

American Chiropractic Association

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Synopsis Of Background & Cost Effectiveness Research

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Background

An Examination Of Musculoskeletal Cognitive Competency In Chiropractic Interns Humphreys BK, Sulkowski A, McIntyre K, Kasiban M, Patrick AN. J Manipulative Physiol Ther. 2007 Jan;30(1):44-9

Prior studies have concluded that musculoskeletal medical education is inadequate; yet, musculoskeletal complaints are one of the most common reasons for seeking physician care. The researchers in this study compared the results of 154 fourth-year chiropractic interns that completed the Basic Competency Examination in musculoskeletal medicine. Most interns passed the test with results that were considerably better than those of recent medical graduates and physical therapy doctorate students. The chiropractic intern scores were also higher than those of orthopedic staff physicians. The 51%-64% success rate of chiropractors was almost double the 20%-30% rate of medical students and doctors.

Clinical Course in Patients Seeking Primary Care for Back Or Neck Pain: A Prospective 5-Year Follow-Up Of Outcome And Health Care Consumption. Enthoven P, Skargren E, Oberg B. Spine. 2004 Nov 1;29(21):2458-65

In this study the results of a questionnaire mailed to patients who had sought primary care for nonspecific back or neck pain were reviewed.. The researchers attempted to examine the long term clinical course of back and neck pain in the group of primary care patients. Researchers found that about 50% of the original patients continued to report pain and disability at both the one-year and five-year follow-up, however the outcome scores did not deteriorate overall. Researchers concluded that due to the frequency of recurring or continual pain in patients, health policies and clinical decision models for long-term outcome must allow for these factors.

Low Back Pain In A General Population. Natural Course And Influence Of Physical Exercise--A 5-Year Follow-Up Mortimer M, Pernold G, Wiktorin C. Spine. 2006 Dec 15;31(26):3045-51.

Researchers followed 790 patients who initially sought care for low back pain from 70 different caregivers. After 5 years, only 21% of patients studied reported no continued pain while only 37% reported no disability. Pain and disability scores dropped significantly at 6 months, then remained somewhat consistent at 2 yrs and 5 yrs. Nonspecific regular exercise did not affect recovery. Between 27% and 66% of the study population experienced a recurrence of low back pain.

Estimates And Patterns Of Direct Health Care Expenditures Among Individuals With Back Pain In The United States Luo X, Pietrobon R, Sun SX, Liu GG, Hey L. Spine. 2004 Jan 1;29(1):79-86

In this study researchers analyzed data from a 1998 Medical Expenditure survey. \$26 billion was attributed to back pain. Individuals with back pain spent 60% more on overall health care than those without back pain. This cost analysis study conflicts with the experts that claim back pain is a benign, self-limiting condition.

Lost Productive Time And Cost Due To Common Pain Conditions In The US Workforce Stewart WF, Ricci JA, Chee E, Morganstein D, Lipton. JAMA. 2003 Nov 12;290(18):2443-54

The American productivity audit surveyed 29,000 working adults to quantify the impact of reduced performance at work due to pain. Researchers questioned respondents regarding the cost implications of reduced performance were due to headaches, arthritis, back pain and other musculoskeletal pain. Respondents were also asked if the common pain conditions had caused them to lose concentration, repeat jobs, do nothing or feel fatigued at work. The cost of lost productive time in the US workforce was found to be \$61 billion, and 76% of that cost was attributed to health-related reduced performance. This is consistent with prior studies that concluded loss of productive time is more significant than

absenteeism. The data revealed that 1.1% of the workforce were absent one or more days per week because of common pain conditions.

Cost-Effective

Clinical and Cost Outcomes Of An Integrative Medicine IPA. Sarnat, Richard; Winterstein, James Journal of Manipulative and Physiological Therapeutics 2004; 27: 336-347.

