE:**  
Center on an Aging Society analyses of data from the 2000 National Health Interview Survey.

## II. The Expanding Economic Consequences of Low Back Pain

The costs for diagnosing and treating low back pain, coupled with the cost of lower productivity or lost work, are astounding — and growing every year. Clearly, we have not found the right clinical protocols to lessen its consequences.

A conservative estimate states that Americans spend approximately \$50 to \$100 billion on back pain every year.<sup>3-4</sup> This total represents only the more readily identifiable costs for medical care, workers compensation payments and time lost from work. It does not include costs associated with lost personal income due to acquired physical limitation resulting from a back problem and lost employer productivity due to employee medical absence.

After adjustment for inflation, total estimated medical costs associated with back and neck pain increased by 65 percent between 1997 and 2005, to about \$86 billion a year. That is in line with annual expenditures for major conditions, including cancer, arthritis, and diabetes.<sup>38</sup> This high level of expenditure has been true for years. Going back to 1999, a Center on an Aging Society analysis of data found that patients with low back pain spent 2.5 times

more on medical care each year than those not reporting low back pain (\$1,440 vs. \$589). Those with low back pain reported spending more on the spectrum of care, such as emergency room visits, non-physician visits, physician visits and prescription drugs.

“A conservative estimate states that Americans spend approximately \$50 to \$100 billion on back pain every year.

Ironically, this growing expenditure is not solving the problem. Treating spine problems in the United States costs \$85.9 billion a year, rivaling the economic burden of treating cancer, which costs \$89 billion.<sup>5</sup> In this same study, Brook Martin from the University of Washington in Seattle found that higher spending on prescription drugs, advanced diagnostic tests and frequent outpatient visits increased costs associated with spine problems, as well as greater patient demand for treatment and more use of spinal fusion surgery and instruments.

Yet, for all of the spending, Martin found that people with spine problems actually felt worse than they did before treatment.



### III. Chiropractic Care: A Cost-Effective Solution to Low Back Pain

Chiropractors have been accepted as part of mainstream health care since chiropractic's inclusion in Medicare in the 1970s. In the United States, 65,000 chiropractors see approximately 19 million individual patients per year.<sup>6</sup>

Chiropractic medicine, generally classified as complementary/alternative medicine, is defined as a health care profession concerned with the diagnosis, treatment, and prevention of disorders of the neuromusculoskeletal system and the effects of these disorders on general health. Chiropractors emphasize manual and manipulative therapy for the treatment of joint dysfunctions.

According to the Mayo Clinic Health Guide, a chiropractic adjustment, also known as spinal manipulation, is a procedure in which trained doctors, chiropractors, use their hands or a small instrument to apply a controlled, sudden force to a spinal joint. The goal of chiropractic adjustment is to correct structural alignment and improve the body's physical function.

#### Aggressive and Costly Traditional Treatments Often Don't Work

Studies have shown that aggressive and costly medical treatments for low back pain have not brought relief to patients and, further, that the nature of low back pain is complex and not easily understood.

**In 2012, a comprehensive article by Nick Tumminello for LiveStrong<sup>8</sup> pointed out that many back abnormalities actually don't cause problems, so costly treatment of them with diagnostic tests and surgery may be unnecessary because they may not alleviate the back pain:<sup>10</sup>**

- Bulging discs don't necessarily cause back pain. A landmark 1994 study in the New England Journal of Medicine found that 82 percent of study participants who were pain-free had positive MRI results for a lumbar disc bulge, protrusion or extrusion. Thirty-eight percent of them had these issues at multiple lumbar levels.
- Spinal stenosis doesn't necessarily cause back pain. While this condition has historically been thought to be an inevitable cause of low back pain, a 2006 study in the Archives of Physical Medicine and Rehabilitation found that a narrowed spinal canal does not (alone) cause back pain.
- Spinal curves don't necessarily cause low back pain. A 2008 review in the Journal of Manipulative and Physiological Therapeutics looked at more than 50 studies and found no association between measurements of spinal curves and pain. Many people with poor postural alignment or asymmetry have zero pain while others with better alignment suffer from chronic pain.

What these findings suggest, at a minimum, is that some medical conditions require surgical intervention, particularly when paired with underlying disease. But in 90 percent of patients with low back pain, the ailment is not associated with any disease state and does not require surgery to address the pain or discomfort.<sup>2</sup>

## Chiropractic Care is Effective and Should Be Considered as a First-Line Treatment

We know that chiropractic treatment works with most patients whose low back pain is not caused by an underlying disease symptom.

