

# The Current Status of the Chiropractic Profession

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## A. Introduction

Chiropractic (Greek: done by hand) is 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. There is an emphasis on manual techniques, including joint adjustment and/or manipulation, with a particular focus on joint subluxation/dysfunction.

Chiropractic arose as a separate profession in the United States in the 1890s. Today, approximately 120 years later, there are chiropractic educational institutions in many countries and chiropractors practicing in over 100 countries in all world regions. Ninety of these countries have national associations of chiropractors that are members of a World Federation of Chiropractic (WFC) which has been a non-governmental organization in official relations with the World Health Organization (WHO) since 1997. Much of the available demographic information on the status of the profession and its practice comes from surveys by the WFC and its member associations.

## B. Distribution, Size and Regulation

The largest numbers of chiropractors are found in the United States of America (75,000), Canada (7,250), Australia (4,250), and the United Kingdom (3,000), which were the first countries to establish chiropractic schools. Other countries with more than 250 chiropractors are Brazil (700), Denmark (550), France (450), Italy (400), Japan (400), the Netherlands (400), New Zealand (400), Norway (600), South Africa (400), Spain (300), Sweden (400), and Switzerland (275).

There are smaller numbers of qualified chiropractors in other countries. However where practice is not yet regulated by law, such as in Germany and Japan, many hundreds or even thousands of other health providers claim to offer chiropractic services. Current growth of the profession is largest in countries with the 41 recognized educational programs, which are found in Australia (4), Brazil (2), Canada (2), Chile, Denmark, France, Japan, Malaysia, Mexico (2), New Zealand, South Africa (2), South Korea, Spain (2), Switzerland, the UK (3), and the USA (17).

Table 1 gives the legal status of the chiropractic profession by country. There is legislation to recognize and regulate the profession in 48 countries, usually on a national basis but sometimes by state or region within the country (e.g. Canada, Switzerland, and USA). Different approaches to legislation include a separate chiropractic act (e.g. Cyprus, Denmark, Hong Kong SAR China, Israel, most Canadian provinces and USA states), a chiropractic act under an umbrella law for various mainstream health care disciplines (e.g. Cayman Islands, Iran, Switzerland, some Canadian provinces and USA states), and a chiropractic act

under an umbrella law for complementary and alternative health care disciplines (e.g. Belgium, France, the Philippines, and South Africa).

Legislation varies but typically provides for direct patient contact without medical referral, defines a scope of practice which includes the duty to diagnose, establishes a regulatory body, and restricts use of the title *chiropractor* to persons who meet specific educational requirements and are registered or licensed pursuant to the legislation. A WFC survey of the legal status of chiropractic in 2011, with responses from national associations of chiropractors in 49 countries, reported that use of the title *doctor* was authorized in 14 countries and the title *physician* in 4. Rights to perform or order diagnostic tests, such as spinal imaging and laboratory tests, vary by country. With respect to responses in the WFC survey from countries with chiropractic legislation, the majority authorized the taking or ordering of plain film imaging (20 of 29 or 69%) and laboratory tests (18 of 29 or 62%), and about a third authorized the ordering and reading of magnetic resonance imaging (11 of 29 or 38%).

## C. Education

Common international standards of education have been achieved through a network of international accrediting agencies that began with the US Council on Chiropractic Education (CCE), recognized by the US Office of Education since 1974. These standards have been adopted by WHO in its *Guidelines on Basic Training and Safety in Chiropractic (2005)*.

Entrance requirements vary according to country, but are a minimum of three years university credits in qualifying subjects in North America. The chiropractic college undergraduate program has a minimum of 4 full-time academic years and is followed by mandatory postgraduate clinical training and/or licensing exams in many countries. Table 2 summarizes the subjects taught in a typical chiropractic undergraduate education program.

