

Chapter 2

Recent Studies Focusing on Chiropractic

Numerous research studies and various government inquiries have resulted in increasingly widespread recognition of chiropractic, and generally support the efficacy of chiropractic treatment. Excerpts from some of these studies have been highlighted in this chapter.

Canadian Studies on Chiropractic

A major report on the effectiveness of chiropractic treatment was published in 1993. The report, entitled *The Effectiveness and Cost-Effectiveness of Chiropractic Management of Low-Back Pain*, was funded by the Ministry of Health in Ontario to assess the most appropriate use of health care resources.

The Ministry was particularly interested in reducing the incidence of work-related injuries and in improving the rehabilitation of disabled and injured workers. The report stated that in the past year, “twelve to thirty percent of people in modern industrialized societies reported low back pain.”

In light of these concerns, a massive literature review on the effectiveness and cost-effectiveness of chiropractic treatment was undertaken by an independent panel of researchers associated with the University of Ottawa. Their findings, outlined below, overwhelmingly support the efficacy and cost-effectiveness of chiropractic for the treatment of low-back pain:

- Scientifically valid clinical studies support the fact that chiropractic spinal manipulation is “more effective than alternative treatments for LBP (low-back pain). Many medical therapies are of questionable validity or are clearly inadequate.”
- “There would be a highly significant cost savings if more management of LBP was transferred from physicians to chiropractors. Evidence from Canada and other countries suggests potential savings of hundreds of millions annually. The literature clearly and consistently shows that the major savings from chiropractic management come from fewer and lower costs of auxiliary services, much fewer hospitalizations, and a highly significant reduction in chronic problems, as well as in levels and duration of disability.”
- “There is no clinical or case-control study that demonstrates or even implies that chiropractic spinal manipulation is unsafe in the treatment

of low-back pain. Some medical treatments are equally safe, but others are unsafe and generate iatrogenic complications for LBP patients ... The literature suggests that chiropractic manipulation is safer than medical management of low-back pain.”

- “While it is prudent to call for even further clinical evidence of the effectiveness and efficacy of chiropractic management of LBP, what the literature revealed ... is the much greater need for clinical evidence of the validity of medical management of LBP. Indeed, several existing medical therapies of LBP are generally contraindicated on the basis of the existing clinical trials. There is also some evidence in the literature to suggest that spinal manipulations are less safe and less effective when performed by non-chiropractic professionals.”
- “There is an overwhelming body of evidence indicating that chiropractic management of low-back pain is more cost-effective than medical management ... The evidence includes studies showing lower chiropractic costs for the same diagnosis and episodic need for care.”
- “There is good empirical evidence that patients are very satisfied with chiropractic management of LBP and considerably less satisfied with physician management. Patient satisfaction is an important health outcome indicator and adds further weight to the clinical and health economic results favouring chiropractic management of LBP.”

The report concluded with various recommendations including fully integrating chiropractic services into the health care system, shifting policy to encourage and prefer chiropractic services for most patients with low-back pain, employing chiropractors in tertiary hospitals, and extending hospital privileges to chiropractors.

The following are summaries of additional Canadian studies on chiropractic:

- A study of spinal manipulation involving 283 patients with chronic low-back and leg pain was conducted at a “specialized university back pain clinic reserved for patients who have not responded to previous conservative or operative treatment” located at the University of Saskatchewan in Saskatoon, Saskatchewan. In this study, which involved research conducted by both a medical doctor and a chiropractor, all patients were initially classified as totally disabled. Daily spinal manipulations were administered, and the effects of this treatment were assessed at one month and at three months. Results revealed that 81% of the patients became symptom free or achieved a state of mild intermittent pain with no work restrictions (Kirkaldy-Willis, Cassidy 1985).