A 2010 systematic review found that most studies suggest spinal manipulation achieves equivalent or superior improvement in pain and function when compared with other commonly used interventions for short, intermediate, and long-term follow-up.<sup>23</sup>

Support for chiropractic care from medical experts has been particularly strong starting in 1994. In that year, the United States federal government sent shockwaves throughout the health care system when a definitive public pronouncement established chiropractic as one of the preferred and most effective methods of care for acute adult low back pain. A panel of medical experts spent more than two years reviewing nearly 4,000 studies and reported that expensive tests, such as MRIs and CAT scans, and therapies typically used to diagnose and treat acute lower back pain, including ice, heat and diathermy, are largely useless. Instead, the experts recommended the non-drug chiropractic approach. The panel also revealed that extended bed rest was harmful, and that muscle relaxants and surgery can be unnecessary and, in some cases, harmful. As stated by Dr. Gerard W. Clum, president of Life Chiropractic College-West, “The guideline...clearly establishes spinal manipulation as the only recommended intervention whose benefits include symptomatic relief and functional improvement.”

Chiropractic spinal manipulation reduces pain, decreases medication, rapidly advances physical therapy, and requires very few passive forms of treatment, such as bed rest. In fact, after an extensive study of all currently available care for low back problems, the Agency for Health Care Policy and Research—a federal government research organization—recommended that low back pain sufferers choose the most conservative care first. It also recommended spinal manipulation as the only safe, effective and drugless form of initial professional treatment for acute low back problems in adults.

“Chiropractic spinal manipulation reduces pain, decreases medication, rapidly advances physical therapy, and requires very few passive forms of treatment, such as bed rest.

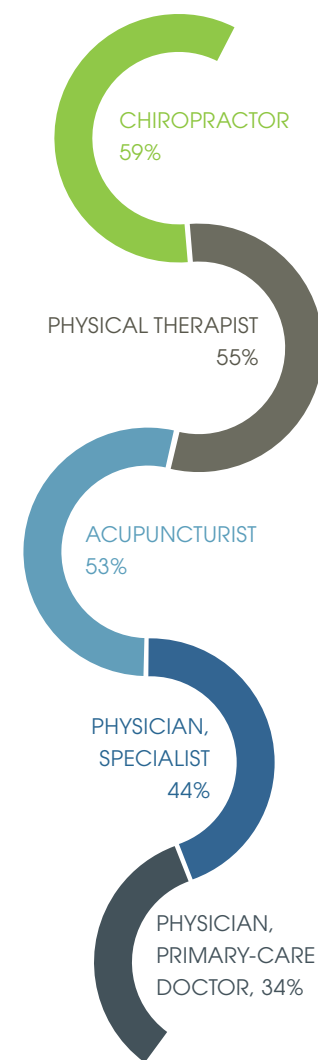
In 2008, a study of studies looked at 40 randomized controlled trials between 1975 and 2007, and found that spinal manipulation for low back pain outperformed competing options of medical treatment.<sup>26</sup> In no study did a comparison treatment or placebo outperform manipulation.

The 2011 Consumer Reports study referenced earlier asked subscribers to rate a comprehensive list of remedies. The most popular options were hands-on treatments. Survey respondents favored chiropractic treatments (58 percent), massage (48 percent) and physical therapy (46 percent).

**Chiropractic care also was rated in that study as providing the most satisfaction in terms of reducing pain (See Figure 3).**

Other recent studies support chiropractic care as a medical solution. In a 2010 report, Daniel Redwood, D.C. reviewed 100 randomized clinical trials on spinal manipulation conducted at that time. Redwood noted that these studies showed spinal manipulation outperforming comparison therapies or placebo and, significantly, “not a single patient in any of these studies experienced a major adverse side effect.”<sup>17</sup>

FIGURE 3:  
CHIROPRACTIC CARE WAS  
RATED AS PROVIDING THE  
MOST SATISFACTION IN  
TERMS OF REDUCING PAIN:





Another study by R.P. Hertzman-Miller, published in the American Journal of Public Health, found that people who see chiropractors for low back pain are more satisfied with their care.<sup>21</sup> “Although they are more likely to go to a physician than to a chiropractor for relief, back pain patients who see chiropractors report that they are more satisfied with their care than those who see medical doctors,” Hertzman-Miller concluded.