Whereas most chiropractic schools in the USA are in private colleges, most of the newer schools internationally are within the national university system (e.g. Australia, Brazil, Canada, Chile, Denmark, Japan, South Korea, Malaysia, Mexico, South Africa, Spain, Switzerland, and the UK). In some of these programs, for example, at the University of Southern Denmark in Odense and the University of Zurich in Switzerland, chiropractic and medical students take the same basic science courses together for three years before entering separate programs for clinical training.

For a number of reasons, which include the popularity of chiropractic health care with patients and much new research on safety and cost-effectiveness, the past generation has seen significant international growth of the profession and chiropractic education. In 1990 there were only four recognized programs outside the USA, one each in Australia, Canada, South Africa, and the United Kingdom. As already mentioned there are now 41 programs in 16 countries. New schools are currently being planned in other countries in all world regions.

## D. Practice and Research

Chiropractic practice emphasizes the conservative management of disorders of the neuromusculoskeletal system without the use of medicines and surgery. Management includes joint and soft-tissue manual treatments, rehabilitation exercises, patient education and lifestyle modification, and the use of physical therapy modalities and orthotics and other supports. Surveys demonstrate that the primary reasons patients consult chiropractors are back pain (approximately 60%), other musculoskeletal pain such as pain in the neck, shoulder, extremities, and arthritic pain (20%) and headaches including migraine (10%). About 1 in 10 (10%) present with a wide variety of conditions caused or aggravated by neuromusculoskeletal disorders (e.g. pseudo angina, dysmenorrhea, respiratory and digestive dysfunctions, infant colic/irritable baby syndrome.)

**Low-Back Pain.** Low-back pain (LBP) is the single largest cause of disability worldwide.<sup>1</sup> Since the 1990s national and international evidence-based clinical guidelines have endorsed the chiropractic approach to management by recommending spinal manipulation, NSAIDs, patient education and motivation, and early return to activity as the appropriate first lines of management for patients with acute or chronic mechanical LBP.<sup>2-5</sup> Spinal manipulation is also recommended in recent practice guidelines from the American College of Physicians and American Pain Society.<sup>6</sup>

Recent randomized controlled trials in Canada<sup>7</sup> and the UK<sup>8</sup> have reported that chiropractic management in accordance with the above guidelines, and the addition of spinal manipulation to medical care, are more effective and cost-effective than usual medical care.

**Neck Pain and Headache.** There are now similar studies and evidence-based guidelines supporting the safety and effectiveness of chiropractic management of patients with neck pain and cervicogenic headache. The report of the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders, published in *Spine* and the *European Spine Journal* in 2008,<sup>9,10</sup> was described in editorials as a “major milestone for musculoskeletal science” having “a significant impact on the way in which neck pain is perceived, treated and studied around the world.” The Task Force, an international panel of experts, recommended spinal manipulation and mobilization as safe and effective treatments for most patients, and overall management similar to that for patients with LBP.

A recent large trial funded by the US National Institutes of Health reports that each of chiropractic management and a regime of exercises are more effective than usual medical care for patients with acute and sub-acute neck pain.<sup>11</sup> There is now a clear anatomical basis for headache arising from dysfunction in the cervical spine (cervicogenic headache), this being direct connective tissue bridges between the dura and the muscles and ligaments in the upper cervical spine<sup>12</sup> and good-quality trials reporting the effectiveness of chiropractic management.<sup>13-15</sup>

**Cost Effectiveness.** Cost effectiveness and patient satisfaction are areas of growing research and importance to government and private health care plans because of rapidly increasing costs and limited resources for health care. Comprehensive new studies in North America report the cost effectiveness of chiropractic services compared with medical services with respect to LBP and neck pain<sup>16</sup> and all neuromusculoskeletal (NMS) disorders.<sup>17-19</sup> In a 2004 study of four years’ data from a large California HMO published in the American Medical Association’s *Archives of Internal Medicine*, the 700,000 plan

members with chiropractic and medical benefits had lower overall costs per person than the 1 million plan members with identical medical benefits – but medical benefits only. The members with a chiropractic benefit elected to choose and substitute chiropractic care for a wide range of 654 ICD-9 codes covering NMS disorders such as spinal pain, rib disorders, neck pain and headache, extremity problems and myalgias and arthralgias. Adding a chiropractic benefit reduced overall healthcare cost.

