

# CHIROPRACTIC

## Reducing the Costs of Health Care

Escalating prices for hospitals and medical care, coupled with medical treatment of questionable value, have plagued the health care delivery system during the past few decades. As a result, consumers, employers, health insurance carriers and governmental agencies are seeking means to reduce the cost of health care while improving the quality of care rendered. It should be noted that the chiropractic approach to the handling of industrial injuries is uniquely suited to the treatment of such injuries on a conservative basis. It is designed to curtail loss of time and reduce permanent disability ratings. Independent surveys show that conservative chiropractic care prevents much unnecessary hospitalization and needless surgery. One way to reduce the cost of care for many conditions, including the most common on-the-job back injuries, is to turn to the chiropractic doctor. For many conditions, chiropractic care is an effective and lower cost alternative to the expenses and uncertainties of hospitalization, surgery and drug therapy.

### Independent Studies Conclude – Clinical and Cost Advantages to Chiropractic Care

1. Wolsko, P., Eisenberg, D., Davis, R., Kessler, R., Phillips, R., "Patterns and Perceptions of Care for Treatment of Back and Neck Pain," Spine, 28(2): 292-297, 2003.

A sampling of 2,055 adults revealed that of patients with back or neck pain in the last 12 months, 37 percent had seen a conventional provider, and 54 percent had used complementary treatments, with chiropractic the most common complementary treatment (20 percent.) Chiropractic techniques were rated "very helpful" for back or neck pain among 61 percent of users, whereas conventional providers were rated as "very helpful" by only 27 percent of users. The authors estimate that nearly one-third of all complementary provider visits in 1997 (203 million of 629 million) were for neck or back pain. Other studies have shown increased utilization of complementary providers since then, and **this study clearly shows patients with neck and back pain are twice as satisfied when they see a chiropractor as when they see a physician.**

2. Baldwin, M., Cote, P., Frank, J., Johnson, W., "Cost-Effectiveness Studies of Medical and Chiropractic Care for Occupational Low Back Pain: a Critical Review of the Literature." The Spine Journal 1(2001): 138-147.

Back pain is the single most-costly work related injury. The present study used a MEDLINE search for randomized or cohort studies meeting specific other criteria comparing medical versus chiropractic care for occupational low back pain (OLBP). Seven articles met the criteria, and different studies had varying conclusions. The authors conclude that the current literature "**suggests that chiropractors and physicians provide equally effective care for OLBP but that chiropractic patients are more satisfied with their care.**"

3. Med Care 1996 Mar; 34(3): 191-204. Chiropractic and medical costs of low back care. Stano M, Smith M.

This study compares health insurance payments and patient utilization patterns for episodes of care for common lumbar and low back conditions treated by chiropractic and medical providers. Using two years of insurance claims data, this study examines 6,183 patients who had episodes with medical or chiropractic first-contact providers. Multiple regression analysis, to control for differences in patient, clinical, and insurance

characteristics, indicates that total insurance payments were substantially greater for episodes with a medical first-contact provider. Most of the cost differences were because of higher inpatient payments for such cases. Analysis of recurrent episodes indicates that chiropractic providers retain more patients for subsequent episodes and that patient exposure to a different provider type during early episodes significantly affects retention rates for later episodes. Patients choosing chiropractic and medical care were comparable on measures of severity and in lapse of time between episodes. **The lower costs for episodes in which chiropractors serve as initial contact providers along with the favorable satisfaction and quality indicators for patients suggest that chiropractic deserves careful consideration in gatekeeper strategies adopted by employers and third-party payers to control health care spending.** More research is needed, especially in developing alternative measures of health status and outcomes.

4. Spine 1997 Sep 15; 22(18): 2167-77 The North Carolina Back Pain Project. Carey TS, Garrett J, Jackman A, McLaughlin C, Fryer J, Smucker .

**BACKGROUND.** Patients with back pain receive quite different care from different types of health care practitioners. A prospective observational study was performed to determine whether the outcomes of and charges for care differ among primary care practitioners, chiropractors and orthopedic surgeons.

**METHODS.** Two hundred-eight practitioners in North Carolina were randomly selected from six strata: urban primary care physicians (n = 39), rural primary care physicians (n = 48), urban chiropractors (n = 32), rural chiropractors (n = 32), orthopedic surgeons (n = 29), and primary care providers at a group-model health maintenance organization (HMO) (n = 28). The practitioners enrolled consecutive patients with acute low back pain. The patients were contacted by telephone periodically for up to 24 weeks to assess functional status, work status, use of health care services and satisfaction with the care received.