## Chiropractic Care vs. Physical Therapy for Low-Back Pain Treatment

Many medical practitioners and patients do not know how to distinguish between chiropractic care and physical therapy. As a result, patients more commonly seek physical therapy and medical doctors more often refer to physical therapists instead of chiropractors. Frequently this is because a medical clinic is more likely to staff physical therapists than chiropractors.

Studies have shown that chiropractic care is more effective in the treatment of chronic low back pain than physical therapy. A study in 2006 reviewed patients a year after treatment for low back pain, and found that the study subjects had a decrease in pain and disability after intervention regardless of which group they attended.<sup>22</sup> However, during the year after care, subjects who received chiropractic care had significantly lower pain scores than subjects who received physical therapy.

## Relatively Low Cost of Chiropractic Treatment

While the primary consideration for any form of treatment is clinical effectiveness (improvement in the patient’s condition), cost-conscious patients, insurers and policy makers also look closely at cost-effectiveness in evaluating health care options. Chiropractic fares quite well in such comparisons.

The importance of offering a low-cost entry point in the health care system for the treatment of low back pain cannot be over stressed. In study after study, many people with more prolonged pain who did not see a health-care professional said it was because of cost concerns or because they did not think professional care could help.<sup>1</sup> This avoidance of care can be lessened by creating a lower-cost process for addressing low back pain.



FIGURE 4:  
AVERAGE COST OF TREATMENTS & PROCEDURES

SPINAL FUSION, TREATING SLIPPED VERTEBRA, FRACTURED VERTEBRA  
OR OTHER SPINAL INSTABILITY

**\$80,000 TO \$120,000**



LAMINECTOMY, TREATING SPINAL STENOSIS

**\$50,000 TO \$90,000**



HERNIATED DISC SURGERY

**\$20,000 TO \$50,000**



TEN CHIROPRACTIC VISITS WITH INITIAL DIAGNOSIS AND X-RAY  
**\$915 (HIGH-END ESTIMATE)**

SOURCE:

\* Cost data from Cost Helper, at [costhelper.com](http://costhelper.com), 2013.

**Studies confirm that chiropractic care is lower in cost than primary medical care and substantially lower in cost than surgical intervention:**

- One 2010 study finds that low back pain care, initiated with a doctor of chiropractic (DC), saves 40 percent on health care costs, when compared with care initiated through a medical doctor (MD). The study, featuring data from 85,000 Blue Cross Blue Shield beneficiaries in Tennessee, concludes that insurance companies that restrict access to chiropractors for low back pain treatment may inadvertently pay more for care than they would if they removed such restrictions. According to this analysis, had all of the low back cases initiated care with a DC, this would have led to cost savings of \$2.3 million for BCBS of Tennessee that year.<sup>10</sup>
  - In 2009, Mercer was more blunt in its study of chiropractic effectiveness and cost, concluding: "Chiropractic is the most cost effective approach for low-back pain." The company drew this conclusion after looking at direct and indirect costs as well as clinical effectiveness. Its analysis also noted that chiropractic care, particularly when combined with exercise, is significantly more effective than medical care for patients for low back and neck pain.<sup>14</sup>
  - A 2004 study of a Managed Care Organization<sup>11</sup> in Wisconsin, updated in 2010, conducted a retrospective cost analysis of administrative data of chiropractic versus medical management of low back pain in a managed care setting. The study suggests chiropractic management as less expensive compared to medical management of back pain when care extends beyond primary care.<sup>11</sup>
  - A 2012 systematic review suggested that the use of spinal manipulation in clinical practice is a cost-effective treatment when used alone or in combination with other treatment approaches.<sup>12</sup>
- Chiropractic treatment for low back pain likely requires more than one visit, as well as diagnostic costs. Even so, if chiropractic treatment can eliminate the need for surgical intervention, the savings to both the patient and the health plan are considerable. Recovery time and inconvenience also are minimized. The chart shows some average costs of care for low back pain, showing a chiropractic visit is a low-cost option.



## IV. Evolving Care Models for Chiropractic Care

Traditionally, chiropractors have opened and operated independent, self-standing practices.