**New Practice Options and Spine Care Pathways.** As a result of two developments since the 1990s, the chiropractic profession's greatly strengthened evidence base and the continuing move by mainstream and complementary professions to adopt evidence-based practice, there are now expanded opportunities for practice for chiropractors in all world regions. These are found in different forms of collaborative and fully integrated care in primary practice and hospital settings.

Chiropractors are found in multidisciplinary spine care clinics, for example, in the Middle East (e.g. Saudi Arabia and the United Arab Emirates) and Latin America (e.g. Brazil and Chile). In Denmark chiropractors are fully integrated into spine care hospital departments and their services there and in primary care are viewed by the government and health authorities as mainstream.<sup>20</sup> In the USA chiropractors have been integrated into the federally funded veterans administration and military hospital systems since 2000. Chiropractors were an integral part of the host medical services for each of the Vancouver Winter Olympic Games (2010) and the London Summer Olympic Games (2012).

This new level of integration is currently resulting in chiropractic participation in the development of the new multidisciplinary spine care pathways that will direct spine care in the future.<sup>21,22</sup> The limitation with clinical guidelines is that they are frequently ignored by practitioners who continue to follow their traditional patterns of practice. Spine care pathways go further in classifying patients into clinical subgroups, directing evidence-based management, providing incentives and structures to support the use and efficient operation of the pathways, and build in on-going measurement of results. Results assessed are not only safety and effectiveness, but also cost-effectiveness and patient satisfaction and the value of care.

## E. Achievements and Challenges

### Achievements since 2000

1. *International Growth.* Until the 1990s the profession was established mainly in North America, the UK and its Commonwealth countries. Since 2000 it has become established in all world regions for reasons that include new educational programs and legislation to regulate the profession in many countries, and publication of the WHO Guidelines.
2. *Maintenance of Common Standards and Identity.* During this period of international growth the profession has been largely successful in maintaining common international minimum educational standards, a consistent approach to legislative scope of practice and an agreed and common identity within national health care systems. This has been achieved through now established and well-supported international structures such as the Association of Chiropractic Colleges and the Councils on Chiropractic Education International (education), and the World Federation of Chiropractic and

regional bodies such as the European Chiropractors' Union, the Latin-American Federation of Chiropractic and the Asia-Pacific Chiropractic Doctors' Federation (professional direction and representation).

3. *Development of Research Capacity and Output.* Although the profession's research capacity remains modest compared with the medical and allied professions, the past 10 years have seen greatly increased research capacity as a result of more graduates with post-graduate degrees and university appointments, and first significant public funding for research particularly in Europe and North America. This has resulted in the publication of good-quality clinical research that has provided a much stronger evidence-base supporting chiropractic health care.
4. *Acceptance, Collaboration and Integration.* Historically the profession has grown because of public support, often in the face of opposition or exclusion from national health systems. The past decade has seen the first significant level of collaboration between the chiropractic and medical professions in research, development of clinical guidelines, and practice based upon an increasingly common approach to the prevention and treatment of non-specific spinal pain and disability. This new level of mutual cooperation, both in informal collaboration and formal integration of practices, is seen not only in countries where the profession is long-established but also where it is relatively new.