**RESULTS.** The status at six months was ascertained for 1,555 of the 1,633 patients enrolled in the study (95 percent). The times to functional recovery, return to work and complete recovery from low back pain were similar among patients seen by all six groups of practitioners, but there were marked differences in the use of health care services. The mean total estimated outpatient charges were highest for the patients seen by orthopedic surgeons and chiropractors and were lowest for the patients seen by HMO primary care providers and primary care providers not affiliated with an HMO [This was expected as the most difficult cases were referred from primary care physicians to chiropractors and surgeons]. **Satisfaction was greatest among the patients who went to the chiropractors.**

**CONCLUSIONS.** **Among patients with acute low back pain, the outcomes are similar whether they receive care from primary care practitioners, chiropractors or orthopedic surgeons.** Primary care practitioners provide the least expensive care for acute low back pain.

5. J Manipulative Physiol Ther 1993 Jun; 16(5): 291-9. Cost and effectiveness analysis of chiropractic and physiotherapy treatment for low back and neck pain. Six-month follow-up. Skargren EI, Oberg BE, Carlsson PG, Gade M.

**STUDY DESIGN:** A randomized, clinical trial was conducted in which patients with back/neck problems, visiting a general practitioner, were allocated to chiropractic or physiotherapy as primary management.

**OBJECTIVES:** To compare outcome and costs of chiropractic and physiotherapy in managing patients with low back or neck pain.

**SUMMARY OF BACKGROUND DATA:** Earlier studies on the treatment of back pain by spinal manipulation have shown inconsistent results. When a "new" strategy-chiropractic-in

the treatment of back pain was introduced in public health care in Sweden, there was a need to compare the effects and costs of chiropractic with the established physiotherapy. METHODS: Three hundred twenty-three patients aged 18 to 60 years who had no contraindications to manipulation and who had not been treated within the previous month were included in the study. Treatment was carried out at the discretion of the health care provider. Outcome measures were primarily changes in pain intensity and general health, both assessed with visual analog scale and Oswestry pain disability questionnaire. Direct and indirect costs were measured.

RESULTS: For patients with low back or neck pain visiting the general practitioner in primary care, both chiropractic and physiotherapy as primary treatment reduced the symptoms. No difference in outcome or direct or indirect costs between the two groups could be seen, nor in subgroups defined as duration, history or severity.

CONCLUSIONS: **The effectiveness and total costs of chiropractic or physiotherapy as primary treatment were similar to reach the same result after treatment and after six months.**

6. J Manipulative Physiol Ther 1997 Jan; 20(1): 5-12. A comparison of health care costs for chiropractic and medical patients. Stano M.

OBJECTIVE: To compare the health care costs of patients who have received chiropractic treatment for common neuromusculoskeletal disorders with those treated solely by medical and osteopathic physicians.

DESIGN: Retrospective statistical analysis of two years of claims data on various categories of utilization and insurance payments for a large national sample of patients.

SETTING: Ambulatory and inpatient care.

PATIENTS: A total of 395,641 patients with one or more of 493 neuromusculoskeletal ICD-9 codes.

OUTCOME MEASURES: Hospital admission rates and 10 categories of insurance payments.

RESULTS: Nearly one-fourth of patients were treated by chiropractors. **Patients receiving chiropractic care experienced significantly lower health care costs as represented by thirdparty payments in the fee-for-service sector.** Total cost differences on the order of \$1,000 over the two-year period were found in the total sample of patients as well as in subsamples of patients with specific disorders. The lower costs are attributable mainly to lower inpatient utilization. The cost differences remain statistically significant after controlling for patient demographics and insurance plan characteristics.

CONCLUSIONS: Although work is in progress to control for possible variations in case mix and to compare outcomes in addition to costs, these preliminary results suggest a significant cost-saving potential for users of chiropractic care. **The results also suggest the need to reexamine insurance practices and programs that restrict chiropractic coverage relative to medical coverage.**

7. Spine 1998 Sep 1; 23(17): 1875-83; discussion 1884. Costs and recurrences of chiropractic and medical episodes of low back care. Smith M, Stano M

OBJECTIVE: To compare health insurance payments and patient outcomes for recurrent episodes of care for nine common lumbar and low-back conditions initiated with chiropractic treatment vs. episodes initiated with medical treatment.