Beginning in the late 1990s through today, care models have evolved to bridge gaps between chiropractors and medical doctors. This cooperation is characterized by increased patient referrals to medical doctors from chiropractors and vice versa. Today, data showing how chiropractic care can be more effective and cost-efficient than primary care continues to advance cooperation and integration.

For example, in 2007, the American College of Physicians and the American Pain Society urged clinicians to consider recommending spinal manipulation for patients who do not improve with self-care options.

While most chiropractors continue to work solo practice or with other chiropractors, more continue to integrate with other healthcare professionals to offer more comprehensive back pain treatment options. This integration is achieved either through a referral network, or by working together in a multi-disciplinary or multi-specialty clinic.

**The following are current and emerging chiropractic health care delivery models:** [Stand Alone Model](#), [Collaborative Care Model](#) and [Integrated Clinic or Hospital Model](#).

## 1. STAND ALONE MODEL

Most chiropractic services are delivered by chiropractors in stand-alone clinics. **While this is the most common model today, the model has several drawbacks:**

- Many patients initiate their care in a medical clinic, even if it involves back pain.
- Many patients are unfamiliar with chiropractic services and are not aware of their proven success in treating low back pain.
- Many patients are not aware that their health plans cover visits to chiropractors for acute low back pain care.
- It is not common for medical doctors to refer patients for services outside of their clinic (or clinic-hospital) network, mostly because of habit, protocol or lack of professional relationships with chiropractors.

These drawbacks prevent many patients from seeking chiropractic care. The consequence of this can be harmful in two major ways.

First, chronic pain treatments provided by primary care doctors are often not successful. Second, patients often spend more money for the care from medical doctors than they would in seeking care from chiropractors.

A seminal study at Cambridge, published in 2012, substantiated this problem.<sup>25</sup> The study confirmed that musculoskeletal conditions, including back and neck pain, are costly in terms of primary and secondary health care resources. Most patients are assessed and managed by general practitioners, with referral when necessary to secondary care services—but not to chiropractors. This occurs because chiropractors are not often in the same health care clinic or system, or because general practitioners do not understand the clinical value and success of chiropractors.

Another consequence of staying within the medical model is that chronic low back pain treatment can lead to expensive and not always successful surgical intervention. A 2009 article in the St. Paul Pioneer Press underscored a local problem. HealthPartners, an integrated provider system, began requiring surgeons to explore conservative alternatives to back surgery prior to authorizing such costly and, according to their internal records, often unsuccessful intervention.

Additional research suggests an overuse of invasive procedures to treat low back pain, and point toward the need for treatment strategies that emphasize effective conservative therapies.<sup>29</sup>

To explore improved alternatives, researchers set up a process whereby patients with persistent back or neck pain were, according to patient preference, referred by their general practitioner to a chiropractor, osteopath or physiotherapist working in the independent sector. Patients received six treatments on average. Using the Bournemouth Questionnaire, the Bothersomeness Scale and the Global Improvement Scale, approximately two-thirds (64.6, 67.8 and 69.9 percent, respectively) reported improvement at discharge, and approximately 65 percent reported a significant reduction in medication. Almost all (99.5 percent) patients were satisfied with the service. Similarly, almost all (97 percent) patients were discharged from the service with advice on self-management; the remainder were recommended for secondary care referral.

They concluded that a referral to alternative medicine improved patient access and choice resulting in shorter waiting times and effective outcomes. An impact analysis of the first 12 months of the service by the Primary Care Trust (a health authority in Great Britain) showed a reduction in primary care consultations and inappropriate referrals to secondary care.

“ They concluded that a referral to alternative medicine improved patient access and choice resulting in shorter waiting times and effective outcomes.

This is further substantiated by a 2012 study in Bournemouth, United Kingdom that showed referrals to chiropractors sooner rather than later resulted in improved outcomes for patients.<sup>30</sup>

## 2. COLLABORATIVE CARE MODEL

Collaborative Care refers to the consideration of broader options and better communication between providers, but not subsumed into a single organizational framework.