## Challenges

1. *Lack of Funding for Education and Research.* There is still only modest public funding for chiropractic education and research, most of this activity being funded by the profession itself. With respect to education, results are high student debt for those graduating from private colleges, small class sizes in government-funded universities, and delays in the opening of new programs. With respect to research, there is increasing competition for research grants in most countries.
2. *Financial Barriers to Patient Access.* In most countries patients continue to experience financial barriers to access when choosing to consult a chiropractor. This may be because of exclusion from government and private health plans or, where most plans include some coverage for chiropractic services as in North America, because of co-payments and limits that are more restrictive than for other providers. Achieving parity in this area is a continuing challenge.
3. *More Policy Input and Research.* Chiropractors are beginning to be appointed to senior advisory and policy positions in health systems in some countries, but a current challenge is to build successfully upon recent gains contributing to health policy, public health and research. This will provide the necessary foundation for more complete integration in health systems in the management of spinal health and wellness. Research priorities include:
  - Back Pain – e.g. identifying subgroups that respond to care; back pain and disability as a public health issue in pediatric, working age, and senior populations.
  - Service Delivery – e.g. interdisciplinary spine care guidelines and pathways; patient demographics; models of care.
  - Value of Preventive Care – e.g. measuring well-being and prevention of injuries and disability in specific (e.g. office workers, manual workers, elite athletes) and general populations.
  - Cost Effectiveness and Value in Addressing Health System Problems – e.g. ability to reduce cost of spine care and wait times in primary care, for specialist services and in hospital emergency departments.

4. *Lack of Growth and Availability.* Chiropractic services are well-accepted but difficult to locate in many countries because of small numbers of chiropractors in practice. There is a need for new chiropractic educational programs in all world regions other than in North America.

Table 1

<b>Legal Status of Chiropractic by Country</b>		
<i>August 2012</i>		
<i>Legend:</i>		
<sup>a</sup> Legal pursuant to legislation to accept and regulate chiropractic practice		
<sup>b</sup> Legal pursuant to general law.		
<sup>c</sup> Legal status unclear, but de facto recognition.		
<sup>d</sup> Legal status unclear and risk of prosecution		
<b>African Region<sup>a</sup></b>	<b>European Region</b>	<b>North American Region</b>
Botswana <sup>a</sup>	Belgium <sup>a</sup>	Bahamas <sup>a</sup>
Ethiopia <sup>b</sup>	Croatia <sup>b</sup>	Barbados <sup>a</sup>
Ghana <sup>b</sup>	Denmark <sup>a</sup>	Belize <sup>b</sup>
Kenya <sup>b</sup>	Estonia <sup>b</sup>	Bermuda <sup>b</sup>
Lesotho <sup>a</sup>	Finland <sup>a</sup>	British Virgin Islands <sup>b</sup>
Mauritius <sup>b</sup>	France <sup>a</sup>	Canada <sup>a</sup>
Namibia <sup>a</sup>	Germany <sup>b</sup>	Cayman Islands <sup>a</sup>
Nigeria <sup>a</sup>	Greece <sup>c</sup>	Jamaica <sup>b</sup>
South Africa <sup>a</sup>	Hungary <sup>c</sup>	Leeward Islands <sup>a</sup>
Swaziland <sup>a</sup>	Iceland <sup>a</sup>	Puerto Rico <sup>a</sup>
Zimbabwe <sup>a</sup>	Ireland <sup>b</sup>	Trinidad & Tobago <sup>b</sup>
	Italy <sup>a</sup>	Turks & Caicos <sup>a</sup>
<b>Asian Region</b>	Liechtenstein <sup>a</sup>	United States <sup>a</sup>
China <sup>c</sup>	Luxembourg <sup>b</sup>	US Virgin Islands <sup>b</sup>
Hong Kong – SAR China <sup>a</sup>	Malta <sup>a</sup>	
Indonesia <sup>c</sup>	Netherlands <sup>b</sup>	<b>Pacific Region</b>
Japan <sup>b</sup>	Norway <sup>a</sup>	Australia <sup>a</sup>
Malaysia <sup>b</sup>	Portugal <sup>a</sup>	Fiji <sup>b</sup>
Philippines <sup>a</sup>	Russian Federation <sup>b</sup>	Guam <sup>a</sup>
Singapore <sup>b</sup>	Serbia <sup>a</sup>	New Caledonia <sup>a</sup>
South Korea <sup>d</sup>	Slovakia <sup>b</sup>	New Zealand <sup>a</sup>
Taiwan <sup>d</sup>	Spain <sup>c</sup>	Papua New Guinea <sup>b</sup>
Thailand <sup>a</sup>	Sweden <sup>a</sup>	Tahiti <sup>a</sup>
Vietnam <sup>c</sup>	Switzerland <sup>a</sup>	
	United Kingdom <sup>a</sup>	
<b>Eastern Mediterranean Region</b>	<b>Latin American Region</b>	
Cyprus <sup>a</sup>	Argentina <sup>b</sup>	
Egypt <sup>b</sup>	Bolivia <sup>a</sup>	
Iran <sup>a</sup>	Brazil <sup>b</sup>	
Israel <sup>a</sup>	Chile <sup>b</sup>	
Jordan <sup>b</sup>	Colombia <sup>b</sup>	
Lebanon <sup>b</sup>	Costa Rica <sup>a</sup>	
Libya <sup>b</sup>	Ecuador <sup>b</sup>	
Morocco <sup>c</sup>	Guatemala <sup>a</sup>	
Qatar <sup>a</sup>	Honduras <sup>b</sup>	
Saudi Arabia <sup>a</sup>	Mexico <sup>a</sup>	
Syria <sup>c</sup>	Panama <sup>a</sup>	
Turkey <sup>c</sup>	Peru <sup>b</sup>	
United Arab Emirates <sup>a</sup>	Venezuela <sup>b</sup>	
<b>Source: World Federation of Chiropractic</b>		