DATA AND METHODS: Retrospective analysis of episodes constructed using 208 ICD-9-CM codes from two years of insurance claims data for a large population of beneficiaries in the private fee-for-service sector. A total of 7,077 patients were represented within 9,314 episodes of care, of which 8,018 episodes were initiated by clearly identified chiropractic or medical physicians. There were 1,215 patients with initial physician- or chiropractic-initiated

episodes who had recurrent episodes. Outcome measures included total insurance payments, total outpatient payments, lengths of initial and recurrent episodes, consistent use of initiating providers for recurrent episodes and time lapsed between episodes.

**RESULTS: Total insurance payments within and across episodes were substantially greater for medically initiated episodes.** Analysis of recurrent episodes as measures of patient outcomes indicated that chiropractic providers retain more patients for subsequent episodes, but that there is no significant difference in lapse time between episodes for chiropractic vs. medical providers. Chiropractic and medical patients were comparable on measures of severity; however, the chiropractic cohort included a greater proportion of chronic cases.

**CONCLUSION:** Patients who "cross over" between providers for multiple episodes are more likely to return to chiropractic providers, which suggests that chronic, recurrent low back cases may gravitate to chiropractic care over time. The findings from this and related studies point out the importance of appropriately operationalizing cost and outcome variables in analyses of care for conditions such as chronic and/or recurrent low back pain.

8. J Manipulative Physiol Ther 1994 Sep; 17(7): 442-6. One-year follow-up comparison of the cost and effectiveness of chiropractic and physiotherapy as primary management for back pain.

Subgroup analysis, recurrence, and additional health care utilization. Skargren EI, Carlsson PG, Oberg B. E.

**STUDY DESIGN:** A randomized trial was conducted in which patients with back and neck pain, visiting a general practitioner, were allocated to chiropractic or physiotherapy.

**OBJECTIVES:** To compare outcome and costs of chiropractic and physiotherapy as primary treatment for patients with back and neck pain, with special reference to subgroups, recurrence rate and additional health care use at follow-up evaluation 12 months after treatment.

**SUMMARY OF BACKGROUND DATA:** Earlier studies on the effect of spinal manipulation have shown inconsistent results. Mostly they include only short-term follow-up periods, and few cost-effectiveness analyses have been made.

**METHODS:** A group of 323 patients aged 18-60 years who had no contraindications to manipulation and who had not been treated within the previous month were included. Outcome measures were changes in Oswestry scores, pain intensity, and general health; recurrence rate; and direct and indirect costs.

**RESULTS:** No differences were detected in health improvement, costs, or recurrence rate between the two groups. According to Oswestry score, chiropractic was more favorable for patients with a current pain episode of less than one week (5 percent) and physiotherapy for patients with a current pain episode of greater than one month (6.8 percent). Nearly 60 percent of the patients reported two or more recurrences. More patients in the chiropractic group (59 percent) than in the physiotherapy group (41 percent) sought additional health care. Costs varied considerably among individuals and subgroups; the direct costs were lower for physiotherapy in a few subgroups.

**CONCLUSIONS: Effectiveness and costs of chiropractic or physiotherapy as primary treatment were similar for the total population,** but some differences were seen according to subgroups. Back problems often recurred, and additional health care was common. Implications of the result are that treatment policy and clinical decision models must consider subgroups and that the problem often is recurrent. Models must be implemented and tested.

9. J Manipulative Physiol Ther 1994 Feb; 17(2): 74-82. Further analysis of health care costs for chiropractic and medical patients. Stano M.

OBJECTIVE: To compare the health care costs of patients who have received chiropractic treatment in insurance plans that do not restrict chiropractic or medical benefits with those treated solely by medical and osteopathic physicians.

DESIGN: Retrospective statistical analysis of two years of claims data on total insurance payments and total outpatient payments.

OUTCOME MEASURES: Total insurance payments and total outpatient payments, each adjusted for sociodemographic characteristics.

RESULTS: **Patients receiving chiropractic care experienced significantly lower total health care costs as represented by adjusted third-party payments in the fee-for-service sector. Total adjusted cost differences ranged from \$291 to \$1722 over the two year period. Total adjusted outpatient costs tended to be slightly lower for medical patients but lower hospital utilization for chiropractic patients more than offsets the additional outpatient costs associated with chiropractic care.**

CONCLUSIONS: The analysis of well-insured patients in plans that do not restrict the chiropractic benefit strengthens results previously reported in this study. Therefore, the favorable cost patterns for chiropractic patients cannot be attributed to insurance restrictions limiting reimbursement for chiropractic services relative to other services. Because adjustments for patient characteristics systematically reduce the cost advantages of chiropractic patients as compared to mean differences derived from unadjusted data. The results also demonstrate that adjusted values should be used for meaningful comparisons between the two groups of patients.