One of the unfortunate realities sustaining this model is the general lack of knowledge medical doctors have about chiropractic care. A recent study of Canadian medical students bears this out.<sup>28</sup> A study of second-year medical students found that those without previous chiropractic experience and exposure or interest in learning about chiropractic were significantly more attitude-negative towards chiropractic. Thematically, medical students viewed chiropractic as an increasingly evidence-based complementary therapy for low back/chronic pain, but based views on indirect sources. Within formal curriculum, they wanted to learn about clinical conditions and the benefits and risks related to treatment, as greater understanding was needed for future patient referrals. The study's results highlight the importance of exposure to chiropractic within the formal medical curriculum to help foster future collaboration between these two professions.

“Evidence suggests that more collaboration with chiropractors reduces recovery time and cost for low back pain treatment.

Evidence suggests that more collaboration with chiropractors reduces recovery time and cost for low back pain treatment. One version of this model is called a “basket of care.” An integrative team of both allopathic, including MDs, cognitive behavioral therapists, rehabilitative and exercise specialists, and alternative providers, including chiropractors, massage therapists and acupuncturists, collaborate to optimize the treatment and management of back pain.

Another Canadian study showed that doctors who became aware of collaborative care options including chiropractic changed their treatment and referring patterns.<sup>31</sup> Those who had relationships with chiropractors saw patients for a shorter period of time, prescribed fewer medications and had fewer imaging requests. Referrals to chiropractors increased substantially.<sup>31</sup>

An increasing body of scientific evidence supports the use of various alternative or integrative therapies for the management of low back pain, establishing chiropractic, massage and acupuncture as equally viable treatment options as conventional approaches such as medications, cognitive behavioral therapy, exercise and patient education.

Evidence also suggests providing individualized treatment within multidisciplinary environments result in faster return to work for chronic low back pain patients.<sup>30</sup>

A 2013 study assessed changes in pain levels and physical functioning in response to standard medical care versus standard medical care plus chiropractic manipulative therapy for the treatment of low back pain among 18 to 35-year-old active-duty military personnel.<sup>33</sup> The results of this trial suggest that chiropractic manipulative therapy, in conjunction with standard medical care, offers a significant advantage for decreasing pain and improving physical functionality when compared with only standard care.

**This model will be facilitated over time by:**

- Electronic health records that can be shared across different technology platforms.
- Willingness of primary care providers to have broader relationships in their communities outside of their clinic staff or contracted providers.
- Education among primary care providers of alternative cares, including chiropractic, and when that care is most appropriate and effective.

Under this model, chiropractors may remain in stand-alone clinics, but they would have closer referral arrangements with doctors who are likely to see patients with low back pain. Referrals would work in both directions under informal arrangements that serve the best interest of the patient.



### 3. INTEGRATED CLINIC OR HOSPITAL MODEL

The integrated clinic or hospital model is where chiropractors are on the staff of a multi-practice facility. **This system enables health and social care professionals to more easily:**

- Treat patients at the appropriate point in the system (closer to home or work);
- Provide patients with better information to manage their condition, reducing avoidable admissions;
- Plan/manage patient flows through primary and secondary care, ensuring appropriate and timely referral to specialist care services;
- Develop capacity in primary care by offering a wider range of non-surgical alternatives, such as specialist practitioners, physiotherapy, podiatry, nursing, pain management advice, chiropractic and osteopathy.

Among the most promising developments in making chiropractic more mainstream is the recent inclusion of chiropractic in the health care systems serving veterans and active-duty military personnel. Starting with successful pilot programs in the 1990s, both the Veterans Administration (VA) and Department of Defense now include chiropractic services as an integral part of the care. As of 2010, chiropractors served in official capacities at approximately 36 VA hospitals and 60 military treatment facilities in the United States and overseas.<sup>15</sup>

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#### A Case Study: The Minnesota Integrated Clinic Model

In 1997, Chiropractic Care of Minnesota, Inc. Board Member Dr. Molly Magnani was the first chiropractor hired by a clinic-based health system in Minnesota. Allina Health is a nonprofit health care system with 90 clinics, 11 hospitals and 14 pharmacies that contracts with health plans to provide to the plan members. Allina Health had 5,000 physicians and, until the work of Dr. Magnani, no specialty health care providers such as chiropractors. It took incredible fortitude and leadership for Dr. Magnani to be hired at Allina Health, let alone to pave the way for Allina Health to hire more chiropractors at more of their clinics.

At that time, Dr. Magnani wanted to advance the integrated health care model after practicing in a stand-alone chiropractic clinic. Her philosophy of care is that of a “blended model” preference. Her prior work in cancer research and as a biologist for a pharmaceutical company instilled the value of seeing the whole patient and not just the individual ailments of the patient.