In 1999, a large Chicago HMO began to utilize doctors of chiropractic (DCs) in a primary care provider role. The DCs focused on assessment and evaluation of risk factors and practiced with a non-pharmaceutical/non-surgical approach. Insurance claims and patient surveys were analyzed to compare clinical outcomes, costs and member satisfaction with a normative control group. During the 4-year study, this integrative medical approach, emphasizing a variety of complimentary and alternative medical (CAM) therapies, resulted in lower patient costs and improved clinical outcomes for patients. The patients who went to DCs as their primary care providers had 43 percent decreases in hospital admissions, 52 percent reductions in pharmaceutical costs and 43 percent fewer outpatient surgeries and procedures.

Comparative Analysis Of Individuals With And Without Chiropractic Coverage. Legorreta A, Metz D, Nelson C, Ray S, Chernicoff H, DiNubile N. Archives of Internal Medicine 2004; 164: 1985-1992.

A 4-year retrospective review of claims from 1.7 million health plan members were analyzed to determine the cost effects of the inclusion of a chiropractic benefit in an HMO insurance plan. The data revealed that members with a chiropractic benefit had lower overall total annual health care costs. Back pain patients with chiropractic coverage also realized lower utilization of plain radiographs, low back surgery, hospitalizations and MRI's. Back pain episode-related costs were also 25 percent lower for those with chiropractic coverage (\$289 vs. \$399).

Chiropractic Care: Is It Substitution Care Or Add-On Care In Corporate Medical Plans? Metz D, Nelson C, LaBrot T, Pelletier K. Journal of Occupational and Environmental Medicine 2004; 46: 847-855.

In this study, the claims of 8 million members insured by a managed health plan were evaluated to determine how patients utilize chiropractic treatment when they have a chiropractic benefit. They found that patients use chiropractic as a direct substitution for medical care, choosing chiropractic 34 percent of the time. Having a chiropractic benefit rider did not increase the number of patients seeking care for neuromusculoskeletal complaints.

United Kingdom Back Pain, Exercise and Manipulation Randomized Trial: Cost Effectiveness of Physical Treatments for Back Pain In Primary Care. BMJ. 2004 Dec 11;329(7479):1381. Epub 2004 Nov 19.

This study compared the benefits of spinal manipulation and exercise to "best care" in general practice for patients consulting for back pain. 1,287 patients were divided into treatment groups and followed for more than one year. Patients receiving manipulation and exercise had lower relative treatment costs and experienced more treatment benefits than those treated with general medical care. The authors believe that this study convincingly demonstrated that manipulation alone and manipulation followed by exercise provided cost-effective additions to general practice.

Primary Care - Cost Effectiveness of Physiotherapy, Manual Therapy And General Practitioner Care For Neck Pain: Economic Evaluation Alongside A Randomized Controlled Trial. Korthals-de Bos I, Hoving J, Van Tulder M, Van Molken R, Ader H, De Vet H, Koes B, et al. *British Medical Journal* 2003; 326: 911.

Patients who received care from general practitioners for neck pain were randomly allocated to receive manual therapy (spinal mobilization), physiotherapy (mainly exercise) or general practitioner care (counseling, education and drugs). Throughout this 52-week study, patients rated their perceived recovery, intensity of pain and functional disability. Manual therapy proved to be the most effective treatment for neck pain. The clinical outcome measures showed that manual therapy resulted in faster recovery than physiotherapy and general practitioner care. While achieving this superior outcome, the total costs of the manual therapy-treated patients were about one third of the costs of physiotherapy or general practitioner care.

Integration and Reimbursement of Complementary and Alternative Medicine By Managed Care And Insurance Providers: 2000 Update And Cohort Analysis. Pelletier K, Astin J. *Alternative Therapies in Health and Medicine* 2002; 8(1): 38-48.

In this study the authors indicated that consumer demand for complementary and alternative medicine (CAM) is motivation for more managed care organizations (MCO's) and insurance companies to assess the clinical and cost benefits of incorporating CAM into their health plans. Providers identified "consumer demand" as the most critical factor underlying their decision to offer CAM coverage. Companies surveyed in the study tended to rate "retaining existing enrollees" as being more important than in previous years. It is equally certain that there is a rapidly growing consumer demand for CAM. Market demand is one of the primary motivators for offering coverage of CAM, with consumer interest similarly cited as a key factor.