10. Spine 2002 Oct 15; 27(20): 2193-204. The relative impact of chiropractic vs. medical management of low back pain on health status in a multispecialty group practice. Hurwitz EL.

PURPOSE: The objective of the study was to compare chiropractic management and medical management of low back pain of musculoskeletal etiology in a multispecialty group practice.

STUDY DESIGN: The design was a retrospective cohort study in which the subcohorts were defined by source of low back pain care and identified before follow-up was complete. Data collection occurred at the end of the third month following their initial visits. One hundred and three chiropractic patients and 187 medical patients aged 16 or greater who had not been treated within the preceding month of their initial visit participated.

MAIN FINDINGS: A greater proportion of chiropractic than medical patients perceived their treatment to be successful (RR = 1.91.95 percent CI = 1.29.2.82). had 0 days with low back pain during the week preceding the evaluation (RR = 1.60. 95 percent CI = 1.00. 2.59), and had no functional impairment due to low back pain after 3 months following their initial visit according to the Roland-Morris Disability Questionnaire (RR = 1.42.95 percent CI = 0.81. 2.50). General health status was similar for both chiropractic and medical patients.

CONCLUSIONS: **Chiropractic care was at least as effective as medical care in reducing low back pain and functional disability due to low back pain. Chiropractic patients were more likely to perceive their treatment to be successful in reducing low back pain compared to medical patients.**

11. J Manipulative Physiol Ther 1997 Jul-Aug; 20(6): 372-6. A randomized trial of medical care with and without physical therapy and chiropractic care with and without physical modalities for patients with low back pain: 6-month follow-up outcomes from the UCLA low back pain study.

Hurwitz EL, Morgenstern H, Harber P, Kominski GF, Belin TR, Yu F, Adams AH  
STUDY DESIGN: A randomized clinical trial.

**OBJECTIVES:** To compare the effectiveness of medical and chiropractic care for low back pain patients in managed care; to assess the effectiveness of physical therapy among medical patients; and to assess the effectiveness of physical modalities among chiropractic patients.

**SUMMARY OF BACKGROUND DATA:** Despite the burden that low back pain places on patients, providers, and society, the relative effectiveness of common treatment strategies offered in managed care is unknown.

**METHODS:** Low back pain patients presenting to a large managed care facility from October 30, 1995, through November 9, 1998, were randomly assigned in a balanced design to medical care with and without physical therapy and to chiropractic care with and without physical modalities. The primary outcome variables are average and most severe low back pain intensity in the past week, assessed with 0 to 10 numerical rating scales, and low back-related disability, assessed with the 24-item Roland-Morris Disability Questionnaire.

**RESULTS.** Of 1,469 eligible patients, 681 were enrolled; 95.7 percent were followed through 6 months. The mean changes in low back pain intensity and disability of participants in the medical and chiropractic care-only groups were similar at each follow-up assessment (adjusted mean differences at 6 months for most severe pain, 0.27, 95 percent confidence interval, -0.32-0.86; average pain, 0.22, -0.25-0.69; and disability, 0.75, -0.29-1.79). Physical therapy yielded somewhat better six-month disability outcomes than did medical care alone (1.26, 0.20-2.32).

**CONCLUSIONS:** **After six months of follow-up, chiropractic care and medical care for low back pain were comparable in their effectiveness.** Physical therapy may be marginally more effective than medical care alone for reducing disability in some patients, but the possible benefit is small.

12.J Manipulative Physiol Ther 1991 May; 14(4): 23I-9. Managed care pre-approval and its effect on the cost of Utah worker compensation claims. Jarvis KB, Phillips RB, Danielson C. **OBJECTIVE:** To determine the effect of pre authorization of chiropractic services costs in nonsurgical back injury cases in a managed care environment. The program was implemented in the chiropractic provider group by the Worker Compensation Fund of Utah. The results were compared with those of similar injury claims in a separate provider group in which there was no preauthorization program.

**DESIGN:** The study was a retrospective review of approximately 5000 claims from 1986 and 5000 claims from 1989 of injured workers in the Utah Worker Compensation Fund. We extracted approximately 1000 nonsurgical back-related injury claims from each year.

**MAIN OUTCOME MEASURE:** Cost comparisons between medical and chiropractic provider groups in the management of nonsurgical compensable back pain in both 1986 and 1989.