- A study of 744 patients with neck and back pain who had been referred from hospitals, private practice specialists, general practitioners, and chiropractors analyzed the effectiveness of chiropractic manipulation. The results revealed that 36% of the patients recovered (became symptom-free with no work restrictions), 34.5% became much improved (mildly symptomatic and able to function normally), 7.3% slightly improved (possible activity restrictions), 21.6% showed no change, and 0.6% became worse. The study also revealed that “post-surgical patients do very well under chiropractic care, and in fact at this center, patients are routinely referred back to us three months after surgery for maintenance care” (Potter 1977).
- The Back Pain Clinic at the Royal University Hospital in Saskatoon, Saskatchewan, reviewed literature pertinent to “Side Posture Manipulation for Lumbar Intervertebral Disk Herniation.” The authors of the study concluded that “the treatment of lumbar intervertebral disk herniation by side posture manipulation is both safe and effective” (Cassidy et al. 1993).

Other Studies on Chiropractic

In addition to the Canadian studies previously cited, many other studies have explored chiropractic treatment. These have focused on the effectiveness of chiropractic treatment for back pain, for work-related injuries, and for other disorders. The following is a brief summary of some of these studies:

- RAND, a non-profit research organization, has completed three studies in the United States on chiropractic, with a fourth study currently underway.
 - The first study, a population-based estimate concerning the use of chiropractic services, reported in the *American Journal of Public Health*, that “chiropractors deliver a substantial amount of health care to the U.S. population, and there are significant geographic variations in the rate and intensity of use of chiropractic services” (Shekelle 1991).
 - The second study, “Spinal Manipulation for Low-Back Pain,” published in the *Annals of Internal Medicine*, affirmed that spinal manipulation is of benefit to some patients with acute low-back pain (Shekelle and Adams 1992).

- The third study created two sets of appropriateness ratings for spinal manipulation. One set of ratings was developed by a multi-disciplinary panel and the other set was prepared by an all-chiropractic panel (Shekelle et al. 1992).
- The fourth study, currently underway, is to determine the types of health care problems for which people seek chiropractic care and the types of care people receive from chiropractors. This study is expected to be completed in 1994.
- In Australia, a 12-month study conducted by the Australian Centre for Chiropractic Research included all work-related low-back pain claimants. Individuals were identified who received care either from a chiropractor or a medical practitioner. The results indicated that:
 - When chiropractic management was chosen, fewer claimants required compensation and fewer compensation days were taken.
 - When medical management was chosen, the average payment per claim was greater and a greater number of patients regressed to chronic status (Ebrall 1992).
- A study reported in the *British Medical Journal* included 741 patients between the ages of 18 and 65 who suffered from chronic or severe back pain and who sought care in chiropractic and hospital out-patient clinics. After two years of patient monitoring, researchers concluded that “for patients with low-back pain in whom manipulation is not contraindicated, chiropractic almost certainly confers worthwhile, long-term benefit in comparison with hospital out-patient management” (Meade et al. 1990).
- Researchers conducted a study of workers' compensation cases in Florida and concluded that “a claimant with a back-related injury, when initially treated by a chiropractor versus a medical doctor, is less likely to become temporarily disabled, or if disabled, remains disabled for a shorter period of time; and claimants treated by medical doctors were hospitalized at a much higher rate than claimants treated by chiropractors” (Wolk 1988).
- From a survey of those receiving care from health maintenance organizations (HMOs) in Washington state it was concluded that “... patients of chiropractors were three times as likely as patients of family physicians to report that they were satisfied with the care they

received for low-back pain ... Chiropractic patients were also more likely to have been satisfied with the amount of information they were given and to believe their doctor was concerned about them” (Cherkin and MacCornack 1989).