Dr. Magnani’s reputation grew, and she received invitations from other Allina Clinics to present this new integrated specialty health care model to others. Her presentations led to other Allina clinics hiring chiropractors, and Dr. Magnani helped select the finalist candidates. After her system-wide visibility and advocacy led to hiring chiropractors in 11 Allina Clinics, Dr. Magnani’s influence in the larger Minnesota health care community resulted in other systems hiring chiropractors, including Fairview and Park Nicollet.

From 2006 to 2008, 8,294 unique patients at Allina Health entered the chiropractic program. Physicians associated with the hospital were surveyed about their attitudes and behaviors related to chiropractic and complementary and alternative medicine (CAM).

#### The results:

- 74 percent of respondents supported integration of CAM into the hospital system, although 45 percent supported the primary care physician as the gatekeeper for CAM use.
- Primary care providers (medical doctors and physician assistants) were the most common referral source, followed by self-referred patients, sports medicine physicians, and orthopedic physicians.

#### According to Dr. Magnani, the chiropractic integration facilitators implemented:

- Growing interest in CAM
- Relationships with key administrators and providers
- Evidence-based practice
- Adequate physical space
- Integrated spine care programs

#### Barriers to successful integration included:

- Lack of understanding of chiropractic
- Certain financial aspects of third-party payment for chiropractic



### Other Studies Support On-Site Integration of Care Providers

Another study in 2012<sup>34</sup> sought to answer the question, “Does chiropractic care offered at an on-site health center reduce the economic and clinical burden of musculoskeletal conditions?” A retrospective claims analysis and clinical evaluation were performed to assess the influence of on-site chiropractic services on health care utilization and outcomes. These were compared to “off-site” treatment where a chiropractor was not available.

The results showed that patients treated off-site were significantly more likely to have physical therapy and outpatient visits. In addition, the average total number of health care visits, radiology procedures and musculoskeletal medication use per patient with each event were significantly higher for the off-site group. Lastly, headache, neck pain and low back pain functional status improved significantly. These results suggest that chiropractic services offered at on-site health centers might promote lower usage of certain health care services, while improving musculoskeletal function.

### Studies of Optimum Care Models Continue

Research projects continue to compare the effectiveness of treatment protocols for low back pain in these three models: where care is initiated by chiropractors, where care is initiated by family medicine doctors, and where care occurs with combined chiropractic and medical services.

A growing body of medical studies<sup>35</sup> consistently concludes that greater freedom of choice (including the choice to see a chiropractor before seeing a primary care doctor, in addition to improved and faster access to musculoskeletal care) results in better treatment outcomes at lower cost. This is important because the expected increased burden of musculoskeletal pain over the next 50 years means that current care models need re-evaluation to meet rising patient demand. Low back pain has not yet been a national health care priority in most countries, but, given the aging population, the burden to society will continue to rise.

## V. The Need for Patient Education and Engagement

Patient education and engagement has been a focus of health care professionals for decades, and now more than ever, increased resources and importance are being placed on patient education and engagement.

The reasoning is straightforward: educated and engaged patients are more likely to be partners in a care plan, increasing the odds that the treatment will be successful and sustainable.

The origins of patient education and engagement stem from prevention education, mostly around tobacco use, and heightened education around workplace safety. This orientation spread to diseases where patient behavior and compliance with treatment was an essential part of longevity, such as with diabetes and heart disease.

Now patient education and engagement has become an essential part of most treatment protocols. **We define patient engagement broadly as:**

“...the sharing of responsibility for care between patients (and their families and guardians), health

care providers (the entire health care team), and, when applicable, the health care insurance payer (insurance company, employer, TPA, Federal government and State government). The engagement must occur at every step of the health care process, including but not limited to education, evaluation of options, care delivery and financial support.”

Patient engagement has become an area of focus for two reasons. First, the health of all Americans is now a core national strategy. Patient engagement is necessary to implement fundamental improvements to the health care system and achieve successful outcomes. Second, data shows that motivated and engaged patients assume responsibility for managing their own health, which leads to better outcomes and lower costs.

From an employer level of purchasing the insurance, to the payer level of purchasing the care, to the provider level of delivering the care, the costs will measurably decrease and the outcomes measurably increase if the patient is able to modify unhealthy behavior.