Utilization, Cost, and Effects Of Chiropractic Care On Medicare Program Costs. Muse and Associates. *American Chiropractic Association* 2001.

This study examines cost, utilization and effects of chiropractic services on Medicare costs. The study compared program payments and service utilization for Medicare beneficiaries who visited DCs and those who visited other types of physicians. The results indicated that chiropractic care could reduce Medicare costs. Medicare beneficiaries who had chiropractic care had an average Medicare payment of \$4,426 for all Medicare services. Those who had other types of care had an average of \$8,103 Medicare payment for all Medicare services. The per claim average payment was also lower with chiropractic patients, having an average of \$133 per claim compared to \$210 per claim for individuals who did not have chiropractic care.

Economic Case for the Integration of Chiropractic Services into the Health Care System. Pran, Manga. *Journal of Manipulative and Physiological Therapeutics* 2000; 23: 118-22.

In this study the author explores the effects of the integration of chiropractic care into the health care system. The author indicates that greater use of chiropractic care would lead to reduced costs and improved outcomes. As support, the author points to studies which demonstrate that chiropractic is effective for neuromusculoskeletal disorders and the evidence that patients often prefer chiropractic care over a medical approach.

Cost Comparison of Chiropractic and Medical Treatment Of Common Musculoskeletal Disorders: A Review Of The Literature After 1980. Branson, Richard. *Topics in Clinical Chiropractic* 1999; 6(2): 57-68.

A cost comparison study between DC-provided care and care provided by general and specialist MDs for individuals with musculoskeletal conditions found that the majority of retrospective studies had positive results for chiropractic care.

Enhanced Chiropractic Coverage Under OHIP (Ontario Health Insurance Plan) As A Means For Reducing Health Care Costs, Attaining Better Health Outcomes And Achieving Equitable Access To Health Services. Manga, Pran. *Report to the Ontario Ministry of Health, 1998.*

This study demonstrates the ways in which individuals in Ontario are deterred from the use of chiropractic care because it is not covered under OHIP. The authors indicate that greater chiropractic coverage under OHIP would result in a greater number of individuals visiting chiropractors and going more often. The study shows that despite increased visits to DCs, this would result in net savings in both direct and indirect costs. Direct savings for Ontario's healthcare system could be as much as \$770 million and at the very least \$380 million.

Costs And Recurrences Of Chiropractic And Medical Episodes Of Low Back Care. Smith, M; Stano, M. *Journal of Manipulative and Physiological Therapeutics 1997; 20(1): 5-12.*

This study compared the health insurance payments and patient utilization patterns of individuals suffering from recurring low back pain who visited doctors of chiropractic or medical doctors. Insurance payments were higher for medically initiated episodes. Those who visited chiropractors paid a lower cost and were also more satisfied with the care given. Because of this, the study suggests that chiropractic care should be given careful attention by employers when using gate-keeper strategies.

Chiropractic And Medical Costs Of Low Back Care. Stano M, Smith M. *Medical Care 1996; 34(3): 191-204.*

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 2 years of insurance claims data, this study examines 6,183 patients who had episodes with medical or chiropractic first-contact providers. Researchers found that total insurance payments were substantially greater for episodes with a medical first-contact provider. The mean total payment when DCs were the first providers was \$518, whereas the mean payment for cases in which an MD was the first provider was \$1,020.

Stano, Miron. The Economic Role of Chiropractic Further Analysis of Relative Insurance Costs for Low Back Care. *Journal of the Neuromusculoskeletal System 1995; 3(3): 139-144.*

This retrospective study of 7077 patients compared costs of care for treatment of common low back conditions when a chiropractor was the first provider versus when a medical doctor (MD) was the first provider. Total payments for inpatient procedures were higher for MD initiated treatment and especially for episodes that lasted longer than a single day. Outpatient payments were much higher for MD initiated treatments as well. Payments were nearly twice as great for the medically initiated cases and their outpatient payments were nearly 50% higher. The authors' statistical estimates indicate that the costs of care for common low back disorders using a chiropractor as first-contact provider are substantially lower than episodes in which a medical physician is the first-contact provider. The author concluded that chiropractic care could help to control health care spending.