- “Family Physicians, Chiropractors, and Back Pain,” is the title of an article published in the *Journal of Family Practice* (November 1992), addressing a comparative United States study of patients of family physicians and chiropractors. The article stated that “the number of days of disability for patients seen by family physicians was significantly higher (mean 39.7) than for patients managed by chiropractors (mean 10.8)” (Curtis and Bove 1992). A related editorial published in the same issue of the *Journal of Family Practice* stated that family physicians should accept the fact that “... spinal manipulation is one of the few conservative treatments for low-back pain that have [sic] been found to be effective in randomized trials. The risks of complications from lumbar manipulation are also very low” (Cherkin 1992). The latter conclusion is supported by a study published by the *Chiropractic Journal of Australia* which reported that “a descriptive analysis of obtainable literature on complications from low-back SMT (spinal manipulation treatment) from 1911 to 1991 indicates that, on the average, less than one case per year occurs” (Terrett and Kleynhans 1992).
- The *Journal of Manipulative and Physiological Therapeutics*, published in the United States, reported results of a study of women between the ages of 20 and 49 with a history of dysmenorrhea (painful menstruation): “SMT may be an effective and safe nonpharmacological alternative for relieving the pain and distress of primary dysmenorrhea, at least for a short period of time after treatment” (Kokjohn et al. 1992).
- A number of United States clinical studies cite success rates ranging from 72% to 90% for the treatment of headaches utilizing spinal manipulation therapy. For example, a study reported in the American Chiropractic Association’s *Journal of Chiropractic* reported that 74.6% of patients with recurring headaches, including those experiencing migraines, were either cured or experienced reduced symptomatology associated with their headaches after receiving chiropractic manipulation. Most importantly, the success rate was maintained two years after treatment ended (Wight 1978).

A number of studies have documented the effectiveness of chiropractic treatment for a variety of other conditions including soft tissue injuries and visceral disorders (Plaughner 1993; Lewit 1985; and Korr 1978).

Other Studies Focusing on the Cost-Effectiveness of Chiropractic

Historically, chiropractors have promoted chiropractic management of back pain as a cost-effective approach to alleviating this condition. The following studies support this assertion:

- A study conducted in the United States involving 395,641 patients with one or more of 493 neuromusculoskeletal conditions was undertaken to compare the health care costs of patients who have received chiropractic treatment to those treated solely by medical or osteopathic physicians. The results showed that “patients receiving chiropractic care experienced significantly lower health care costs ... (with) total cost differences on the order of \$1000 over the 2-year period ...” The report concluded that “... these preliminary results suggest a significant cost-saving potential for users of chiropractic care.” The report of the study also suggests the need to re-examine insurance practices and programs relative to chiropractic coverage (Stano 1993).
- The Florida study on workers’ compensation claims, previously cited in reference to back pain, found that “the estimated average total cost of care, computed across all the major categories of treatment cost, was substantially higher for medical patients compared with chiropractic patients...” The authors of the study concluded that chiropractic care is more cost-effective in the treatment of work-related back injuries than standard medical care (Wolk 1988).
- A 1988 workers’ compensation study conducted in Utah assessed the total cost per case of chiropractic care versus medical care for conditions with identical diagnostic codes. The results indicated that costs were significantly higher for medical claims than for chiropractic claims. In addition, the number of work days lost for those receiving medical care was nearly 10 times higher than for those who received chiropractic care (Jarvis, Phillips, and Morris 1991).
- A comparison of the cost of chiropractic care versus the cost of medical care for various health conditions (predominantly low-back pain, spinal-related sprains, strains, dislocations, arthritis, and disc disorders), re-

vealed that “chiropractic is a lower cost option for several prominent back-related ailments ... If chiropractic care is insured to the extent other specialists are stipulated, it may emerge as a first option for patients with certain medical conditions. This could very well result in a decrease in overall treatment costs for these conditions” (Dean and Schmidt 1992).

- A review of data from over two million users of chiropractic care in the United States was reported in the *Journal of American Health Policy*. Initial analysis indicated that “chiropractic users tend to have substantially lower total health care costs” and “chiropractic care reduces the use of both physician and hospital care” (Stano et al. 1992).
- A workers’ compensation study conducted in Oregon (1990) evaluated the loss of working time incurred by chiropractic (DC) and medical (MD) claimants with disabling low-back work-related injuries. Authors of the study concluded that “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.” (Nyiendo 1991).
- A study, published in 1992, compared the cost-effectiveness of chiropractic care to medical care in the commonwealth of Virginia. The report of the study indicated that chiropractic:
 - has minimal cost-increasing effects on insurance and may in fact reduce insurance costs.
 - provides important therapeutic benefits at economical costs.This study also recommended that chiropractic care be a widely available form of health care, and noted that it is a growing and widely used component of the health care sector (Schifrin 1992).