## Eight Ways to Improve Patient Education and Engagement

**There is no one magic way to improve patient education and engagement.**

**We see these principles as key to success:**

- 1. Begin with the patient.** Care providers should elicit, listen to and start with the patient's goals. This means that support needs to be tailored to the person's level of interest and cultural considerations.
- 2. Clarify roles.** Be clear what role you expect the patient to play in the process and communicate that expectation to the patient. The employer (if there is an employer) also has a role to play (healthy food in the cafeteria; support for exercise breaks), as does the health plan payer (incentive programs or pricing, healthy behavior communications).
- 3. Consider adding a separate role for education and engagement.** Currently, this role is spread across the spectrum, adding time to a physician's already busy schedule. If no one owns it, who is to serve as the health coach? Adding a health education and engagement specialist may be an important role in the health care system moving forward, but it would have to be funded, licensed and its worth proven over time.
- 4. Focus on wellness, not illness.** If you are a primary care doctor, don't wait until the patient is sick. Engage them in their health when they are healthy.
- 5. Simplify the communication.** Doctors tend to speak in scientific terms that intimidate and confuse the patient. Education about a medical condition needs to be clear and in language that is understandable to a layperson.
- 6. Offer frequent information over time.** Increase the frequency of visits, where possible. This is where chiropractors have an advantage over primary care physicians. Chiropractors can have more frequent contact with their patients, which allows for more time to discuss health education or changing behaviors.
- 7. Seek reinforcement at the workplace.** Employers must share the same message with their employee as those from payers and providers, eliminating confusion for the patient.
- 8. Consider incentives.** Employers could consider developing and implementing incentives to encourage patient engagement and achievement of goals. While incentives do not work for all employees, they motivate some who may not otherwise become engaged.

## Where Should Patient Education Occur?

Patient education and engagement needs to be mainstreamed, and for now it looks like it can best happen in the provider's office during an appointment. This presents a challenge, given the time constraints the provider is under. There needs to be education of the provider on how to engage, communication tools that can be accessed and used quickly, and a measurement system that proves to the provider that it is worth the time.

Once education and engagement programs are put in place, the effectiveness needs to be measured. This begins with setting up measurement criteria that document patient efforts toward reaching outcomes. Clearly defining patient engagement helps the patient identify what is important to them and measures progress toward their goal. The practitioner benefits as well, in recognizing the patient's efforts and commitment to improving their health. Patient engagement may include actions such as taking medication, doing specific exercises, following a certain diet and participating in follow-up appointments.

“ The plan is not likely to succeed if the measurements are not achievable and the patient feels discouraged or gives up.

The plan is not likely to succeed if the measurements are not achievable and the patient feels discouraged or gives up. To be successful, the measurements need to be realistic and customized to the patient's abilities.

Finally, we must always remember the issue of privacy. Patients already fear how personal health data may be used against them by health payers (denial of coverage or higher rates) and by employers (eliminating their position to reduce overall costs and premiums). Patients will be equally concerned about data in their health records and whether or not they are educated and engaged in their care process and overall health. Issues around privacy of this information need to be addressed before we can achieve significant patient engagement.

The rewards of a successful patient education and engagement program are many. Over time we should see reduced relapse rates, an increase in healthy behaviors as reported during annual physicals and a reduction in obesity, diabetes, and other related diseases.



## VI. Conclusion: A Way Forward

As the United States moves quickly into health care reform, we are challenged with the opportunity and necessity of improving both treatment protocols, quality of care and reducing costs.

**We have presented evidence that:**

- Incidence and costs of low back pain are growing problems.
- Chiropractic care is an effective and cost-efficient solution.
- Three major care models are in place today.
- Payers and providers are exploring ways to use more chiropractic care in the treatment of low back pain.

For the treatment of low back pain, there are opportunities to improve quality care, lower cost and improve outcomes by better integrating chiropractic care into the care continuum.

Ongoing studies are needed to confirm optimal involvement of chiropractors, best practice care coordination, effective patient engagement and best-in-class treatment protocols. The time for those studies and for implementing the changes is now.

Regardless, health care payers are taking notice – and action – already. Enough evidence exists to warrant serious changes in how payers incentivize providers dealing with patients with low back pain. These incentives for quality care and lower cost will be tied to the better use of chiropractic.

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