**RESULTS:** **Treatment costs in cases managed by chiropractic physicians increased 12 percent between 1986 and 1989. Treatment cost in cases managed by medical physicians increased 71 percent in the same time period. Compensation (wage replacement) costs increased 21 percent for the chiropractic group and 114 percent for the medical group.**

**CONCLUSION:** Retrospective analysis of worker compensation databases continue to struggle with issues related to measurement of severity, appropriate condition identification, adequate inclusion of all related costs and unbiased case selection. Treatment costs appeared to be controlled under the auspices of a preapproval program required of the chiropractic physician whereas medical costs escalated in the absence of price controls.

13. J Manipulative Physiol Ther 1995 Oct; 18(8): 503-1 1. Disabling low back Oregon Workers' Compensation claims. Part II: Time loss. Nyiendo J.

This paper reports on time loss incurred by chiropractic (DC) and medical (MD) claimants with disabling low back work-related injuries in Oregon. Clinical categorization was accomplished using medical records and was based on reported symptomatology, objective clinical findings and functional impairment. The median time loss days for cases with comparable clinical presentation (severity) was 9.0 for DC cases and 11.5 for MD cases. Chiropractic claimants had a higher frequency of return to work with one week or less of time loss. No difference was seen in time loss days for MD or DC claimants with no documented history of low back pain. However, **for claimants with a history of chronic low back problems, the median time loss days for MD cases was 34.5 days, compared to nine days for DC cases. It is suggested that chiropractors are better able to manage injured workers with a history of chronic low back problems and to return them more quickly to productive employment.**

14. Spine, November 1, 1998; 23(21): 2329-36. Preliminary findings of analysis of chiropractic utilization and cost in the workers' compensation system of New South Wales, Australia. Tuchin PJ, Bonello R.

OBJECTIVE: To review the literature and test a new methodology of assessing chiropractic utilization and cost-effectiveness on workers' compensation claimants.

DESIGN: A retrospective analysis of data from the WorkCover Authority (WCA) of New South Wales, Australia.

MAIN OUTCOME MEASURES: Average chiropractic treatment cost per case, average medical treatment cost per case, comparisons with total compensation payments, assessments of related indirect costs (e.g., pathology tests).

RESULTS: From the total number of employment injuries (n = 51,077) in NSW for 1991-92, 1,289 cases met selection criteria. Approximately 30 percent of the total injuries were described as back problems. The total utilization rate for chiropractic intervention in spinal injuries for workers' compensation claimants was 12 percent. Payments for physiotherapy and chiropractic treatment totaled over \$25.2 million and represented 2.4 percent of total payments for all cases. Average chiropractic treatment cost for a sample of 20 randomly selected cases was \$299.65; average medical treatment cost per case was \$647.20. Further analysis of the 20 selected cases seemed to show an average cost per claim that was significantly different from WCA database figures.

CONCLUSION: The methodology used was found to be able to provide a basis for comparison of costs for care apportioned to chiropractic and other interventions. An analysis of 20 randomly selected cases from the WCA suggested that **chiropractic intervention for certain conditions may be more cost-effective than other forms of intervention.**

15. Spine, Nov 1, 1998; 23(21): 2329-36. Health care and indemnity costs across the natural history of disability in occupational low back pain. DA Williams, M Feuersfein, D Durbin, and J Pezzullo.

STUDY DESIGN: The administrative database maintained by the National Council on Compensation Insurance (United States) was used to compare health care use and indemnity costs within the natural history of work-related low back pain disability.

OBJECTIVES: To determine the relative costs of health care services and indemnity at different phases of work disability.

SUMMARY OF BACKGROUND DATA: Existing studies have compared total costs along the work continuum, This study replicates and extends these earlier studies by providing detailed evaluations of costs by service categories along this continuum.

**METHODS:** Total health care and indemnity accrued along the disability curve were examined. Based on the number of days workers were absent from work and receiving indemnity payments (disability days), detailed mean health care costs by type of medical service were computed and compared across four time intervals for the sample.

**RESULTS:** Health care costs were disproportionately distributed along the disability curve, with 20 percent of claimants disabled 4 months or more, accounting for 60 percent of health care costs. The most costly service category was diagnostic procedures (25 percent of total medical costs), with surgical costs (21 percent) and physical therapy (20 percent) representing the next two most costly categories. **Mental health and chiropractic care represented a small percentage of overall costs (0.4 percent and 2.9 percent, respectively).**

**CONCLUSIONS:** These data provide policy makers, program development, and health care industry groups with cost information from which to establish benchmarks for future decisions that facilitate the allocation of resources for more cost effective management and prevention of work disability.