Utilization and Public Opinion Surveys

Additional studies have assessed the utilization and acceptance of chiropractic services throughout Canada and the United States. A few of these studies are described in subsequent paragraphs:

- A survey in the province of Ontario revealed that a majority of MDs in family practice (62%) were referring patients to chiropractors. Nearly half of these MDs (42.3%) had been referring patients for the past 1-5

years, with the referral rate being slightly higher among MDs who had graduated before 1960 (60%) and between 1960 and 1980 (65%) than for those who had graduated in the past 10 years (53.8%). In addition, the study revealed that 9.5% of these MDs had received chiropractic care themselves (Patel-Christopher 1990).

- A Gallup poll conducted in the United States and reported in March of 1991 examined the attitudes and behaviors of both users and nonusers of chiropractic services. Of the users of chiropractic services:
 - 90% felt chiropractic treatment was effective;
 - more than 80% were satisfied with their treatment;
 - nearly 75% felt most of their expectations had been met during their visits;
 - 68% would see a chiropractor again for treatment of a similar condition;
 - 50% would likely see a chiropractor again for other conditions.Of the non-users of chiropractic services:
 - 62% indicated they would see a doctor of chiropractic for a problem applicable to chiropractic treatment;
 - 25% reported that someone in their household had been treated by a chiropractor, and nearly 80% of those were satisfied with that treatment.
- A 1985 survey of North Dakota residents, also conducted by the Gallup Organization, indicated that awareness and use of chiropractic services in the state were very high. Nearly 100% of the residents had heard of chiropractors, and almost half of the residents (49%) reported that they had been examined or treated by a chiropractor at some time. One in six residents (17%) had seen a chiropractor in the past year.

Government and Legal Inquiries

As related in Chapter 1, chiropractic is (as of this printing) legally recognized or allowed to be practiced without official sanction in approximately 39 countries. Varying degrees of investigation into the appropriateness of chiropractic treatment preceded the official stance of these countries.

In recent years, the Canadian and United States governments have begun requiring that health professionals provide guidelines for use in assessing the appropriateness of care. In an attempt to address this requirement, 35 chiropractors in North America were invited to

participate in a conference held in early 1992 at the Mercy Center in Burlingame, California. A publication released in early 1993 entitled, *Guidelines for Chiropractic Quality Assurance and Practice Parameters*, related the proceedings of that conference.

During April 1993, the Canadian Chiropractic Association sponsored a conference in Toronto to establish clinical guidelines for chiropractic standards of care in Canada. The participating members included chiropractors from various chiropractic organizations throughout Canada. Results of this conference will be published in a report scheduled for release at the end of 1993.

The New Zealand Commission of Inquiry

Another particularly significant study of chiropractic was conducted by the New Zealand Commission of Inquiry. In its 377-page report to the House of Representatives, the Commission states that their report followed an extended (two-year) inquiry which at that time was “probably the most comprehensive and detailed independent examination of chiropractic ever undertaken in any country.” Excerpts from the Commission's report follow:

“We entered into our inquiry in early 1978. We had no clear idea what might emerge. We knew little about chiropractors. None of us had undergone any personal experience of chiropractic treatment. If we had any general impression of chiropractic it was probably that shared by many in the community: that chiropractic was an unscientific cult, not to be compared with orthodox medical or paramedical services. We might well have thought that chiropractors were people with perhaps a strong urge for healing, who had for some reason not been able to get into a field recognised by orthodox medicine and who had found an outlet outside the fringes of orthodoxy.

“But as we prepared ourselves for this inquiry it became apparent that much lay beneath the surface of these apparently simple terms of reference. In the first place, it transpired that for many years chiropractors had been making strenuous efforts to gain recognition and acceptance as members of the established health care team. Secondly, it was clear that organised medicine in New Zealand was adamantly opposed to this on a variety of grounds which appeared logical and responsible. Thirdly, however, it became only too plain that the argument had been going on ever since chiropractic was developed as an individual discipline in the late 1800s, and that in the years between then and now the debate had generated considerably more heat than light.

“By the end of the inquiry we found ourselves irresistibly and with complete unanimity drawn to the conclusion that modern chiropractic is a soundly-based and valuable branch of health care in a specialised area...”