Table 2

**WHO Guidelines - Sample four-year, accredited chiropractic education**

Category I(A) Subjects taught in a typical semester-based chiropractic program, by year and number of hours.

DIVISION	FIRST YEAR (HOURS)	SECOND YEAR (HOURS)	THIRD YEAR (HOURS)	FOURTH YEAR (HOURS)
Biological Sciences	Human Anatomy (180) Microscopic Anatomy (140) Neuroanatomy (72) Neuroscience I (32) Biochemistry (112) Physiology (36)	Pathology (174) Lab Diagnosis (40) Microbiology & Infectious Disease (100) Neuroscience II (85) Nutrition (60) Immunology (15)	Lab Diagnosis (32) Toxicology (12)	Clinical Nutrition (26) Community Health (40)
Clinical Sciences	Normal Radiographic Anatomy (16) Radiation Biophysics and Protection (44)	Intro. Diagnosis (85) Intro Bone Pathology (48) Normal Roentgen, Variants & Roentgenometrics (40)	Orthopaedics & Rheumatology (90) Neuro. Diagnosis (40) Diagnosis & Symptomatology (120) Differential Diagnosis (30) Radiological Technology (40) Arthritis & Trauma (48)	Clinical Psychology (46) Emergency Care (50) Child Care (20) Female Care (30) Geriatrics (20) Abdomen, Chest & Special Radiographic Procedures (40)
Chiropractic Sciences	Chiropractic Principles I (56) Basic Body Mechanics (96) Chiropractic Skills I (100)	Chiropractic Principles II (60) Chiropractic Skills II (145) Spinal Mechanics (40)	Chiropractic Principles III (42) Clinical Biomechanics (100) Chiropractic Skills III (145) Auxiliary Chiropractic Therapy (60) Introduction to Jurisprudence & Practice Development (16)	Integrated Chiropractic Practice (90) Jurisprudence & Practical Development (50)
Clinical Practicum	Observation I (30)	Observation II (70)	Observation III (400)	Internship (750) Clerkships: Auxiliary Therapy (30); Clinical Lab (20) Clinical X-ray: Technology (70); Interpretation (70) Observer IV (30)
Research			Applied Research & Biometrics (32)	Research Investigative Project
Totals	914	962	1207	1382
<b>TOTAL HOURS</b>	<b>4465</b>			
<b>Full-time study over four years:</b>	<b>plus research project</b>			

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