Henschke N, Maher CG, Refshauge KM, et al. Prognosis in Patients With Recent Onset Low Back Pain in Australian Primary Care: Inception cohort study. *BMJ 2008;337:a171*

This study sought to determine the one year prognosis of patients with low back pain. In this study, 973 patients with low back pain that had lasted less than 2 weeks completed a baseline questionnaire. Patients were reassessed through a phone interview at six weeks, three months and 12 months. The study found that the prognosis claimed in clinical guidelines was more favorable than the prognosis for the patients in the study. Recovery was slow for most patients and almost 1/3 of patients did not recover within one year.

Dagenais S, Caro J, Haldeman S. A Systematic Review of Low Back Pain Cost of Illness Studies in the United States and Internationally. *The Spine Journal* 2008;8:8-20

Researchers attempted to conduct a systematic review of low back pain cost of illness in the United States and internationally. The researchers conducted a systematic review of the literature and found that many studies have attempted to determine the costs associated with the treatment of low back pain. While the studies examined use a variety of methodologies many indicate that the costs of care for this ailment is substantial. Researchers determined that additional studies which would provide an estimate of the cost of low back pain with its associated costs from a societal perspective would be helpful in determining how to allocate health care resources.

State Specific Workers Compensation Studies

Chiropractic Treatment of Workers' Compensation Claimants in the State of Texas. Executive Summary. *MGT of America* Feb 2003.

This retrospective study of workers' compensation claims from 1996 to 2001 was conducted to determine the use and efficacy of chiropractic care in Texas. The researchers reviewed 900,000 claims during that time period to determine if chiropractic was cost-effective compared to medical treatment. They found that chiropractor treatment costs were the lowest of all providers. The study data demonstrated that increased utilization of chiropractic care could lead to declining costs relative to lower back injuries.

Chiropractic care of Florida workers' compensation claimants: Access, costs, and administrative outcome trends from 1994 to 1999. Folsom BL, Holloway RW. *Topics in Clinical Chiropractic* 2002; 9(4): 33-53.

This retrospective study of Florida workers' compensation claims from 1994-1999 found that the average total cost for low-back cases treated medically was \$16,998 while chiropractic care was only \$7,309. Patients treated primarily by chiropractors were found to reach maximum medical improvement almost 28 days sooner than if treated by a medical doctor. Findings from this analysis of the Florida claims indicate that considerable cost savings and more efficient claims resolution may be possible with greater involvement of chiropractic treatment in specific low back cases and other specific musculoskeletal cases.

Managed Care Pre-approval and its Effect on the Cost of Utah Worker Compensation Claims. Jarvis KB, Phillips RB, Danielson C. *Journal of Manipulative and Physiological Therapeutics* 1997; 20(6): 372-376.

In this study, 5000 claims from 1986 and 5000 from 1989 pertaining to injured individuals in the Utah Worker Compensation Fund were examined. The study compared costs for those who received chiropractic care and those who received medical care. From 1986 to 1989 the cost of care for chiropractic increased 12% while medical care increased 71%. The replacement of wages increased 21% for those receiving chiropractic care and 114% for those receiving medical care.

Preliminary Findings of Analysis of Chiropractic Utilization in the Workers' Compensation System of New South Wales, Australia. Tuchin PJ, Bonello R. *Journal of Manipulative and Physiological Therapeutics* 1995; 18(8): 503-511.

In this study, researchers analyzed WorkCover Authority data from New South Wales. Of 1289 cases 30% had back problems. In 12% of the cases, chiropractic care was used for the treatment of spinal

injury. The total payments for all cases using chiropractic and physiotherapy care were \$25.2 million, which was 2.4% of the total payments. When 20 claims were chosen at random the average chiropractic cost of care was \$299.65, while the average medical cost was \$647.20. A trend in data collected indicated that when greater than 60% of total cost of treatment came from chiropractic care the number of days missed from work was 9.5. When less than 60% of total cost of treatment came from chiropractic care the number of days missed from work was 50.3.

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