Specific conclusions of the Commission's report, based on investigations in New Zealand, the United States, Canada, the United Kingdom, and Australia, were as follows:

- Modern chiropractic is far from being an “unscientific cult.”
- Chiropractic is a branch of the healing arts specialising in the correction by spinal manual therapy of what chiropractors identify as biomechanical disorders of the spinal column. They carry out spinal diagnosis and therapy at a sophisticated and refined level.
- Chiropractors are the only health practitioners who are necessarily equipped by their education and training to carry out spinal manual therapy.
- General medical practitioners and physiotherapists have no adequate training in spinal manual therapy, though a few have acquired skill in it subsequent to graduation.
- Spinal manual therapy in the hands of a registered chiropractor is safe.
- The education and training of a registered chiropractor are sufficient to enable him to determine whether ... the patient should have medical care instead of or as well as chiropractic care.
- Spinal manual therapy can be effective in relieving musculo-skeletal symptoms such as back pain, and other symptoms known to respond to such therapy, such as migraine.
- In a limited number of cases where there are organic and/or visceral symptoms, chiropractic treatment may provide relief, but this is unpredictable, and in such cases the patient should be under concurrent medical care if that is practicable.
- Although the precise nature of the biomechanical dysfunction ... and... the precise reasons why spinal manual therapy provides relief have not yet been scientifically explained, chiropractors have reasonable grounds based on clinical evidence for their belief that symptoms of the kind described above can respond beneficially to spinal manual therapy.

- Chiropractors do not provide an alternative comprehensive system of health care, and should not hold themselves out as doing so.
- In the public interest and in the interests of patients there must be no impediment to full professional cooperation between chiropractors and medical practitioners.

Subsequent to the New Zealand Inquiry, the Australian Federal Minister of Health requested that a committee be formed to consider extending the scope of (government-funded) Medicare benefits for certain services, including chiropractic.

The Committee accepted all of the findings of the New Zealand commission, and also noted the “significant shift in the last decade in attitude ... towards the issue of scientific research” in chiropractic. It also recommended funding for chiropractic in hospitals and other public institutions, and endorsed greater philosophical unity in chiropractic.

Another noteworthy study was conducted in 1987 by the Swedish government's Commission on Alternative Medicine. It reached conclusions consistent with the New Zealand and Australian studies and also stated that:

- Chiropractors with the Doctor of Chiropractic degree should become registered practitioners and be brought within the national insurance system.
- The university-level training of DCs is equivalent to Swedish medical training.
- DCs have competency in differential diagnosis and should be regulated on a primary care basis.
- Measures to improve cooperation between chiropractors, registered medical practitioners and physiotherapists are vital to the public interest.

The Wilk vs. AMA Lawsuit

Another inquiry that further validated chiropractic came about through an antitrust suit filed by four members of the chiropractic profession against the American Medical Association (AMA), and a number of other medical organizations in the United States (*Wilk et al v. AMA et al*, No. 90-542, October 1990).

In 1987, following 11 years of legal action, a federal appellate court judge ruled that the AMA had engaged in a “lengthy, systematic, successful and unlawful boycott” designed to restrict cooperation between MDs and chiropractors in order to eliminate the profession of chiropractic as a competitor in the United States health care system. (This was upheld by the 7th United States Circuit Court of Appeals.)

The AMA offered a patient care defense; however, data from Workmen's Compensation Bureau studies served to validate chiropractic care. Specifically, studies comparing chiropractic care to care by a medical physician were presented which showed that chiropractors were "twice as effective as medical physicians, for comparable injuries, in returning injured workers to work at every level of injury severity."

The settlement of the suit included an injunctive order in which the AMA was instructed to cease its efforts to restrict the professional association of chiropractors and AMA members. The AMA was also ordered to notify its 275,000 members of the court's injunction. In addition, the American Hospital Association (AHA) sent out 440,000 separate notices to inform hospitals across the United States that the AHA has no objection to allowing chiropractic care in hospitals.

Since the court findings and conclusions were released, a growing number of medical doctors, hospitals, and health care organizations in the United States have begun including the services of chiropractors.